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The Effects of Liquidity, Solvency, and Debt Default on Going Concern Audit Opinions in Manufacturing Companies Listed on the Indonesia Stock Exchange

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ABSTRACT

Opinions of going concern audit reflect a company's continuity for at least another 12 months. This study looks into Liquidity, Solvency and Default debt impact on going concern audit opinion in Manufacturing companies listed in Indonesia Stock Exchange during 2019-2022. Current ratio is used as a proxy for liquidity, debt-to-equity for solvency, and Altman Z-Score for debt default. The study comprises of 72 manufacturing companies who experienced losses over the study period, and resulting 288 firm-year observations extracted from audited financial statements. Descriptive statistics and binary logistic regression have been used. Liquidity (B = −0.173; p = 0.041), solvency (B = 1.430; p < 0.001) and debt default (B =−1.207; p < 0.001) respectively have negative significant influence, positive significant influence and negative and significant influence on the going concern opinion. The variables together are found to be significant (χ^2 = 64.884; p < 0.001), explaining 31.8% of the variation in the opinion (Nagelkerke R^2) and correctly classifying 83.3% of observations. Auditors consider short-term liquidity, leverage, and overall financial health when judging the likelihood of becoming going concern.

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1. INTRODUCTION

Competition among firms in Indonesia has got fiercer together with globalization. To survive in the competition and to run their businesses efficiently, firms must expand and adjust operations as public companies have to keep on re-evaluating their operations if they feel they might be stagnant. The long-lived intention is why each entity was created. Because of this, the financial statements are prepared with the going concern assumption if the entity undergos preparation of its financial statements on the basis that it will continue its operations, unless management has decided or has been compelled to liquidate it or to cease operations (IAI, 2015).

Auditors are at the center of any attempt to evaluate its truth. Their assignment is not only to determine whether financial statements are fairly presented or are fraudulent in nature but also whether there might be sufficient evidence or justification to presume an entity's continued existence as a going concern (Praptitorini & Januarti, 2011). Auditors cannot simply take management's view of the state of the company without question, but must critically examine the company-management plan over the next twelve months. An auditor conveys this doubt in the audit report when he or she has substantial doubt whether an entity could continue being a going concern for a period of not over one year from the date of audit report (IAPI, 2021). As stated by Mulyadi (2002), audit opinions come in five forms: unqualified opinion, unqualified opinion with explanatory paragraph, qualified opinion, adverse opinion, and disclaimer of opinion.

Investment decisions are heavily influenced by the going concern opinion. An unexpected going concern opinion can result in lower share prices, difficulty borrowing, and loss of confidence among investors, creditors, customers, or employees. These issues highlight the importance of the contemporary determinants of going concerns, which is a leading research area of journal of accounting.

Manufacturing companies depend heavily on capital from investors and lenders to finance production facilities, raw material inventories, and working capital. Their ability to attract capital and meet obligations therefore bears directly on their continuity. Three financial indicators are frequently examined in this context. Liquidity describes a company’s ability to Capital sourced from investors and lenders plays a key role to finance production facilities, raw material inventories and working capital of manufacturing firms (Atsar et al. 2018). Their ability to generate capital and service obligations, therefore, directly affects their continuity. In this regard, the three most frequently investigated financial indicators are liquidity, solvency, and debt default. Liquidity is defined as an entity's ability to pay off its short-term obligations and is commonly measured using the current ratio, which compares a company's current assets with current liabilities (Kasmir, 2019). Solvency reflects a firm's ability to meet its short- and long-term obligations, as commonly measured by the debt-to-equity ratio (Fahmi, 2015; Kasmir, 2019). Debt default is a condition of being unable to pay the principal of, or interest on, a debt when due, which can lead to creditor intervention, and which is widely associated with affective weakness (Chen & Church, 1992). There are quite a few inconsistencies in the findings across studies, sectors, time periods along these determinants. It is this continuing divide that motivates the present study, which considers how liquidity,

solvency, and debt default affect the going concern audit opinions in Indonesia's manufacturing companies during 2019-2022, a period following economic pressures due to the covid-19 pandemic.

The going concern uncertainty is a disclosure and a judgment. Companies are required to disclose all the uncertainties about whether they are able or not to continue the operations, and the users of financial statements will often read these disclosure documents together with the audit opinion when trying to assess risk. Though the line between a company under financial pressure and one at risk of actually failing is almost never exact in practice. This lack of clarity is one reason a lot of researchers have instead turned their attention to the observable characteristics of firms that tend to get going concern opinions, rather than relying only on the reasoning stated in individual audit reports.

1.1 Signaling Theory and the Going Concern Opinion

This paper is built around Signaling theory. It presents the theory of Adverse Selection from Akerlof (1970: When one of two parties to a transaction is not fully informed about the nature of what is being offered, then markets can be subject to adverse selection. This theory of signaling claims that managers and other informed parties have a strong interplay in signalling the quality of what firms have to offer to outside parties (homologous to Akerlof (1970)). Financial ratios and audit reports are among the channels of this information to investors, creditors and auditors. A strong liquidity position and handily lower than average leverage are perceived by the market as optimal results of optimal financial health whereas weak liquidity, or a more pressing concern might be signs of heavy debt signals negative to reporting accounts. Auditors share the same information asymmetry of investors and creditors, using these signals to evaluate the risk of a client unable to continue as a going concern.

The going concern assessment is regulated by the auditing standards issued by the Indonesian Institute of Certified Public Accountants (IAPI, 2021) in the Indonesian context. These standards require placing material uncertainties in the context of management's plans for the foreseeable future and thus whether a material uncertainty exists. As this judgment came from a source that is partially observe-able, auditors commonly use the financial indicators as a tune up. This allows the audit report to be used as a public signal. Issuing an opinion that proves unnecessary may damage a client’s reputation and its access to finance, but failing to issue one when warranted exposes the auditor to litigation and loss of credibility. The financial indicators examined in this study are therefore important inputs to a decision with consequences for several parties.

1.2 Hypothesis Development

Liquidity is a company’s capacity to pay debts that must be settled promptly. A low current ratio indicates potential short-term cash-flow problems, such as delays in paying suppliers or failure to repay maturing bank loans. These problems can disrupt operations and lead auditors to question whether the company can continue as a going concern (Praptitorini & Januarti, 2011). Empirical evidence is mixed. Susanto et al. (2022) and Kurbani et al. (2019) report a significant effect of liquidity on going concern opinions, and Putri (2018) reports a significant effect among retail companies. In contrast, Simamora and Hendarjatno (2019),

Rahman and Ahmad (2018), and Irwanto and Tanusdjaja (2020) find no significant effect. Consistent with signaling theory, and with the studies reporting a significant effect, the first hypothesis is formulated as follows:

H1: Liquidity has a significant negative effect on the going concern audit opinion.

Solvency reflects the extent to which a company's assets are financed by debt rather than equity. A high debt-to-equity ratio implies larger fixed interest obligations, a higher probability of default, and a smaller equity buffer for absorbing losses (Fahmi, 2015; Kasmir, 2019). Several studies report a significant positive effect of solvency on going concern opinions, including Anggraini et al. (2021), Irwanto and Tanusdjaja (2020), and Simbolon and Kurniawan (2023). The second hypothesis is therefore:

H2: Solvency has a significant positive effect on the going concern audit opinion.

Debt default captures the realized or imminent failure of a company to honor its debt obligations. Among the indicators that auditors consider under the going concern framework, the inability to meet debt obligations is prominent (IAPI, 2021). Chen and Church (1992) found a strong relationship between default status and going concern opinions, and Izazi and Arfianti (2019) reported a similar relationship. Chen and Church (1992) identify three conditions under which a company may be classified as in default: failure to pay principal or interest, breach of a debt agreement, and negotiation to restructure maturing debt. Following Altman (1968), this study proxies debt default with the Altman Z-Score, a composite indicator that combines working capital, retained earnings, operating profitability, market value of equity relative to liabilities, and asset turnover into a single measure of financial health. Budiantoro et al. (2022) report a significant effect of debt default on going concern opinions, and Syah Putra et al. (2021) find similar evidence in property and real estate companies. Yunus et al. (2020), however, report no significant effect of the Altman Z-Score. Because a higher Z-Score indicates a healthier company further from default, the expected sign is negative. The third hypothesis is therefore:

H3: Debt default, measured by the Altman Z-Score, has a significant negative effect on the going concern audit opinion.

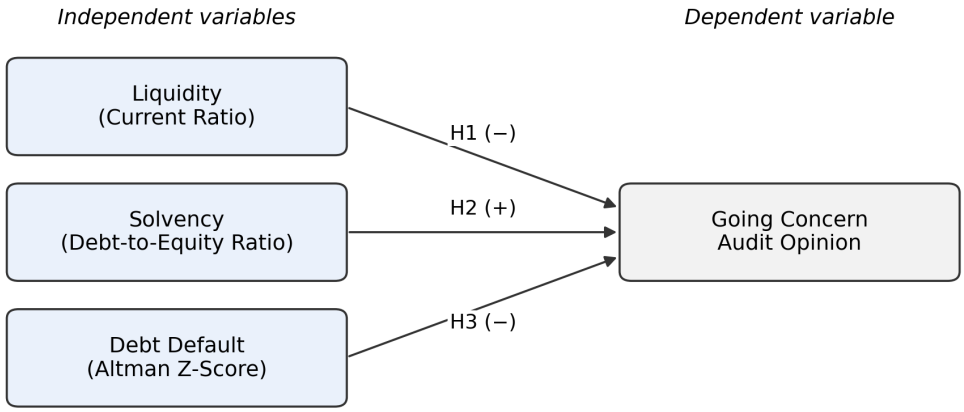


Figure 1. Research framework of the study

1.3 Research Objectives and Contributions

In this study, there are four objectives. We want to test whether Liquidity has a bearing on the going concern audit opinion of manufacturing firms. The second is to see if

solvency changes this opinion. The third is to test whether debt default, proxied by the Altman Z-Score, has an impact on the opinion. Fourth, we examine whether these three variables together predict the going concern opinion and how well they classify firms who do and do not receive it.

The study has three major contributions to the going interest body of research. First, it examines a population of characteristics of a subgroup of companies, i.e., manufacturing firms with losses before when the going concern decision could most likely occur. Second, the model used to analyze combined individual ratio with composite distress measure therefore allowing one to add the explanatory power of a single-ratio indicator to multi-dimensional indicators. Third, it supplies contemporary evidence from the 2019–2022 period, including the periods around the COVID-19 crisis when many firms were under greater financial pressure.

2. METHODS

2.1 Research Design

This study uses a quantitative approach with hypothesis testing. The population comprises manufacturing companies listed on the Indonesia Stock Exchange (IDX). The dependent variable is dichotomous, since an auditor either issues or does not issue a going concern opinion, so the data are analyzed with binary logistic regression (Hosmer & Lemeshow, 2000) after descriptive analysis.

2.2 Data and Data Sources

The study uses secondary data from the audited annual financial statements of manufacturing companies listed on the IDX for the years 2019 to 2022. Data were collected through documentation, by obtaining the financial statements from the official IDX website (https://www.idx.co.id/id) and from the official websites of the individual companies.

2.3 Population and Sample

The population includes 193 manufacturing companies listed on the IDX during the period of 2019–2022. Purposive sampling was used based on the criteria: (1) listed on the IDX during 2019-2022; (2) published its full annual financial statements for the period ending in December; (3) disclosed full information relevant for analysis; (4) presented its financial statements in Rupiah; and (5) it adopted a loss during the observation period. The resulting sample selection is summarized in Section 3.1.

2.4 Variables and Operational Definitions

The dependent variable is the going concern audit opinion, coded 1 if the company received a going concern opinion in its audit report and 0 otherwise. The independent variables are liquidity, solvency, and debt default. Liquidity is measured by the current ratio:

$$\text{Current Ratio (CR)} = \text{Current Assets} \div \text{Current Liabilities}$$

Solvency is measured by the debt-to-equity ratio:

$$\text{Debt to Equity Ratio (DER)} = \text{Total Liabilities} \div \text{Total Equity}$$

Debt default is proxied by the Altman Z-Score (Altman, 1968):

$$Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5$$

where X1 is net working capital/total assets, X2 is retained earnings/total assets, X3 is earnings before interest and taxes/total assets, X4 is market value of equity/total liabilities, and X5 is sales/total assets.

The three independent variables were chosen because each captures a different dimension of financial health that is relevant to the going concern judgment. The current ratio reflects the capacity to meet obligations falling due within a year, which is the horizon used in the going concern assessment. The debt-to-equity ratio reflects the capital structure and the extent to which creditors' claims exceed the owners' capital, which determines how much loss a firm can absorb before becoming insolvent. The Altman Z-Score reflects overall financial distress, combining profitability, leverage, liquidity-related working capital, and asset efficiency into a single measure. Using a single-ratio measure and a composite measure together allows the study to test whether the individual signals carry information beyond the overall distress assessment.

2.5 Data Analysis

Descriptive statistics (minimum, maximum, mean, standard deviation) are provided for each variable of the data set. A binary logistic regression equation is employed to test the hypotheses:

$$\ln[P / (1 - P)] = \beta 0 + \beta 1 \text{ Liquidity} + \beta 2 \text{ Solvency} + \beta 3 \text{ Debt Default} + \varepsilon \quad (1)$$

where P is equal to the probability of earnings being recognized for a company that is operating in a going concern opinion with β0 the regression constant and β1 to β3 the regression coefficients of other variables. The Hosmer and Lemeshow goodness-of-fit test is used to assess model feasibility, in which a high p-value (often >0.5) indicates that the model is a good fit to the observed data (Ghozali, 2018). An omnibus test of the regression coefficients tests the overall significance of the model; a p-value of less than 0.05 indicates that the overall model is significant and that the independent variables explain the variation of the dependent variable. Explanatory power (Nagelkerke's R Square) consists of a variable transformation into a form ranging from 0 to 1 using the same formula as Cox and Snell Power but changes enough to be easier to interpret. The Wald statistic is used to test individual hypotheses, where a significant effect is indicated by a value of less than 0.05. Model predictive accuracy alongside a classification table. Analyses were conducted with IBM SPSS Statistics.

2.6 Research Procedure

The research process was divided into five stages. First stage, we compiled a list of manufacturing companies listed on the IDX from 2019 to 2022; the population is defined. Second, an application of the sample criteria outlined in Section 2.3 to each company was made and the number of exclusions per criterion noted e.g. to provide an audit trail of the study selection process. Third, the retained companies' annual financial statements were reviewed and current ratio, debt-to-equity ratio and Altman Z-Score were calculated for each firm-year. Fourth, what each firm-year's going concern status is identified from auditor's report and coded as a binary variable. Fifth, data were entered into SPSS and descriptive statistics, binary logistic regression and the evaluation tests in Section 2.5 were performed.

Several design choices require explanation. Logistic regression was preferred to multiple linear regression because the dependent variable takes only two values. A linear probability model would produce predicted values outside the zero-to-one range and would violate several assumptions of ordinary least squares when the outcome is binary. Because each company contributes up to four firm-year observations, the pooled model treats the observations as independent. This is a simplification: repeated observations of the same company are likely to be correlated, so the reported significance levels should be read with that limitation in mind. A panel specification with firm-level clustering would address this issue and is recommended for future work.

2.7 Interpreting the Coefficients

In binary logistic regression, B is the change in log-odds of the outcome for a one unit increase in a predictor, which is controlled by the other predictors. Instead of log-odds, the study employs the Exp(B), which is the multiplicative change in the odds of getting stint of going concern opinion. A greater-than-one Exp(B) value denotes that the odds rise in proportion to the change in the predictor, while less than one denotes the opposite. The difference in the odds proportion (as a percent) = (Exp(B) − 1) × 100. The formula utilized to estimate the probability of getting the opinion is P = 1/ (1 + e^(−z)), where z is the linear combination of the constant and the weighted predictor values.

Each test is used for a distinct purpose. The Hosmer and Lemeshow test compares expected and predicted frequencies in groups of firms ranked by predicted chance of success: hence a non-significant indication suggests that the predicted frequencies are no more systematically different from the observed ones. The omnibus test asks whether the full model of interest (in this case, the model with 3 predictors) fits better than the model containing only the constant and thus many statistics were implemented to answer the question of whether the three variables add value. The Wald statistic tests if an individual coefficient differs from zero, conditional on the other predictors it is the basis for the hypothesis decisions. These tests, on the whole, separate out whether your model is simply adequate, whether it is useful, and whether each of your hypothesised relationships is true.

2.8 Nature of the Data and Scope of Inference

This study is based on publicly available secondary data from audited annual financial statements and does not involve human participants. Its findings therefore rely on the validity and completeness of the figures reported and on the unanimity of the audit opinions as disclosed. Audit figures were prepared by management and audited by external auditors; therefore, the figures included in the present analysis are those that the entity would have reported by following the reporting decisions made in these arrangements. Keeping this in mind concerning the nuances of variables influenced by accounting choices and market conditions (such as retained earnings and the market value of equity).

3. RESULTS AND DISCUSSION

3.1 Sample Description

The initial population consisted of 193 manufacturing companies listed on the IDX during 2019-2022. Of these, 32 were excluded for incomplete financial statements, 78 for not

experiencing losses during the observation period, and 11 for presenting financial statements in a currency other than Rupiah. The final sample comprised 72 companies, which over four years yields 288 firm-year observations (Table 2).

Table 2. Sample selection criteria

No.	Criteria	Number
1	Manufacturing companies listed on the IDX, 2019–2022	193
2	Excluded: incomplete financial statements	(32)
3	Excluded: no losses during the observation period	(78)
4	Excluded: financial statements not presented in Rupiah	(11)
	Final sample (companies)	72
	Observations (72 companies × 4 years)	288

Source: Processed data (2026).

These sample design considerations provide significant bearing not only on the study itself but also the inferences to be made. Since the sample only includes firms that are loss-makers during the observation period, it is conditioned on a financial outcome that is related to the explanatory variables. Firms that were profitable through-out the period are excluded or by a built-in; the results, therefore, characterise the determinants of going concern opinions among loss-making companies, not among companies in general. Likewise, companies with incomplete reports or financial statements presented in a currency other than Rupiah are removed from the analysis. These exclusions enhance comparability, but exclude firms with less qualitative disclosure and may systematically exclude firms that have operational issues that are more or less likely to receive a going concern opinion.

3.2 Descriptive Statistics

TABLE 3: Descriptive Statistics Liquidity varied from 0.158 to 29.501 (Mean 3.250, SD 3.254). The similar Standard Deviation and mean illustrates variability in liquidity across firms. Solvency spanned from 0.020 to 2.937 (Mean 0.700, SD 0.471), indicating differing capital structures. Z-Score spanned from 0.648 to 5.295 (Mean 2.350, SD 0.965), suggesting the companies in this sample range from those who have stressed financial situations to equally relatively healthy ones. A total of 58 (20.1%) of the 288 observations obtained a going concern opinion.

Table 3. Descriptive statistics of the research variable

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Liquidity (Current Ratio)	288	0.158	29.501	3.250	3.254
Solvency (Debt-to-Equity Ratio)	288	0.020	2.937	0.700	0.471
Debt Default (Altman Z-Score)	288	0.648	5.295	2.350	0.965
Going concern opinion (dummy)	288	0	1	0.200	0.402

Source: Processed data (2026).

Moreover, the descriptive figures also hint at the shape of the data. With liquidity and the Z-Score, the greatest values are far above the means, and the standard deviation of liquidity is approximately equal to its mean. Together, these characteristics imply right-skewed distributions, where a handful of firms with high liquidity catch up to the mean. These are common forms for financial ratio data, and they provide good reasons as to why this use of

logistic model here is appropriate, as logistic regression does not put constraints on the distribution of the predictors. The distribution of solvency, by comparison, is narrower and has a lower bound of zero. Liquidity is widely dispersed, which means that the one-unit change in the current ratio is a small change for a company that already has a high ratio, but is a relatively large change for a company with a low one. This is an important consideration when comparing the magnitudes of coefficients between variables.

3.3 Model Feasibility and Goodness of Fit

The Hosmer and Lemeshow test yields $\chi^2 = 8.235$ with 8 degrees of freedom and $p = 0.411$. Because p is greater than 0.05, the null hypothesis that the model fits the data is not rejected, indicating that the model is adequate for predicting the observed outcomes. The omnibus test shows that adding the three independent variables significantly improves the model relative to the baseline model without predictors ($\chi^2 = 64.884$, df = 3, $p < 0.001$). Nagelkerke's R Square is 0.318, meaning that liquidity, solvency, and debt default together explain 31.8% of the variation in going concern opinions. The remaining 68.2% is attributable to factors outside the model, such as profitability, firm size, the prior-year opinion, audit quality, and opinion shopping (Table 4).

Table 4. Model fit statistics

Test / statistic	Value	df	Sig.
Omnibus test of model coefficients (χ^2)	64.884	3	0.000
Hosmer and Lemeshow test (χ^2)	8.235	8	0.411
−2 Log likelihood	224.454	–	–
Cox & Snell R Square	0.202	–	–
Nagelkerke R Square	0.318	–	–

Source: Processed data (2026).

The −2 Log likelihood value of 224.454 is a measure of model misfit, in which smaller values indicate a better fit. Because it has no fixed upper bound, its main use is in comparing models estimated on the same data. The Cox and Snell R Square of 0.202 cannot reach one even for a perfectly predicting model, which makes it difficult to interpret on its own. Nagelkerke's R Square rescales the Cox and Snell measure so that its maximum equals one, and it is therefore reported as the main summary of explanatory power.

3.4 Classification Accuracy

Table 5 reports the classification results. Of the 230 observations that did not receive a going concern opinion, 223 (97.0%) were classified correctly. Of the 58 observations that did receive the opinion, only 17 (29.3%) were identified correctly, while 41 were predicted not to receive it. Overall accuracy is 83.3%, compared with 79.9% for the baseline model. The model therefore identifies firms that do not receive a going concern opinion far more reliably than those that do, an asymmetry that should be considered when interpreting its predictive value.

Table 5. Classification table of the logistic regression model

Observed	Predicted: not receiving	Predicted: receiving	Percentage correct
Not receiving going concern opinion	223	7	97.0%
Receiving going concern opinion	41	17	29.3%
Overall percentage			83.3%

Source: Processed data (2026).

The cut-off probability for predicting classification accuracy based on predicted probabilities to predicted categories. This research works with the default cut-off value of 0.5 in SPSS, whereby a firm with predicted probability lower than 0.5 is classified as receiving the opinion. As with the majority of firms not receiving the opinion (79.9% of observations), a model that predicted not to be an opinion to every firm would already be 79.9% accurate. The relatively smaller, up-runs to 83.3%. Low sensitivity in firms that did get the opinion One of the most important results, however, is the low sensitivity for those firms which did get an opinion, indicating that the model comes closer to the features of firms that get an opinion compared to those that do not have an opinion.

3.5 Hypothesis Testing

Table 6 reports the logistic regression coefficients. The estimated model is:

$$\text{Ln}[P / (1 - P)] = 0.497 - 0.173 \text{ Liquidity} + 1.430 \text{ Solvency} - 1.207 \text{ Debt Default}$$

Table 6. Logistic regression results

Variable	B	S.E.	Wald	Sig.	Exp(B)
Liquidity	−0.173	0.085	4.169	0.041	0.841
Solvency	1.430	0.356	16.176	0.000	4.180
Debt default	−1.207	0.223	29.234	0.000	0.299
Constant	0.497	0.526	0.893	0.345	1.643

Source: Processed data (2026).

H1 is acceptably found. Liquidity relationship, coefficient = − 0.173 (Wald = 4.169; $p = 0.041 < 0.05$), liquidity is significantly negatively associated with going concern opinion. An Exp(B) of 0.841, can be interpreted that each one unit increase in current ratio decreases the chances of the opinion by 15.9% when other variables are held constant.

H2 is supported. Solvency has a coefficient of 1.430 (Wald = 16.176; $p < 0.001$), meaning that solvency has a significant positive effect. An Exp(B) of 4.180 indicates that each one-unit increase in the debt-to-equity ratio multiplies the odds of receiving the opinion by about 4.18, holding the other variables constant.

H3 is supported. Debt default, measured by the Z-Score, has a coefficient of −1.207 (Wald = 29.234; $p < 0.001$), meaning that it has a significant negative effect. Each one-unit increase in the Z-Score reduces the odds of receiving the opinion by approximately 70.1% (Exp(B) = 0.299). This direction is consistent with the measure, because a higher Z-Score reflects a healthier company. Among the three variables, debt default has the largest Wald statistic, whereas solvency has the largest Exp(B) magnitude.

Table 7. Summary of hypothesis testing results

Hypothesis	Expected sign	Coefficient (p-value)	Decision
H1: Liquidity affects the going concern opinion	Negative	B = −0.173 (p = 0.041)	Supported
H2: Solvency affects the going concern opinion	Positive	B = 1.430 (p < 0.001)	Supported
H3: Debt default (Z-Score) affects the going concern opinion	Negative	B = −1.207 (p < 0.001)	Supported

Source: Processed data (2026).

An illustration of this with your estimated model To illustrate how the estimated model becomes probabilities, let's imagine a company whose liquidity, solvency and Z-Score are equal to the sample means for each: 3.250, 0.700, and 2.350. The linear predictor of 0.497 − (0.173 × 3.250) + (1.430 × 0.700) − (1.207 × 2.350)= −1.901 translates into a at about 13.0% probability of receiving a going concern opinion. Holding other variables at the sample means, a one-unit increase in the Z-Score would reduce this to about 4.3%. A one-unit increase in the debt-to-equity ratio raises it to about 38.4%. The repeat effect of a one-unit rise in the current ratio is to decrease the probability to around 11.2%. For one-unit changes, the debt-to-equity ratio and the Z-Score effect on the predicted probability are therefore significantly greater than that of the current ratio.

Table 8. Predicted probability of receiving a going concern opinion for illustrative firms

Scenario	Liquidity	Solvency	Z-Score	Linear predictor (z)	Predicted probability
Sample means	3.250	0.700	2.350	−1.901	13.0%
Z-Score increased by one unit	3.250	0.700	3.350	−3.108	4.3%
Debt-to-equity increased by one unit	3.250	1.700	2.350	−0.471	38.4%
Current ratio increased by one unit	4.250	0.700	2.350	−2.074	11.2%

Source: Authors' calculation based on the coefficients in Table 6. Other variables are held at their sample means.

3.6 Discussion

Liquidity and the going concern opinion. The negative significant effect of liquidity which supports H1 and is in line with signaling theory. A high current ratio indicates that the firm is able to service its short-term obligations on time, which alleviates auditors' doubts, while in contrast, a low current ratio is an adverse signal that evokes professional skepticism. The resulting finding is consistent with Susanto et al. (2022), Kurbani et al. (2019) and Putri (2018). We could not find the simulations of Simamora and Hendarjatno (2019), Rahman and Ahmad (2018), Anggraini et al. (2021) and Irwanto and Tanusdjaja (2020) where they found no effect. This may be due to differences in sector characteristics. In manufacturing, inventory including receivables and work in process account for a substantial proportion of current assets associated with production, and so the level of liquidity may provide more signal about whether a firm can continue operating than the service sector examined by Anggraini et al. (2021). Since the sample is composed of firms with operating losses, short-term liquidity is a more constraining factor. This risk can be mitigated by management, as it has the power to

keep liquidity at an acceptable level by practicing efficient management of receivables and inventories.

A liquidity p-value (0.041) falls just short of the standard 0.05 benchmark, so the result related to liquidity is not made bigger by the higher level of concern related to solvency and debt default, which were both significant at $p<0.001$. The lives assumption in the liquidity variable thus not as much meaningful. Future work especially studies with larger samples or other liquidity metrics such as quick ratio and cash ratio could further confirm it. This is also in line with the discrepant findings from previous research (Table 1).

The going concern opinion of Solvency. The positive and significant effect of solvency supports H2. When leverage is high, then a greater portion of assets is borrowed by creditors, higher fixed interest burden and effect default risk and lower an organisation's equity cushion to withstand losses (Fahmi, 2015). Auditors interpret the use of high leverage as signaling a higher probability of experiencing financial difficulties and thus becoming more inclined to the inclusion of a going concern opinion. This is in line with the findings of Anggraini et al. (2021), Irwanto and Tanusdjaja (2020), and Simbolon & Kurniawan (2023). It is also in agreement with Gallizo and Saladrigues (2016), who argued the continuing relevance of debt burden to auditors in firms listed on the Spanish Stock Exchange. That the effect of solvency remains consistent across industry groups and reporting periods points to capital structure as being a robust measure of going concern risk therefore a consistent measure of going concern risk. In other words, for managers this means that capital structure should be managed efficiently such as they may use equity injection or debt restructuring in order to not be perceived as signaling too high of financial risk.

More on the magnitude of this effect on solvency. It has very high effect size. In this case, Debt-to-Equity ratio is the most dominant factor on the odds as the odds ratio is 4.18 among the three variables with highest magnitude of effect. This is consistent with the readings from Anggraini et al. (2021) in the service sector solvency.

Debt default and the going concern opinion. The negative and significant coefficient for the Z-Score supports H3. Because the Z-Score combines several dimensions of financial health into one measure, a lower score signals proximity to default and increases the likelihood that auditors issue a going concern opinion. This result is consistent with Syah Putra et al. (2021), who found that debt default affects going concern opinions in property and real estate companies, and with Pham (2022), who found that the overall financial condition of a firm influences going concern opinions more consistently than individual ratios. It differs from Yunus et al. (2020), who reported no significant effect of the Altman Z-Score for manufacturing companies during 2015–2019. The difference may stem from the observation period, the statistical method (panel regression in Yunus et al., compared with logistic regression in this study), and the sample composition. In this study, the sample includes only loss-making firms, whose financial condition is likely to vary widely and is therefore more readily distinguished by the Z-Score.

The Z-Score result also deserves attention because the measure is a composite. The Altman Z-Score combines working capital, retained earnings, operating profitability, market value of equity, and asset turnover, so a low score may reflect weakness in any one of these

dimensions rather than in liquidity or leverage alone. This breadth helps explain why debt default carries the largest Wald statistic in the model, and it is consistent with the view in Pham (2022) that overall financial condition is a more consistent predictor than single ratios. At the same time, the Z-Score was originally developed using data from US manufacturing firms. Its cut-off values and weights may not fit Indonesian firms precisely, so the coefficient should be interpreted as a relative indicator of financial health rather than as a calibrated probability of default.

The joint model. Jointly, the three variables significantly explain going concern opinions, with Nagelkerke's R Square of 31.8%. Although the model is statistically significant and fits the data, most of the variation remains unexplained, and firms receiving the opinion are classified correctly only 29.3% of the time. This suggests that going concern decisions also depend on qualitative judgments, management's plans, and factors beyond financial ratios, which this model does not capture.

The explanatory power of the model is lower than that reported by some earlier studies. Irwanto and Tanusdjaja (2020) report a Nagelkerke R Square of 49.9%, compared with 31.8% in this study. That study also included profitability as a predictor, and profitability is widely regarded as a central determinant of a firm's continuity. The difference therefore suggests that the omission of profitability and other firm characteristics is the most likely reason for the lower explanatory power of the present model, rather than a weakness in the three variables themselves.

3.7 Summary of Findings

The results can be summarized as follows. Liquidity, solvency, and debt default each have a significant effect on the going concern opinion in the expected direction, and the model as a whole is statistically significant and adequate. The effects differ in strength and precision. Debt default, measured by the Z-Score, has the largest Wald statistic, and solvency has the largest odds ratio, whereas liquidity has the weakest statistical support, with a p-value close to the conventional threshold. Predictive performance is acceptable for identifying firms that do not receive the opinion but weak for identifying those that do. Taken together, the findings indicate that going concern judgments in this sample are associated more strongly with the capital structure and overall financial health of firms than with short-term liquidity alone. The substantial unexplained variation suggests that other considerations also play a role.

4. CONCLUSION

Research Findings: This study looks into the influence of liquidity, solvency, as well lending on audit opinions about going concerns made on businesses in the manufacturing industry listed on the IDX in 2019-2022 period. Using binary logistic regression on 288 firm-year observations from 72 loss-making companies, the study finds a significant negative effect of liquidity, a significant positive effect of solvency, and a significant negative effect of Altman Z-Score on the probability of getting a going concern opinion. All three hypotheses are validated. When taken together they explain 31.8% of the variation in the opinion and correctly classify 83.3% of observations.

The findings have implications for several stakeholders. For investors, the results suggest that liquidity, leverage, and the Z-Score are useful indicators for assessing continuity risk before making investment decisions. For auditors, the findings support using these ratios and composite distress measures as part of analytical procedures when assessing going concern risk. For management, maintaining adequate short-term liquidity, a balanced capital structure, and a sound overall financial position may reduce the risk of receiving a going concern opinion, which in turn protects share prices and access to capital.

This study has several limitations. First, it examines only three independent variables and omits profitability, firm size, the prior-year audit opinion, audit quality, and opinion shopping, which earlier studies have found to matter. Second, the sample is restricted to manufacturing companies that reported losses during the observation period, which limits generalizability to other sectors and to profitable firms. Third, debt default is proxied by the Altman Z-Score rather than by observed default events, and the Z-Score was originally developed using US manufacturing firms. Fourth, the model correctly identifies only 29.3% of firms that receive a going concern opinion, which limits its predictive value for that group. Future research should include additional variables, extend the sample to other sectors and longer periods, and consider alternative measures of debt default, such as observed default events or debt restructuring announcements.

From a theoretical perspective, the findings are consistent with signaling theory. Liquidity, solvency, and debt default function as signals that auditors interpret when deciding whether to express doubt about a client's continuity. The signals are not equally strong. Solvency and the Z-Score produce clear and statistically robust effects, whereas the liquidity signal is weaker and more sensitive to sample composition. This pattern suggests that auditors place greater weight on indicators that summarize a firm's capital structure and overall financial health than on short-term liquidity measures taken in isolation.

The practical implications can be sharpened for each stakeholder. Auditors may incorporate the debt-to-equity ratio and the Z-Score into their analytical procedures during planning and completion, treating unusually high leverage or a low composite score as a trigger for more extensive evaluation of management's plans. Investors and creditors may use the same indicators as early warning signals, particularly for firms that have reported losses, because the model suggests that these measures carry information about the likelihood of a going concern opinion. Managers may find that maintaining a balanced capital structure and monitoring liquidity before it deteriorates is more effective than responding after an audit report has already raised doubts. Regulators and standard setters may also consider whether the disclosures accompanying going concern assessments give users who rely on financial ratios sufficient information.

Several directions for future research follow from the study. Subsequent studies could extend the observation window beyond 2022 to examine whether the relationships hold in the post-pandemic period, include profitable firms to allow a direct comparison with loss-making companies, and incorporate profitability, firm size, prior-year opinion, audit tenure, and audit quality as control variables. Methodologically, panel logistic regression with firm-clustered standard errors would address the dependence among repeated observations.

Alternative measures of debt default, such as observed defaults or restructuring announcements, would test whether the Z-Score result is robust to the choice of proxy.

The limitations also shape how the findings should be used. The model correctly identifies only 29.3% of the firms that receive the opinion, so it should not serve as a stand-alone tool for detecting going concern risk. The classification results describe the average firm in the sample, and individual cases may differ substantially. The findings are associations estimated from a single sample and a single period, and they do not establish causation. Users should therefore combine the indicators with qualitative information about management's plans, the industry environment, and the firm's relationships with its creditors before drawing conclusions about a company's continuity.

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6. AUTHORS' NOTE

The authors have no conflicts related to the publication of this article. This paper is free of plagiarism.

7. REFERENCES

Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics, 84*(3), 488–500. https://doi.org/10.2307/1879431

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance, 23*(4), 589–609. https://doi.org/10.2307/2978933

Anggraini, N., Pusparini, H., & Hudaya, R. (2021). Pengaruh profitabilitas, likuiditas, dan solvabilitas terhadap opini audit going concern. *Jurnal Aplikasi Akuntansi, 6*(1), 24–55. https://doi.org/10.29303/jaa.v6i1.106

Budiantoro, H., Nathania, F. A., & Lapae, K. (2022). Pengaruh ukuran perusahaan, opini audit tahun sebelumnya, debt default dan opinion shopping terhadap opini audit going concern. *Owner: Riset & Jurnal Akuntansi, 6*(3), 3251–3260.

Chen, K. C. W., & Church, B. K. (1992). Default on debt obligations and the issuance of going-concern opinions. *Auditing: A Journal of Practice & Theory, 11*(2), 30–49.

Fahmi, I. (2015). *Analisis laporan keuangan*. Alfabeta.

Gallizo, J. L., & Saladrigues, R. (2016). An analysis of determinants of going concern audit opinion: Evidence from Spain stock exchange. *Intangible Capital, 12*(1), 1–16. https://doi.org/10.3926/ic.683

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25* (Edisi 9). Badan Penerbit Universitas Diponegoro.

Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). John Wiley & Sons.

Ikatan Akuntan Indonesia. (2015). *Pernyataan Standar Akuntansi Keuangan (PSAK) No. 1: Penyajian laporan keuangan*. IAI.

Institut Akuntan Publik Indonesia. (2021). *Standar Audit (SA) 570: Kelangsungan usaha*. IAPI.

Irwanto, F., & Tanusdjaja, H. (2020). Pengaruh profitabilitas, likuiditas, dan solvabilitas terhadap opini audit terkait going concern (Studi pada perusahaan manufaktur yang terdaftar di BEI periode 2015–2017). *Jurnal Multiparadigma Akuntansi Tarumanagara, 2*(1), 298–307.

Izazi, D., & Arfianti, R. (2019). Pengaruh debt default, financial distress, opinion shopping dan audit tenure terhadap penerimaan opini audit going concern. *Jurnal Akuntansi, 8*(1). https://doi.org/10.46806/ja.v8i1.573

Kasmir. (2019). *Analisis laporan keuangan* (Ed. revisi). Rajawali Pers.

Kurbani, A., Heryati, H., & Rismansyah, R. (2019). Analisis likuiditas dan profitabilitas melalui variabel intervening kualitas audit terhadap opini audit going concern pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia. *Jurnal Manajemen dan Bisnis Sriwijaya, 17*(1), 1–16. https://doi.org/10.29259/jmbs.v17i1.8943

Mulyadi. (2002). *Auditing* (Ed. 6). Salemba Empat.

Pham, D. H. (2022). Determinants of going-concern audit opinions: Evidence from Vietnam stock exchange-listed companies. *Cogent Economics & Finance, 10*(1), 2145749. https://doi.org/10.1080/23322039.2022.2145749

Praptitorini, M. D., & Januarti, I. (2011). Analisis pengaruh kualitas audit, debt default dan opinion shopping terhadap penerimaan opini going concern. *Jurnal Akuntansi dan Keuangan Indonesia, 8*(1), 78–93. https://doi.org/10.21002/jaki.2011.05

Putri, B. R. (2018). Pengaruh profitabilitas, likuiditas, solvabilitas, dan pertumbuhan perusahaan terhadap opini audit going concern (Studi pada perusahaan retail trade di BEI periode 2012–2016). *Riset Akuntansi Keuangan, 4*(1), 44–59.

Rahman, M. A., & Ahmad, H. (2018). Pengaruh likuiditas, profitabilitas, dan solvabilitas terhadap opini audit going concern. *Jurnal Akuntansi, 1*(2), 44–55.

Simamora, R. A., & Hendarjatno, H. (2019). The effects of audit client tenure, audit lag, opinion shopping, liquidity ratio, and leverage to the going concern audit opinion. *Asian Journal of Accounting Research, 4*(1), 145–156. https://doi.org/10.1108/AJAR-05-2019-0038

Simbolon, R., & Kurniawan, A. (2023). Pengaruh likuiditas, profitabilitas, dan solvabilitas terhadap opini audit going concern pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia tahun 2019–2021. *Jurnal Pendidikan Tambusai, 7*(2), 4262–4270. https://doi.org/10.31004/jptam.v7i2.6822

Susanto, E., Kalsum, U., & Wahyuni, N. (2022). Pengaruh likuiditas, debt default, dan opini audit tahun sebelumnya terhadap penerimaan opini audit going concern pada perusahaan manufaktur sektor industri yang terdaftar di BEI tahun 2017–2019.

Syah Putra, R. A., Astuty, W., & Sari, E. N. (2021). Pengaruh debt default, kondisi keuangan, dan pertumbuhan perusahaan terhadap opini audit going concern pada perusahaan property dan real estate yang terdaftar di Bursa Efek Indonesia. *Jurnal Riset Akuntansi dan Bisnis, 21*(1), 1–14. https://doi.org/10.30596/jrab.v21i1.6231

Yunus, M., Calen, C., & Sirait, S. (2020). Pengaruh prediksi kebangkrutan model Altman Z-Score, reputasi auditor dan opinion shopping terhadap opini audit going concern. *Owner: Riset dan Jurnal Akuntansi, 4*(1), 343–355. https://doi.org/10.33395/owner.v4i1.174