

Bankruptcy Analysis Using the Springate and Grover Methods at PT. Bank Danamon Indonesia Tbk

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Abstract

The development of the economy is inseparable from the role of financial institutions, particularly banks, which play a significant part in shaping monetary policies, foreign exchange supervision, and securities registration. PT Bank Danamon Indonesia Tbk, as one of the largest private banks in Indonesia, has faced declining financial performance over the past five years (2019-2023), marked by increasing debt and decreasing net profit. This study aims to analyze the bankruptcy potential of PT Bank Danamon Indonesia Tbk using the Springate and Grover methods, which are bankruptcy prediction models based on financial ratio analysis. The results of this analysis are expected to provide valuable information for stakeholders in making decisions related to the company's financial health. This research also compares its findings with previous studies that utilized the Altman Z-score model, thus offering a comprehensive overview of liquidation risk and the bankruptcy potential of PT Bank Danamon Indonesia Tbk.

Introduction

The economy continues to develop with the presence of various financial institutions. The most developed of these financial institutions, and seemingly the most significant in the economy, are banking institutions. Banking institutions are consistently involved in determining various policies in the monetary sector, foreign exchange supervision, securities registration, and other areas. This is because the primary function of banks is to provide credit, and the credit provided by these institutions has a profound impact on life, particularly in the economic sector (Sagho 2015).

PT Bank Danamon Indonesia Tbk is the largest private bank in Indonesia, founded on December 16, 1956, by Ng Ay Tjo, a Chinese-Indonesian businessman. PT Bank Danamon Indonesia Tbk manages consolidated assets of Rp240 trillion with its subsidiary, Adira Finance. In terms of share ownership, 92.47% of Danamon's shares are owned by MUFG (Mitsubishi UFJ Financial Group), and the other 7.53% are owned by the public. In serving customers from all business lines, namely retail, small and medium enterprises, and corporations. PT Bank Danamon Indonesia Tbk is supported by 844 conventional branch offices and sharia units as well as branch offices and

representative offices of the PT Bank Danamon Indonesia Tbk group of companies in Indonesia. To better understand the financial health of PT Bank Danamon Indonesia Tbk, a liquidation risk analysis can be conducted through its financial statements.

A bank's liquidation risk can actually be identified and measured using financial reports. This measurement is performed by analyzing the bank's financial statements, which reveal the company's financial position and the results achieved in relation to the company's chosen strategies. Analyzing a financial ratio is an alternative way to test whether the financial information generated by financial accounting is useful for clarifying and predicting bankruptcy. (Allo et al., 2024).

To predict the potential bankruptcy of PT Bank Danamon Indonesia Tbk, the Springate and Grover methods can be used. The Springate method is a method discovered by Gordon L.V. Springate in 1978. By following the procedure developed by Altman, Springate took 40 companies as a sample of step-wise multiple discriminate analysis using 4 of the 19 financial ratios that most contribute to the prediction of company bankruptcy so that a formula called the Springate S-Score was formed and determined limits (standards) in the form of

different value weights in each portion to predict the condition of the company whether it has the potential to go bankrupt or not bankrupt (can be declared healthy). Meanwhile, the Grover method, or G-Score, is an analysis method created by redesigning and re-evaluating the Altman Z-Score method. Jeffrey S. Grover added thirteen new financial ratios. These two methods will be applied to the financial statements of PT Bank Danamon Indonesia Tbk to identify whether this bank is in a healthy condition or has the potential to experience financial difficulties. The results of this analysis will provide valuable information for stakeholders, such as investors, management, and regulators, in making decisions related to PT Bank Danamon Indonesia Tbk.

Based on observations of PT. Bank Danamon Indonesia Tbk's financial statements for five years (2019-2023), financial performance has declined. This can be seen in the profit and loss report, which shows a decline in net profit. Furthermore, Debt also continues to increase, further worsening the situation of PT. Bank Danamon Indonesia Tbk.

Table 1. Development of Debt and Net Profit Data at PT. Bank Danamon Indonesia, Tbk 2019-2023. (Data Presented in Millions of Rupiah)

Table X. Debt and Net Profit of the Company (2019-2023)

Year	Debt (in IDR)	Net Profit (in IDR)
2019	148,116,943	4,240,671
2020	157,314,569	1,088,942
2021	147,156,640	1,669,280
2022	150,251,206	3,429,634
2023	171,345,164	3,658,045

Source: Processed Data, 2025

Based on table 1 above, it is known that debt has increased, where debt in 2020 was Rp. 157,314,569 and Rp. 171,345,164 in 2023. Furthermore, net profit in 2020 and 2021 decreased by Rp. 1,088,942 and Rp. 1,669,280, respectively. This was caused by Covid-19 and the company experienced a decrease in net profit.

PT. Bank Danamon Indonesia Tbk is currently facing several significant challenges, including limited profit growth, with reported profit for the current period increasing by only 1.6% year-on-year, indicating lower performance compared to other major banks that recorded double-digit growth. Furthermore, despite increasing interest income, interest expenses also soared to 60.30%, causing the net interest margin (NIM) to erode and negatively impacting the company's profitability ratio. Credit risk has also increased, with the net non-performing loan (NPL) ratio increasing from 0.15% to 0.4% and expectations of credit losses indicating pressure on the bank's asset quality. Consumer purchasing power is expected to be further depressed due to high interest rates and the weakening rupiah exchange rate, which can affect credit demand and customers' ability to repay installments. Amidst these conditions, PT. Bank Danamon Indonesia Tbk faces intense competition in the banking market in offering deposit interest rates and credit products, especially amid tight liquidity conditions. (Source: <https://www.cnbcindonesia.com>).

Research conducted by Anggreni Takin Allo, Althon k. Pongtuluran, Ade Lisa Matasik with the title " Bankruptcy Analysis Using the Altman Z-Score Model at PT. Bank Danamon Indonesia, Tbk (Allo et al., 2024) ". The results of the study indicate that the application of the Altman Z-Score at PT. Bank Danamon Indonesia Tbk for the period 2017 to 2021 is in the gray area because the analysis results are average. Bank Danamon experienced a decrease in net working capital (Net Working Assets), Earnings Before Interest and Taxes, Book Value of Equity. This shows that the results of the bankruptcy prediction analysis at PT Bank Danamon Indonesia Tbk for the period 2017 to 2021 are in a potential condition of bankruptcy. Therefore, the company needs to increase profits so that the debt to be paid is not greater than the profit.

This study and previous studies share similarities in discussing the bankruptcy analysis of PT. Bank Danamon Indonesia Tbk.

Furthermore, both studies identify potential bankruptcy by referring to relevant financial ratios, and both emphasize the importance of monitoring financial conditions for better management decision-making. Furthermore, the data sources used in both studies, namely secondary data from PT. Bank Danamon Indonesia Tbk's financial statements, also share similarities.

On the other hand, this study differs from previous studies in several significant aspects. Previous studies used the Altman Z-score as a bankruptcy analysis model, while this study will more specifically use the Springate and Grover method to analyze the bankruptcy of PT Bank Danamon Indonesia Tbk. In terms of research focus, the previous study used data from 2017 to 2021 to analyze bankruptcy potential based on the Z-score value, while this study will analyze liquidity risk and bank health by referring to financial statements for five years (2019-2023). Therefore, although both studies discuss bankruptcy analysis, each study has different methods, focus, and results.

Based on the problem phenomenon, the researcher is interested in conducting research with the title "Bankruptcy analysis using the Springate and Grover methods at PT. Bank Danamon Indonesia, Tbk."

Literature Review

Financial Distress

Financial distress is a liquidity problem that remains unaddressed and unresolved without requiring restructuring within a company. This can also occur when a company's internal operating cash flow cannot cover current liabilities, such as the obligation to pay off trade payables, bank loans, and accrued interest. In this situation, a company is required to immediately implement improvements. A situation where cash flow is insufficient to meet contractual requirements is referred to as financial distress (Mselmi et al., 2017). Financial distress is a condition in which a company is experiencing financial difficulties that predates liquidation or bankruptcy. Management will be compelled to commit financial reporting fraud

when they discover that the company they manage is frequently experiencing financial distress. Management does not want the company's performance to be perceived poorly by shareholders and creditors due to suboptimal management performance (Nugroho et al., 2018).

Financial distress, often referred to as financial difficulties, occurs before a company actually goes bankrupt. Financial distress is also characterized by delays in product shipments, declining product quality, and delayed bank bill payments. Preventive measures can be taken through improvements to certain assets and capital once the state of financial distress is identified. This prevents the company from entering a more severe stage of difficulty, such as bankruptcy or liquidation. Based on the definition above, it can be concluded that financial distress is a condition in which a company experiences financial difficulties due to its inability to meet its obligations before bankruptcy occurs (Hidayat et al., 2021).

Bankruptcy

According to (Shi & Li, 2019), bankruptcy is a term used to describe a company experiencing financial difficulties. Financial difficulties vary in severity, ranging from the mildest, observed as a company experiencing temporary cash flow difficulties, to the stage of default, and ultimately, business failure.

Bankruptcy is a condition in which a company's financial difficulties are so severe that it can no longer perform at its best. Bankruptcy prediction analysis is conducted to obtain early warning signs of bankruptcy. The better the management, the more opportunity they have to make improvements. Similarly, creditors and shareholders (investors) can make various preparations to anticipate potential negative outcomes for the company (Masdiantini et al., 2020). Bankruptcy is a condition in which a company is no longer able to pay its debts. This condition usually does not appear suddenly in a company. There are early indications of this situation, which can usually

be recognized early if financial statements are carefully analyzed using certain methods. Financial distress is a situation where a company's operating cash flow is insufficient to cover current liabilities, forcing the company to take corrective action. Financial distress is a severe liquidity problem that cannot be resolved without changes in the size of the company's operations or structure (Yeni et al., 2020).

Springate Method

In (Yunindra, 2018) Springate is a method for predicting the possibility of a company going bankrupt. The Springate score was developed by Gordon L.V. Springate in 1978. To predict the potential (indication) of bankruptcy, Springate uses four ratios with the following formula (Yunindra, 2018):

$$S = 1.03X_1 + 3.07X_2 + 0.66X_3 + 0.4X_4$$

Where:

a) Working capital to total assets ratio (X_1)

This variable is used to measure the company's ability to meet its short-term obligations and to measure the level of liquidity of the company's assets using the formula :

$$X_1 = (\text{Aset Lancar} - \text{Liabilitas Lancar}) / (\text{Total Asset})$$

b) Ratio of earnings before interest and taxes to total assets (X_2)

The profitability ratio measures a company's ability to generate profit from its assets, or can be described as a measure of the company's asset productivity. The formula for measuring a company's profit-generating ability is:

$$X_2 = \text{Ebit} / (\text{Total Asset})$$

c) Ratio of profit before tax to total current liabilities (X_3)

EBT to Current Liabilities is used to measure a company's ability to pay off its short-term debt. The EBT to current liabilities ratio allows a company to determine how much profit, after interest expense, can cover its current liabilities. The formula is:

$$X_3 = (\text{Laba Sebelum Pajak}) / (\text{Liabilitas Lancar})$$

d) Ratio of sales to total assets (X_4)

Total Asset Turnover is a ratio that indicates the efficiency of a company's overall asset utilization in generating sales. This ratio measures how efficiently these assets are utilized to generate revenue. A higher Total Asset Turnover indicates a more efficient use of the company's assets in generating sales volume. The formula is as follows:

$$X_4 = \text{Penjualan} / (\text{Total Asset})$$

With the following category zones:

$S > 0.862$ is a company that is not bankrupt.

$S < 0.862$ the company is unhealthy and has the potential to go bankrupt.

Grover's Method

Grover's Method is a re-development method of the Altman method, with calculation instruments of working capital to total assets, earnings before interest and taxes to total assets, and return on assets (Syamni et al., 2018). In the study (Prihantini et al., 2013), it was stated that the Grover method was a method created by redesigning and re-evaluating the Altman Z-Score method. Jeffrey S. Grover (2001) produced the following function:

$$G = 1.650X_1 + 3.404X_2 - 0.016ROA + 0.057$$

Where :

a) Working Capital to Total Assets Ratio (X_1)

This variable is used to measure the company's ability to meet its short-term obligations and to measure the level of liquidity of the company's assets using the formula :

$$X_1 = (\text{Aset Lancar} - \text{Liabilitas Lancar}) / (\text{Total Asset})$$

b) Ratio of Profit Before Interest and Tax to Total Assets (X_2)

The profitability ratio measures a company's ability to generate profit from its assets, or can be described as a measure of the company's asset productivity. The formula for measuring a company's profit-generating ability is:

$$X_2 = \text{Ebit} / (\text{Total Asset})$$

c) Net Income to Total Assets Ratio (X_3) ratio is used to assess how effectively a company uses

its assets to generate profit. This ratio shows how much net profit is generated for each unit of assets owned by the company, using the formula :

$$ROA = (\text{Pendapatan Bersih}) / (\text{Total Asset})$$

With the following category zones:

$G < -0.02$, the company is in a state of bankruptcy.

$-0.02 < G < 0.01$ the company is in the Grey area

$G > 0.02$, the company is categorized as not bankrupt.

The results of the Grover method calculation can be classified if it gets a value of more than or equal to 0.01 then the company can be said to be not facing the threat of bankruptcy, then if the results of the calculation get a value of -0.02 to 0.01 then the company is in a gray area condition where the company cannot or cannot be said to be threatened with bankruptcy or not bankrupt, but if the results of the calculation get a value of less than or equal to 0.02 then the company can be said to be experiencing financial distress or experiencing financial difficulties (Nandana, 2022) .

The Grover method's criteria for predicting financial distress have a specific threshold value. This criterion states that if the G value is less than or equal to -0.02, the company is predicted to be experiencing financial distress . If the G value is greater than or equal to 0.01, the company is not experiencing financial distress . The Grover method criteria have a specific threshold value (M. Noor Salim et al., 2021).

Research Methodology

Research Type

This type of research is descriptive research, namely research conducted to determine the value of independent variables using quantitative research methods (Sugiyono,

2010). The author's intention in using descriptive research methods is to describe bankruptcy using the Springate and Grover methods at PT. Bank Danamon Indonesia Tbk.

Results and Discussion

Description of Research Data

The data used in this study is external secondary data in the form of audited financial reports from PT. BANK Danamon Indonesia, Tbk, obtained through its website. The sample was selected using a purposive sampling technique, namely audited financial reports for five years, from 2019 to 2023.

Bankruptcy Analysis Using the Springate Method

Table 2: Results of Springate Value Interpretation at PT. Bank Danamon Indonesia Tbk 2019-2023

Year	Springate	Sscore Standard	Information
2019	5,7824	$S < 0.862 = \text{Bankrupt}$ $S > 0.862 = \text{Not bankrupt}$	Not bankrupt
2020	2,0797		Not bankrupt
2021	3,2908		Not bankrupt
2022	3,7936		Not bankrupt
2023	3,4914		Not bankrupt

Source: Processed Secondary Data, 2025

Based on the interpretation of Table 2 above using the Springate method, it shows that the company has been in a healthy condition for the past five years. Although the S-score decreased by 2.0797 in 2020, this did not have a significant impact, so the company remains classified as a healthy company. Although there have been fluctuating changes in the S-score each year, the company has been able to manage its assets optimally over the past five years. This is because the company has made a profit, resulting in a positive EBIT. Likewise, working capital continues to increase annually. Furthermore, the amount of current assets owned is greater than its current liabilities.

Bankruptcy Analysis Using the Grover Method

Table 3: Interpretation Results of Grover Values at PT. Bank Danamon Indonesia Tbk 2019-2023

Year	Grover	Gscore Standard	Information
2019	0.3110	$G \leq -0.02 =$ Bankrupt $-0.02 \leq G \leq 0.01 =$ Grey area $G > 0.02 =$ Not bankrupt	Not bankrupt
2020	0.2488		Not bankrupt
2021	0.2688		Not bankrupt
2022	0.3547		Not bankrupt
2023	0.2742		Not bankrupt

Source: Processed Secondary Data, 2025

Based on the interpretation of Table 3 above using the Grover method in 2020 = 0.2488 and 2021 = 0.2688 or a value ($G > 0.02$ = Not bankrupt) so it is classified as healthy. An increase occurred in 2022 where the G value in 2022 was 0.3547 so it was classified as a healthy company. In 2023, the results shown by Grover where there was a decrease of 0.2742 although there was a significant decrease, the company remained in a healthy condition or in a condition of not bankrupt.

Hypothesis Testing Analysis

1. Springate Method

Table 4. One-Sample Test Springate method

Test Value = 0.862						
			Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	716	4	.009	2.82558	1.1619	4.4892

Sumber Data: Hasil Output SPSS Versi 23

Based on the output results in table 4 above, the calculated t value for the Springate variable is 4.716, then the calculated t value is compared with the t_{table} with degrees of freedom (dk) = $n - 2$ $5 - 2 = 3$ and an error rate of 5% (0.05) for the right-hand one-tailed test, the t_{table} (in the distribution list table) is 2.353. *One sample t-test* obtained a calculated t value greater than the t_{table} ($4.716 > 2.353$). So the Springate Score at PT

Bank Danamon Indonesia Tbk is more than the expected criteria (the company is categorized as not in a state of financial distress and has no potential for bankruptcy) so H_0 is accepted H_a rejected.

The results of this analysis indicate that PT Bank Danamon Indonesia Tbk has solid financial performance, as reflected by the significant Springate Score value. With a calculated t value that far exceeds the t_{table} , this company demonstrates the ability to manage financial risks and maintain its operational stability. This provides confidence to stakeholders that Bank Danamon is not only in a safe position but also has the potential to continue growing in the future. Acceptance of the null hypothesis confirms that this company not only meets but also exceeds the criteria set to avoid financial crisis conditions.

2. Grover Method

Table 5. One sample test for Grover's method

Test Value = -0.02						
			Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	t	df			Lower	Upper
Grover	16.636	4	.000	.31150	.2595	.3635

Sumber Data : Hasil Output SPSS Versi 23

Based on the output results in table 5 above, the calculated t value for the Grover variable is 16,636. Then the calculated t value is compared with the t_{table} with degrees of freedom (dk) = $n - 2$ $5 - 2 = 3$ and an error rate of 5% (0.05). For the one-tailed test, the right-hand side obtained t_{table} (in the distribution list table) is 2,353. *One sample t-test* obtained a calculated t value greater than the t_{table} ($16,636 > 2,353$). So *the Grover method* The score at PT Bank Danamon Indonesia Tbk is more than the expected criteria (the company is categorized as not in a state of *financial distress* and has no potential to experience

bankruptcy), so H_0 is accepted and H_a is rejected.

Thus, the analysis results show that the Grover Score method provides a positive indication of the financial health of PT Bank Danamon Indonesia Tbk. The calculated t-value, which is significantly higher than the table t-value, indicates that the company has solid performance and is not at risk of bankruptcy. This provides stakeholders with confidence that the company is in a stable position, allowing them to continue business and investment activities with greater confidence. Therefore, the decision to accept H_0 and reject H_a is the right step in assessing the company's financial condition.

Conclusion

Based on the results of the data analysis and discussion above, the researcher obtained the following conclusions that can be drawn from this study:

- The Springate value at PT. Bank Danamon Indonesia Tbk is > 0.862 , which is expected, and the company has no potential for bankruptcy.
- The Grover value at PT. Bank Danamon Indonesia Tbk is > 0.02 as expected and the company has no potential for bankruptcy.

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