Analysis of Financial Distress Symptoms in the Company's Performance: Bibliometric Studies

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Abstract. This study is a bibliometric analysis study of financial distress symptoms. The study aims to examine the development of research on financial distress to determine the following research. The phenomenon that occurs is the existence of global economic conditions that are not good from time to time, especially those that occur today with the covid19 pandemic. The research method was conducted using bibliometric analysis of 500 papers from indexed journals (Google Scholar) published from 2016 to 2021. The findings of this study were obtained by 5 cluster area studies on the symptoms of Financial Distress, so there is still a need for research to consider company managers or investors and other parties in making decisions.

Keywords: financial distress, distress, bankruptcy, performance

1 Introduction

When a company is established, the owner generally has a vision and mission to formulate the company's goals. The owner expects the company to get a significant profit, sales that increase over time. Furthermore, the company's goal can provide good performance, and the company continues to grow and survive for an extended period. This research aims to examine the symptoms of financial distress in the company's performance, where it is known that if the company's performance is not good, then it is likely that investors will leave the company so that it is likely that companies listed on the stock exchange can experience delisting. Initiating financial distress becomes essential to reduce losses and cost [1] Because of the importance of financial distress predictions in a company, a more dynamic and effective prediction model is needed for the company's sustainability [2]. Furthermore, this research will also examine alternative solutions that the company can do to avoid the occurrence of Financial Distress or the possibility of worse for the company.

Financial distress is a condition where the company is experiencing financial difficulties. In the long term, the company cannot achieve the company's goals. This condition does not occur suddenly but is a condition that can be seen; symptoms are mainly seen in the decline in performance over time.

Financial distress occurs due to various factors, both externally and internally, of the[3], where internal factors are generally influenced by a lack of knowledge and experience in effective

asset management and liabilities. In contrast, external factors that generally affect financial distress are high inflation, tax policies, regulations, applicable laws, and the decline in the currency's value. Events in the past year have been the Covid-19 pandemic, where macroeconomic conditions are declining in various countries in the world, including Indonesia. At that time, the government issued a decision on the implementation of Large- Scale Social Restrictions (PSBB) in Indonesia since April 2020, where people were urged to limit mobility and stay at home only, which then impacted all sectors of the economy and became a challenging year for various industries. Some sectors that experience unfavorable conditions based on statistical data [4] are retail and tourism, restaurants, and hotels. One example is Matahari Department Store, Tbk, which recorded a decrease in ROA from 33.4 in 2019 to -11.00 in 2020.[5]

A financial statement is one of the tools that can see the possibility of financial distress in a company. [3] statement analysis will be instrumental for company management to evaluate the company's performance. Financial statements can also be instrumental for investors to consider the possibility of further investments.

2 Literature Review

Conditions that are easily seen as an indication of financial distress in companies, especially in companies listed on the stock exchange, are removing its stock listing or commonly called delisting[4][6] listed shares or removing them from the existing list. In addition, it can also be removed at the request of the company issuer or called voluntary delisting.

Indications of financial distress are expressed by [5] in the banking context, where it can be seen from:

- Invalid reporting of the company's finances to investors where there is window dressing to the report to investors
- Financial ratios that exceed the threshold set by regulations show bad conditions.

Financial distress conditions experienced by the company are influenced by several factors, both external and internal,[6] while the internal factors that affect financial distress are:

- Liquidity is the ability of a company to make payments on its short-term obligations.
- Cash flow is a summary of a company's cash flow for a given period.
- The size of the company is generally calculated based on the total assets owned.
- Earnings/profits are changes in an entity's equity over a certain period or generally obtained from business activities.

External factors that affect financial distress are:

- Institutional ownership is the proportion of share ownership by the government / Institutions / legal entities / Financial institutions
- An independent commissioner is a member of the board of commissioners who are not affiliated with management, board members and shareholders, and is free from

business relationships or other relationships that affect the ability to act independently or act solely in the company's interests.

In other literature, financial distress is also[9] regulations[7]. Macroeconomic conditions become a factor that increases the company's financial instability, where there is a decrease in demand for products or services produced, in the current macroeconomic conditions affected by the Covid-19 pandemic where these conditions aggravate the company's financial condition.

Various tools and models are used to analyze the symptoms of financial distress and even predict a company's bankruptcy; research tools and models about it have been done for a long time by Altman in 1968.[8] [10]Altman developed the model using financial ratios into five categories, namely liquidity, profitability, leverage, solvency, and activities developed in a multi-discount model, namely [11]

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

X_1 = **Working capital/total asset**

X_2 = **Retained earning/total asset**

X_3 = **Earning before interest and taxes/total asset**

X_4 = **Market Value of Equity/Book Value**

X_5 = **Sales/total asset**

Z = **Score**

In addition to Altman, there is also a model to predict bankruptcy, which is a model developed by Springate[12]which uses multiple discriminant analysis (MDA) using four ratios of 19 financial ratios that will be able to provide the sound business of bankruptcy companies or not, where the models developed are:

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

X_1 = **Working capital/total asset**

X_2 = **Net profit before interest and taxes/total asset**

X_3 = **Net profit before taxes/current liability**

X_4 = **Sales/total asset**

Z = **Score**

In other[13]model that can also be used as a tool for predicting financial distress and bankruptcy symptoms is developed by:

1. **Zmijevski** where the models used are:

$$X = -4.3 - 4.5X1 + 5.7X2 + 0.004X3$$

X1 = ROA (return on asset)

X2 = Leverage (total liabilities/total assets)

X3 = Liquidity (asset lancer/lancer liability)

2. **Foster** where the models used are:

$$Z = -3.66X + 0.657Y$$

X = Transportation expense/operating revenue

Y = EBIT/interest expense

3. **Grover's method, which is with the following models:**

$$Z = 1.650X_1 + 3.404X_2 + 0.016ROA + 0.057$$

X1 = Working Capital/total asset

X2 = Earning before interest and taxes/total asset

ROA = Net income/total asset

All of the above models can be used to predict financial distress in companies both developed. Entrepreneurs use their accountants, administrators, and others who have an interest in their investment [14][15][16][2][17] While [18]conducting remarkable financial distress predictions of aviation companies in addition to the Altman method, it also compares with the P-Score model, Fuzzy logic model and Kroeze model, which with all models can describe the health condition of aviation companies in India.

3 Methodology and Data Analysis

This study uses bibliometric techniques where the steps are taken: 1) researchers use the Publish or Perish (PoP) application to determine the article that will be a sample of the study. The sample collection results obtained 500 articles from 2016 to 2021 from indexed journals (Google Scholar). 2) Researchers use the Vos Viewer application to map findings into the form of images based on 500 articles obtained, and mapping is done that is a) network image map(network) b) overlay visualization map c) density visualization map. 3) manually documenting the symptoms of Financial Distress based on the theory used, research methods/models (qualitative or quantitative research, data levels, variables used) 4) review

some samples of articles manually to examine further how financial distress symptoms occur and the possibility of alternative solutions that can be done to avoid the occurrence of Financial Distress

4 Results and Discussions

Table 1. Scope of research

Range	Total	Percentage (%)
Indonesian	40	8
Asia	180	36
America, Europe, Australia	205	41
Africa	75	15
Total	500	100

From **Table 1,** it can be seen that the scope of research obtained 8% of research related to financial distress symptoms was conducted in Indonesia, and the remaining 92% of research was conducted abroad. Most research was conducted in the Americas, Europe, and Australia, and the second largest was conducted in Asia, dominated by researchers from China. Thus it is concluded that there is still much-needed research on the symptoms of Financial Distress conducted in Indonesia from various types of business sectors; this is done to make theoretical and practical contributions.
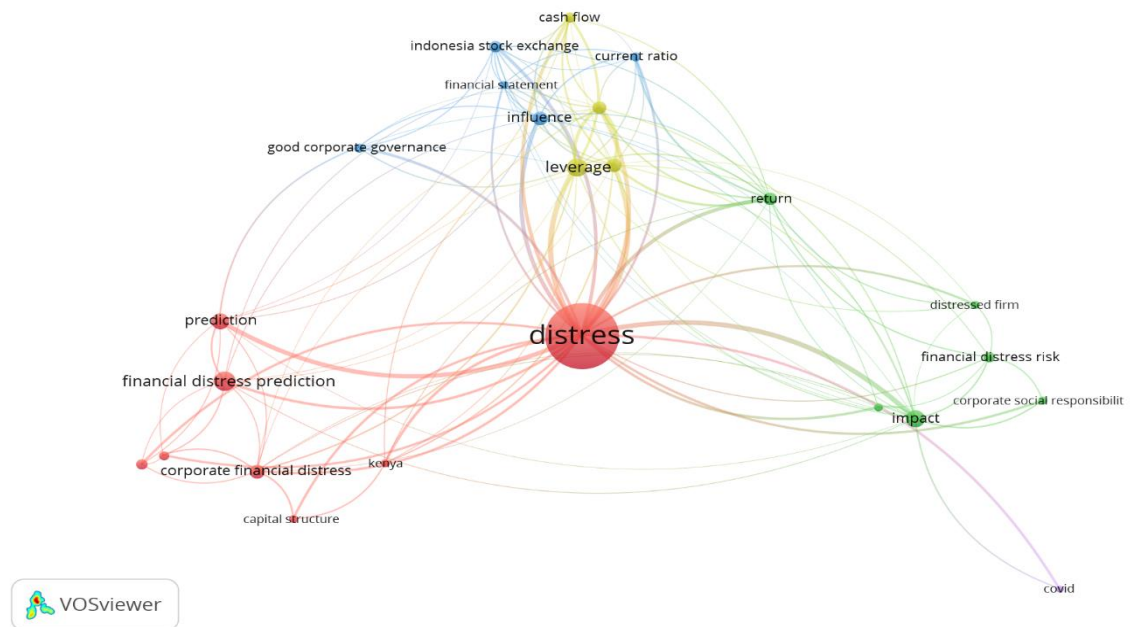

Fig. 1. Network Visualization

Based on **Figure 1. network visualization** obtained 5 clusters based on color (red, green, blue, lime, and purple). Here is the cluster grouping

Cluster	Main variable	Supporting variables
Red	Distress	Altman, capital structure, corporate financial distress, financial crisis, financial distress prediction, Kenya, prediction
Green	Impact	China, Corporate Social responsibility, Distress Firm, Financial Distress Risk, return.
Blue	Influence	The current ratio, financial statement, good corporate governance, Indonesian Stock Exchange
Lime	Leverage	Cash flow, liquidity, profitability
Purple	Covid	China

From the Network Visualization Image and the Cluster table concluded above, it can be known that the leading network is the Red Cluster, with the primary variable is distress. There is variable distress from 500 sample articles known to have 696 out of 1578 events in the sample article or 44%. In comparison, the smallest is the purple cluster with the primary variable Covid, which has ten events out of a total of 1578 events in the sample article or by 6%. That means that research on distress has been done very much, but research on Financial Distress caused by Covid is still very little.
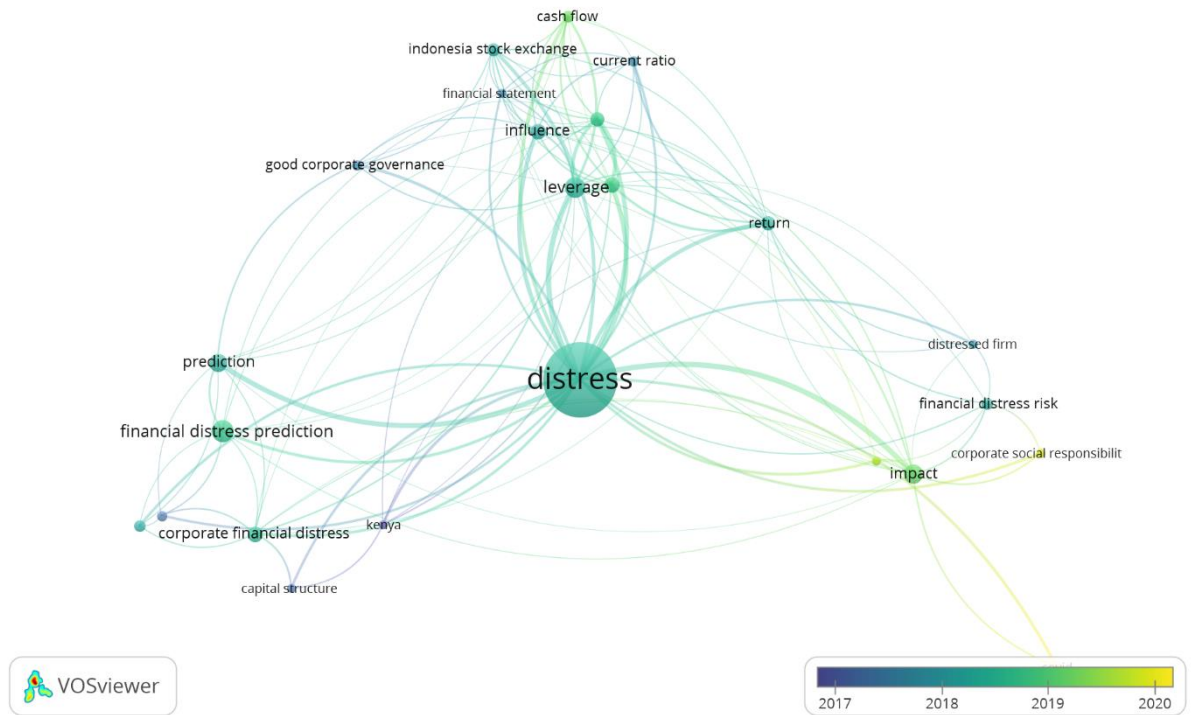
Fig. 2. Overlay visualization

In **figure 2 about Overlay visualization,** it can be seen that research on the symptoms of Financial Distress has been done for a long time. For samples taken by researchers where sample articles were conducted since 2017, the brighter the color shows the newness of the research conducted. Things that were widely researched from the beginning of 2017 and throughout the year were corporate financial distress, capital structure, good corporate governance, financial crisis, financial statement, current ratio, and many in Kenya. From the beginning of 2018 and throughout 2018 to early 2019, research was conducted on prediction, distress firms, financial distress risk, return, leverage, influence, and many studies on companies listed on the Indonesian Stock Exchange. Then in 2019, the research conducted was about financial distress prediction, cash flow, and the impact of Financial Distress. While for the year 2020 to early 2021, research is about Corporate Social Responsibility, Covid, and many studies conducted in China.
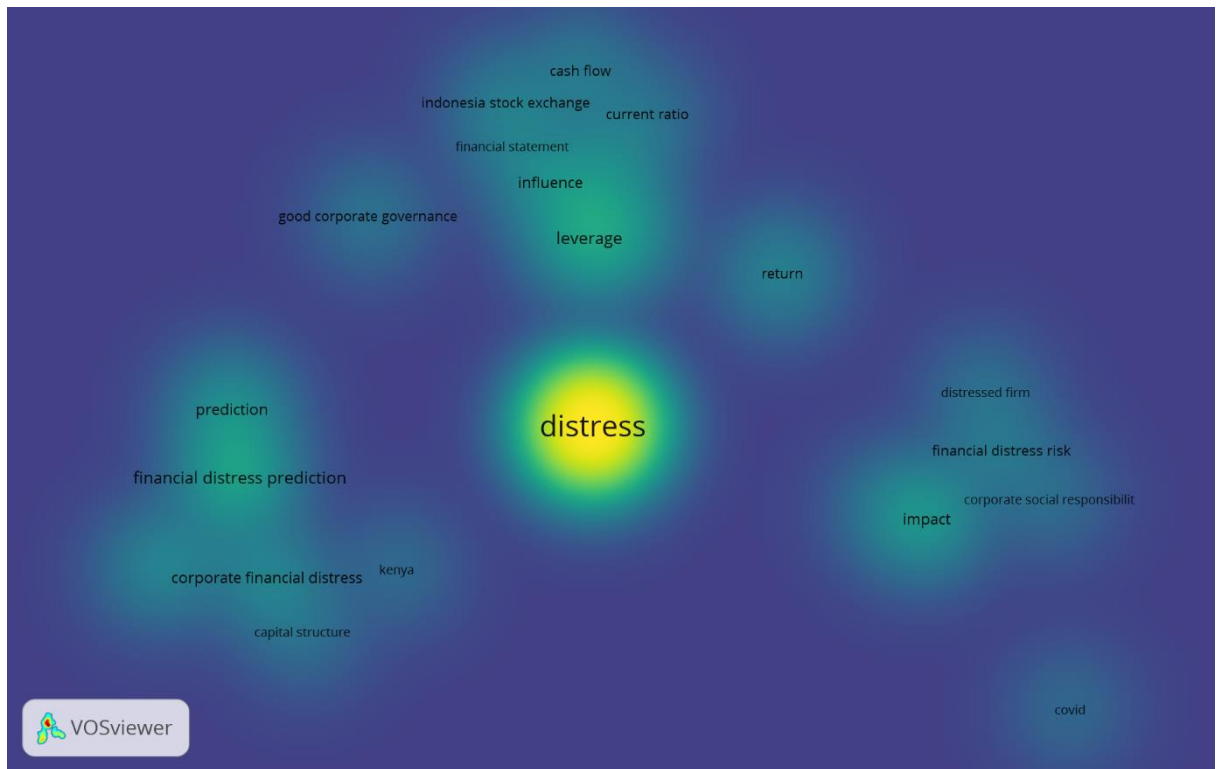
Fig. 3. Density visualization

From **figure 3 about Density,** the visualization shows the most frequently researched topics from 500 sample articles. The most frequently researched topics are the brightest colored with extensive writing, namely Distress, financial distress prediction, leverage. This researcher's writing is a bit dark and small inscriptions that research has not been done much about capital structure, corporate social responsibility, and covid. It is intended that financial distress that occurs due to covid is still very little research done.

5 Conclusions

Based on the results of BIBLIOMETRIC research from 2016 to 2021, there are 5groups (clusters)related to financial distress symptoms. Recent research is the symptoms of financial distress caused by the covid 19 pandemics; research on financial distress has also been conducted in many countries, including Indonesia, Kenya, and China. Research on distress experienced by the company became a topic that was widely chosen in that period and the impact caused by the symptoms of financial distress. Profit margin ratio, current ratio, leverage are factors that are always measured in predicting the symptoms of financial distress[19].

6 Implications/Limitations and Suggestions for Future Research

Furthermore, it is expected that more research on the symptoms of financial distress or prediction of bankruptcy, especially those associated with the current global condition of the covid19 pandemic that hit almost all countries in the world.

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