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Liquidity, Operating Expense Ratio, and Asset Turnover on Corporate Risk: Moderating Role of Governance in Indonesian Food and Beverage Companies

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Abstract

Post-pandemic, food and beverage companies face financial risk pressures stemming from cash flow shocks, rising production costs, and global economic uncertainty. This study analyzes the effects of the current ratio (CR), operating expense ratio (OER), and asset turnover (TATO) on corporate risk, and examines the moderating role of good corporate governance (GCG). A quantitative associative-causal approach was applied using secondary data from 31 food and beverage companies listed on the Indonesia Stock Exchange during 2021–2025, selected through purposive sampling from a population of 83 companies. The data were analyzed using multiple linear regression and moderated regression analysis (MRA) in SPSS 25. The results show that CR and OER have a significant negative effect on corporate risk, while TATO has no significant effect. GCG significantly moderates all three relationships by weakening the effect of each variable on corporate risk, and the model explains 66.4% of the variance in corporate risk. These findings underscore the importance of strong corporate governance in controlling the impact of liquidity and operational efficiency policies on corporate financial risk.

Keywords : *Liquidity; Operating Expense Ratio; Asset Turnover; Corporate Risk; Good Corporate Governance*

I. INTRODUCTION

Post-pandemic economic recovery has not automatically freed the food and beverage (F&B) industry from financial risk pressures. Cash flow shocks, rising food commodity prices, production cost inflation, and global economic uncertainty continue to weigh on the capacity of issuers in this sector to maintain a stable capital structure. These conditions are reflected in fluctuations of the *debt to equity ratio* (DER), an indicator of financial risk, whose movement is strongly suspected to depend on a firm's ability to manage liquidity, operating expense efficiency, and asset productivity, as well as on the quality of the governance that oversees funding decisions.

The relationship between liquidity and corporate risk has been widely tested, but the results have not converged. Naibaho and Mayayogini (2023) documented that weak liquidity control increases operational risk in Southeast Asian entities, in line with Riesta and Septriana (2023) for the consumer sector on the IDX. In contrast, Maulidina et al. (2021) and Munzir et al. (2022) found no significant effect of liquidity in relatively similar observation contexts. This inconsistency is the first gap underlying this study.

Operating efficiency, commonly proxied by the *operating expense ratio* (OER), is also thought to shape a firm's risk profile: uncontrolled operating expenses increase the need for external funding and raise the DER (Putri & Mulyani, 2025). However, empirical research that treats OER as a predictor of corporate risk among Indonesian F&B issuers remains very limited, because most similar studies concentrate on the banking sector (e.g., Mardiana et al., 2018). This is the second gap. The third determinant, *asset turnover* (TATO), also shows a non-trivial pattern: Maulidina et al. (2021) found a significant negative effect of TATO on systematic risk, while Li (2024) found indications of a nonlinear relationship in the mid-range of TATO, suggesting that the effect of asset productivity on risk is not always linear and unidirectional.

Amid this complexity, good corporate governance (GCG) is positioned as an oversight mechanism that can potentially dampen financial risk. Mathew et al. (2017) showed a significant negative correlation between governance indices and various types of corporate risk, while Triwibowo and Kurniasih (2025) showed that institutional ownership as a GCG proxy significantly moderates the risk-performance relationship in the transportation sector. In contrast, Hudzaifah et al. (2024) found for the F&B sector that GCG failed to moderate the relationship between financial variables (including TATO) and financial performance. This anomaly calls for a re-evaluation of the model, particularly by integrating OER, which has not been tested jointly within such a moderation framework. This anomaly is the third gap and the direct basis of this study's novelty.

No study has yet tested the simultaneous effect of three financial determinants (liquidity, OER, and TATO) on corporate risk with GCG as a moderator specifically for Indonesian F&B issuers in 2021–2025, a period that represents a distinctive post-pandemic recovery phase not covered by earlier research (the fourth gap). The novelty of this study lies in three aspects: first, the simultaneous testing of the three financial ratios with GCG as a moderating variable in the F&B sector, which has been under-represented compared with the financial and banking sectors; second, the 2021–2025 observation period, which captures post-pandemic risk dynamics; and third, an attempt to reconcile the GCG moderation anomaly reported by Hudzaifah et al. (2024) by extending the model with OER.

Accordingly, this study empirically analyzes the effects of liquidity, OER, and TATO on corporate risk, with GCG as a moderating variable, among food and beverage companies listed on the Indonesia Stock Exchange (IDX) during 2021–2025. The results are expected to contribute to the corporate finance literature and to provide a basis for strategic decisions by management, investors, and regulators in managing the financial risk of Indonesian F&B companies.

II. METHOD

Research approach. This study uses a quantitative approach with an associative-causal design to test cause-and-effect relationships among the independent variables (liquidity, OER, asset turnover), the moderating variable (GCG), and the dependent variable (corporate risk) (Sugiyono, 2019).

Population and sample. The population comprises all 83 food and beverage subsector companies listed on the IDX. The sample was determined by purposive sampling using two criteria: (1) F&B companies listed on the IDX throughout 2021–2025, and (2) companies that continuously published complete annual financial reports containing all research variables. These criteria yielded 31 sample companies, with 155 observations in total (31 companies × 5 years, pooled cross-section).

Data sources and variables. The data are secondary and were collected by documentation from annual financial reports published on the official IDX website (www.idx.co.id) and the issuers' websites. Corporate risk (Y) is measured by the DER, liquidity (X1) by the current ratio (CR), operating efficiency (X2) by the operating expense ratio (OER), and asset

productivity (X3) by asset turnover (TATO). Good corporate governance (Z) is proxied by the proportion of independent commissioners (IC):

$$DER = (Total\ Debt / Total\ Equity) \times 100\% \quad (1)$$

$$CR = (Current\ Assets / Current\ Liabilities) \times 100\% \quad (2)$$

$$OER = (Operating\ Expenses / Operating\ Revenue) \times 100\% \quad (3)$$

$$TATO = (Sales / Total\ Assets) \times 100\% \quad (4)$$

$$IC = (Number\ of\ Independent\ Commissioners / Total\ Board\ of\ Commissioners) \times 100\% \quad (5)$$

Data analysis. The data were processed in SPSS version 25 in the following stages: (1) descriptive statistics (mean, standard deviation, minimum, and maximum); (2) classical assumption tests, namely the one-sample Kolmogorov-Smirnov normality test ($\alpha = 0.05$), the multicollinearity test (tolerance ≥ 0.10 and VIF ≤ 10), the heteroscedasticity test (ZPRED-SRESID scatterplot), and the Durbin-Watson autocorrelation test (Ghozali, 2018); (3) multiple linear regression, Eq. (6); (4) moderated regression analysis (MRA) using interaction variables ($X \times Z$), Eq. (7); (5) the partial t-test and simultaneous F-test at $\alpha = 0.05$, with H_0 rejected when Sig. < 0.05 ; and (6) the coefficient of determination (adjusted R^2) to measure the proportion of variation in corporate risk explained by the model.

$$DER = a + \beta_1 CR + \beta_2 OER + \beta_3 TATO + e \quad (6)$$

$$DER = a + \beta_1 CR + \beta_2 OER + \beta_3 TATO + \beta_4 (CR \times IC) + \beta_5 (OER \times IC) + \beta_6 (TATO \times IC) + e \quad (7)$$

III. RESULTS AND DISCUSSION

A. Results

Descriptive statistics. Across the 155 observations (31 issuers $\times$ 5 years), the average corporate risk (DER) is 0.3653, indicating that the capital structure of F&B issuers is still conservative in aggregate (total debt is smaller than total equity). The distributions of CR, OER, TATO, and IC are relatively homogeneous across companies, except for CR, which shows a fairly wide variation in liquidity among issuers (SD = 0.436), reflecting heterogeneity in working capital capacity in the sector.

Classical assumption tests. All prerequisites for linear regression are met (Table I): the residuals are normally distributed, there is no multicollinearity, no heteroscedasticity, and no autocorrelation.

TABLE I. CLASSICAL ASSUMPTION TESTS

Test	Result	Criterion	Conclusion
Normality (Kolmogorov-Smirnov)	Sig. = 0.099	Sig. > 0.05	Normal
Multicollinearity	Tolerance 0.511-0.941; VIF 1.062-1.955	Tol. ≥ 0.10 ; VIF ≤ 10	None
Heteroscedasticity	Random scatterplot pattern	No clear pattern	None
Autocorrelation (Durbin-Watson)	DW = 1.768	Close to 2	None

Source: SPSS 25 output.

Multiple regression and partial test. The regression model is $DER = 0.339 - 0.172CR - 0.950OER - 0.033TATO + e$ (Table II). Partially, CR ($t = -9.181$; Sig. = 0.000) and OER ($t = -4.796$; Sig. = 0.000) have a significant negative effect on DER, while TATO is not significant ($t = -0.793$; Sig. = 0.429). The F-test confirms the significance of the model simultaneously ($F = 44.480$; Sig. = 0.000).

TABLE II. MULTIPLE LINEAR REGRESSION RESULTS

Variable	B	t	Sig.
(Constant)	0.339		
Current ratio (CR)	-0.172	-9.181	0.000
Operating expense ratio (OER)	-0.950	-4.796	0.000
Asset turnover (TATO)	-0.033	-0.793	0.429

Dependent variable: DER. $F = 44.480$ (Sig. = 0.000). Source: SPSS 25 output.

Moderated regression analysis. Adding the interactions with IC gives: $DER = 0.339 - 0.172CR - 0.950OER - 0.033TATO - 0.936IC + 0.610(CR \times IC) + 10.126(OER \times IC) + 2.309(TATO \times IC) + e$. As shown in Table III, all three interactions are significant at $\alpha = 0.05$, with positive coefficients that consistently run opposite to the main coefficient of each predictor.

TABLE III. MODERATED REGRESSION ANALYSIS: INTERACTION TERMS

Interaction	B	t	Sig.
CR × IC	0.610	3.123	0.002
OER × IC	10.126	5.256	0.000
TATO × IC	2.309	2.570	0.011

Dependent variable: DER. Adjusted $R^2 = 0.664$. Source: SPSS 25 output.

Coefficient of determination. The adjusted R^2 of 0.664 shows that the model explains 66.4% of the variation in corporate risk; the remaining 33.6% comes from factors outside the model.

B. Discussion

Liquidity and corporate risk. The negative effect of CR on DER is consistent with pecking order theory (Myers & Majluf, 1984) and signalling theory (Spence, 1973): adequate internal cash reduces reliance on debt and signals stability to creditors. This result supports Riesta and Septriana (2023), Maulidia and Asyik (2020), Nam and Tuyen (2024), Li (2024), and Listiani and Ni'am (2023), who consistently found that liquidity suppresses financial risk. It contradicts Maulidina et al. (2021), Munzir et al. (2022), and Lestari et al. (2025), who found no significant effect. This divergence indicates that the strength of the CR–DER relationship depends strongly on sector characteristics and the macroeconomic conditions of the observation period, rather than being universal.

Operating expense ratio and corporate risk. The negative effect of OER is in line with trade-off theory: rising operating expenses push management to be defensive toward new debt so as not to accumulate double risk (operating expenses and interest expenses). This pattern is reflected in the decline of the aggregate DER of F&B issuers from about 55% in 2021 to 31–32% in 2022–2025 amid post-pandemic commodity cost pressures. The finding reinforces Putri and Mulyani (2025) and Mardiana et al. (2018), but contrasts with Setyawan et al. (2023), who found a positive relationship; the difference in direction probably reflects differences in access to emergency funding across sectors (port services vs. consumer F&B).

Asset turnover and corporate risk. The insignificance of TATO indicates a logical separation between operating efficiency (the speed at which assets are converted into gross sales) and long-term funding structure decisions, which are determined more by net cash earnings, a component heavily eroded by higher cost of goods sold in this period. The result is in line with Munzir et al. (2022), Lestari et al. (2025), and Utami et al. (2026), but differs from Maulidina et al. (2021), Tatyana et al. (2024), and Hudzaifah et al. (2024), who found significant effects. The absence of a direct effect is an important backdrop for the moderation findings, suggesting that the TATO–risk relationship is conditional rather than nonexistent.

Moderating role of good corporate governance. The most substantive finding is the consistent direction of GCG moderation: on all three paths (CR, OER, TATO), independent commissioners significantly weaken the negative effect of the financial variables on DER. Based on agency theory (Jensen & Meckling, 1976), independent oversight acts as a governance buffer that disciplines three types of managerial decisions at once: preventing unproductive excess cash accumulation (CR path), encouraging cost efficiency as the first response before resorting to emergency debt (OER path), and directing the results of faster sales toward strengthening internal equity rather than leaving them without strategic direction (TATO path). This pattern strengthens the evidence of Riesta and Septriana (2023), Naibaho and Mayayogini (2023), Mathew et al. (2017), and Artamalia and Subakir (2025) on the role of governance in controlling financial risk through oversight mechanisms.

Reconciling the research gap. Of particular significance for the literature is the TATO×IC moderation result, which directly reconciles the anomaly reported by Hudzaifah et al. (2024), whose study found that GCG failed to moderate the TATO relationship in the F&B sector. The difference most likely stems from two differences in model specification: this study tests TATO simultaneously with OER (not in isolation), and it covers the post-pandemic 2021–2025 period, which presents different governance pressures from the 2016–2022 period of Hudzaifah et al. This suggests that the effectiveness of GCG in moderating financial risk is contextual to the model specification and economic regime tested, a nuance that has not been widely explored (Apriliake et al., 2024; Triwibowo & Kurniasih, 2025).

IV. CONCLUSIONS

This study finds that liquidity and the operating expense ratio have a significant negative effect on corporate risk among F&B issuers on the IDX in 2021–2025, while asset turnover has no significant direct effect. More importantly, good corporate governance, proxied by the proportion of independent commissioners, significantly moderates all three relationships by weakening the negative effect of liquidity, OER, and asset turnover on corporate risk, with the model

explaining 66.4% of the variation in the sector's financial risk (adjusted $R^2 = 0.664$). These findings confirm that the funding structure of post-pandemic F&B issuers is determined not only by internal financial conditions but also significantly shaped by the quality of corporate oversight mechanisms, and they reconcile the empirical gap on the ineffectiveness of GCG moderation in the F&B sector reported by Hudzaifah et al. (2024).

Theoretically, the study integrates pecking order, trade-off, and agency theories to explain the interaction between financial ratios and governance in corporate risk, and it shows that the moderating effectiveness of GCG is contextual to model specification and observation period. Practically, F&B managers are advised to balance liquidity and operating cost efficiency while strengthening the independence of the oversight board; investors and regulators should treat governance quality as a key complementary indicator, not merely financial ratios, in assessing and mitigating the financial risk of Indonesian F&B companies.

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