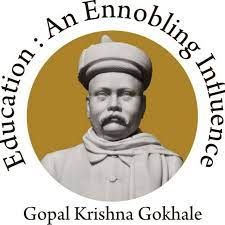
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**GOKHALE INSTITUTE OF POLITICS AND ECONOMICS**

**PUNE - 411004**

**FINANCIAL DERIVATIVES PROJECT**

ON

**Quantitative analysis of financial stability in Nifty 500 companies with Altman Z score.**

**UNDER THE GUIDANCE OF:**

PROF. LALITA GAURI KULKARNI

PROFESSOR, GIPE

**PRESENTED BY:**

**COURSE: FINANCIAL ECONOMICS**

SONAWANE GANESH DATTATRAY - FE2219

JAGRIT SAHNI - FE2224

RIDHI JAIN - FE2248

VANSHITA VERMA - FE2265

**ABSTRACT**

Stock market investments are subject to market risks and there is a possibility for losing all the money invested. Investment decisions are so crucial for a successful investor. Investors are using different techniques for stock selection and for investment. The Altman Z-score is a widely used measure that applies an algorithm that has been found to have useful predictive value on the likelihood of a business going bankrupt. In this paper trying to assess the Altman Z-score of NIFTY 500 of 1600 companies. The score tries to predict the probability of default by the companies due to the financial distress based on the current financial statistics of the company.

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**INTRODUCTION**

India's economy has experienced rapid growth and is expected to become one of the top three global economic powers in the next decade or so. However, the stock market can be volatile, which makes investing in stocks risky. To predict volatility, financial stakeholders, including investors, analysts, consultants, bankers, auditors, management accountants, courts, and database systems, often use the Altman Z-score model. This multivariate formula measures a company's financial health, including liquidity, longevity, profitability, leverage, solvency, and productivity. The model is widely accepted for evaluating loans and offers a reliable measure for assessing a business's financial health. Additionally, the Altman Z-score algorithm has been found to be useful in predicting the likelihood of a business going bankrupt.

Given the current business environment, firms face significant uncertainty, which threatens their longevity. Therefore, the viability of banks is crucial, as it is related to financial investments, funding, and capacity building necessary for expansion by plowing back profits. To assess the credibility of firms, the Z-score model is a widely used tool.

Many countries worldwide are dominated by family-owned businesses, which are one-person businesses, partnerships, or joint-stock companies. They control the economy of their country or region, serving as the backbone of its progress and economic development. In India, family businesses alone contribute to 79% of the national annual GDP. These businesses have endured through the British Raj, the post-independence controlled economic phase, and have succeeded even after the economic reforms of 1991. India has 111 publicly traded family businesses, making it the world's third-highest number, behind only China (159 companies) and the United States (121 companies) (Hindustan Times, 2018).

The financial health of a business is crucial to its ability to meet its financial obligations and generate returns for investors. When a business is unable to repay its debts to creditors, it is considered insolvent or bankrupt. It is essential to predict the financial position of such companies to prevent bankruptcy and protect the interests of stakeholders. Various tools are available to predict the likelihood of bankruptcy.

Stakeholders are interested in the financial health of a firm to ensure its future growth and success. Internal users of information include shareholders, managers, officers, employees, and internal auditors. External users of information include banks, customers, creditors, and suppliers.

The financial health of a business is of great concern and the profit and loss account and balance sheet provide data about its operating activities, assets, and liabilities. There are two parties interested in the financial health of a firm: internal and external users of accounting information. Internal users include shareholders, officers, managers, employees, and internal auditors, while external users include banks, customers, creditors, and suppliers. Shareholders use accounting information to make decisions related to shares and bonds, while creditors use it to make lending decisions and price and collect credits.

To measure the financial health of a business, there are several techniques available, but Altman's Z-score has been proven to be a reliable tool globally. This model is used to predict the possibility of bankruptcy for manufacturing concerns and has an accuracy rate of 76.9% in predicting bankruptcy. Altman's model is based on financial ratios and uses five predicted factors to test the validity of the multivariate model. Financial ratios can predict bankruptcy with an accuracy rate of up to 90%. (Chen & Shemerda, 1981).

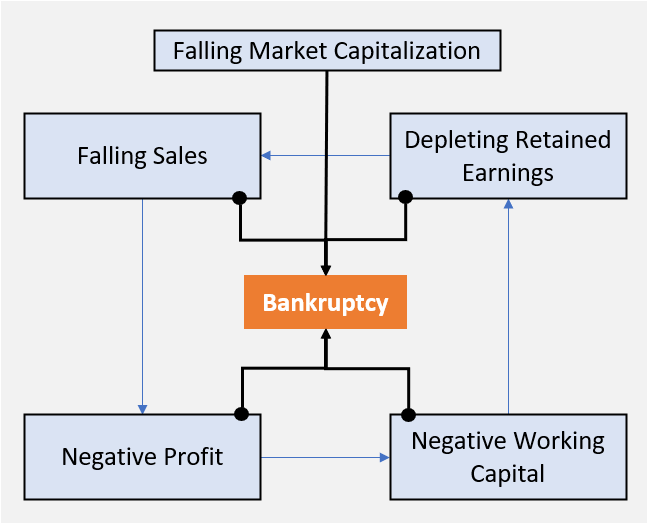
Measuring the financial health of a company is crucial to ensure that it is profitable and not at risk of bankruptcy. Financial ratios are commonly used to evaluate the company's current state by analyzing factors such as debt, assets, sales, and net profit. Other methods for predicting bankruptcy include Discriminant analysis, Boritz and Kennedy's [1995] model, Logit analysis, Probit analysis, and neural networks.

One of the most widely used models for predicting bankruptcy is the Altman Z Score Model, which was developed in 1968 by Edward I. Altman, an Assistant Professor of Finance at New York University. This model uses a combination of five weighted business ratios to estimate the likelihood of financial distress. It has been proven to be a reliable tool globally, with a 72% accuracy rate in predicting bankruptcy two years before the event and an 80-90% accuracy rate in predicting bankruptcy one year before the event.

Companies do not become bankrupt overnight, and signs of financial instability can appear at least two years in advance. The Altman Z Score Model can identify troubled companies two years before they face bankruptcy. Had shareholders of companies such as Kingfisher Airlines, DHFL, Bhushan, Essar, and Alok Industries known about their financial instability in advance, they could have exited their holdings and prevented losses worth crores.

What is Bankruptcy?

Bankruptcy is a legal declaration by a company stating its inability to repay its debts, which can include unpaid bills, vendor invoices, loan outstanding, and more. Once a company files for bankruptcy, it is not obligated to pay its debts and can start anew. However, its assets are liquidated by the authorities to pay off all dues. After clearing all necessary liabilities, any remaining cash is distributed among the company's equity holders. Certain signs of bankruptcy can include a lack of cash flow, mounting debts, declining sales, and legal troubles. An infographic can be a helpful tool for illustrating these signs visually.



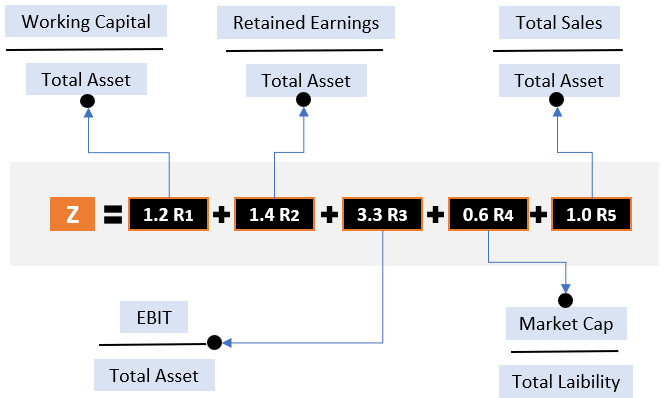
**Altman Z-Score Model and Its Accuracy:**

The Altman Z-Score Model is a widely used financial model that predicts whether a company will face potential bankruptcy in the next two years. The model uses a combination of financial ratios to analyze a company's solvency and liquidity position. These ratios are then weighted and combined as a part of a financial algorithm to predict the likelihood of bankruptcy. While no financial model is perfect, and some companies may escape detection, the Altman Z-Score model can predict with about 90% accuracy when the threat of bankruptcy is looming closer, such as in the next six months. Overall, the model is considered to be about 70% accurate, which is a reasonable level of accuracy for a financial model.

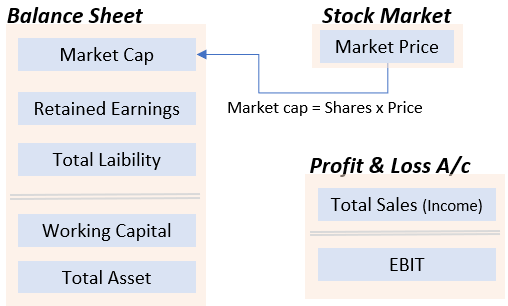
## **The Formula**

The Z-Score model, developed by Edward Altman, has undergone various versions. The latest version, widely used on the internet, is from 1983, whereas the first version was published in 1968 and intended for large manufacturing companies. However, the 1983 version was deemed suitable for smaller companies as well. Nonetheless, the viability of the model in today's internet-based business environment has not been established.

It is uncertain whether the Z-Score model can predict bankruptcy for modern companies such as Zomato, Paytm, and Nykaa. However, it is better to apply some financial model for evaluation rather than investing blindly. For most companies in the business, the Z-Score model has proven effective.



The Altman Z-Score model uses five financial ratios to evaluate a company's solvency and liquidity position. These ratios are taken directly from the company's balance sheet and profit and loss accounts. By analyzing these financial reports, we can calculate the Z-Score and assess the financial health of the company.



**OBJECTIVES**

1) A professional analysis was conducted on the profitability, leverage, liquidity, solvency, and activity ratios of the Nifty 500 companies, with the aim of determining their respective Altman Z scores.

2) A professional rephrasing could be: "An evaluation of the Altman Z Scores for the NIFTY 50 companies, comparing the scores before and after the Covid-19 pandemic."

**LITERATURE REVIEW**

1. **Swalih, M. Adarsh, K & Sulphey, M.** The Altman Z-score is a useful metric for assessing a company's financial strength and potential for bankruptcy. In this particular study, the Z-score formula was employed to evaluate the financial soundness of the Indian automobile industry, specifically analyzing data from ten automobile companies listed on the National Stock Exchange (NSE) using both the original and emerging market formulae of the Altman Z-score.

The results revealed that the companies in the industry listed in the NSE exhibit strong financial performance, leading to the conclusion that the Indian automobile industry is robust and sound, with little risk of financial distress or bankruptcy in the near future. It is recommended that both institutional and individual investors consider investing in this industry. To accurately evaluate Z-score values in a fast-growing economy like India, it is important to consider both the original and emerging market formulae. The Altman Z-score is a valuable tool for investors and financial analysts to use when evaluating a company's financial health and making investment decisions.

1. **Kana Odedra** With its strong and vibrant democracy, India has emerged as the world's fastest-growing major economy, projected to rank among the top three global economic powers in the next decade or so. In this study, the researchers have randomly selected five companies from Nifty 50 and conducted a four-year financial analysis to examine their financial standing and compare their Z-Scores.

The main objective of the study is to evaluate the financial status of the selected companies using the Altman Z-Score model. The results indicate that only Britannia Industries Ltd. is in the safe zone, while Mahindra and Mahindra Ltd. and Shree Cement Ltd. are in the grey zone, and Tata Steel Ltd. and Bharti Airtel Ltd. are in the distress zone. This implies that the latter two companies need to reassess their financial position and improve their sales and working capital to achieve a better Z-Score position.

1. **Mohammed, Shariq** The financial health of a business is a major concern, and there are various techniques available for measuring it. Altman's Z-score has proven to be a reliable tool for evaluating the possibility of bankruptcy for manufacturing organizations, and Multiple Discriminant Analysis (MDA) can be helpful in consolidating the effect of all ratios. In this study, the Z-score analysis was adopted to assess the financial health of Raysut Cement Company SAOG and its subsidiaries in Oman. Secondary data was obtained from published sources, including annual reports over an eight-year period (2007 to 2014). The results indicate that the company and its subsidiaries are financially sound, with higher Z-scores than the benchmark (2.99) in most years of the study. This information can be useful for managers making financial decisions, inve
2. stors looking for investment options, and other stakeholders interested in the cement manufacturers in the country.

It's important to note that this study focuses on a single company in the cement industry in Oman, with only two cement companies operating in the country. The data used is secondary and collected from published financial statements. Further research in this area could involve investigating all of the cement companies operating in Oman. Additionally, given the significant role the cement industry plays in industrial development, there is potential for further study in this area, particularly in the context of the Gulf Cooperation Council (GCC) countries. Conducting a similar study across all member countries of the GCC would provide a wider range of results regarding Z-scores.

1. **Prof. Lakshmi Narasimhan, Dr. Abdul Hameed, Prof. Sivasankari** Amidst a flood of scams causing irreparable NPAs, the banking industry in India is struggling to stay afloat. Although the IBC has been implemented by the RBI & MOF, there is still a long road ahead. This paper proposes the use of Altman Z score as a simple tool to detect a borrower's susceptibility to insolvency. While more sophisticated risk identification models exist, the simplicity of Altman Z score makes a strong case for its usefulness. The researchers have identified telecom, steel, and infrastructure as target segments for studying the predictive analysis of Altman Z score. The Z score is a reliable and straightforward tool that can predict potential insolvency by analyzing data over a 3-year period. It enables lending institutions to regularly monitor their current clients and assess the financial stability of potential clients during the evaluation process. By providing a simple and dependable indicator of financial distress, the Z score can help lending institutions make informed decisions.
2. **Mohsin Khan,** Effective working capital management is crucial for the manufacturing sector as it directly impacts a company's liquidity and profitability. There are two concepts of working capital - quantitative and qualitative, or gross and net. This study focuses on analyzing the efficiency of working capital management using Altman's Z-Score and Discriminant Analysis over a 5-year period for 14 selected Indian Food Processing companies listed on the National Stock Exchange (NSE). Secondary data from databases and annual reports were used for the analysis.

The study found that most of the selected companies struggle to maintain their liquidity ratios, putting them at risk according to the Z-Score analysis. The study also concluded that some companies were financially sound, after considering liquidity, working capital efficiency, and solvency using key variables such as current ratio, quick ratio, inventory turnover ratio, and debtor turnover ratio. The study suggests that companies need to pay attention to their inventory turnover ratio, as both excessively high and low ratios may indicate potential problems for the company.

1. **Vivek Prasad, K Uma, D Murugananthi, R Pangayar Selvi, M Priyadharshini** To meet the demands of a growing population, the use of fertilizers and seeds is increasing rapidly. The Indian government has approved significant investments in the input industry, which includes multiple active businesses in India. Profitability is crucial for any business to sustain itself, and evaluating the financial stability of companies can help maximize their value and reduce overall risk. In this study, the financial risk of four Indian seed and four fertilizer companies was assessed using data collected over a ten-year period from 2011-12 to 2020-21. The companies evaluated included Kaveri Seed Company Ltd. (KSCL), JK Agri Genetics Ltd. (JKAGL), Shree Ganesh Biotech Ltd. (SGBL), Mangalam Seeds Ltd. (MSL), National Fertilizers Ltd. (NFL), Coromandel International Ltd. (COROMANDEL), Chambal Fertilizers and Chemicals Ltd. (CHAMBLFERT), and Deepak Fertilizers and Petrochemicals Corporation Ltd. (DFPCL). The study aimed to investigate the reliability of the Altman Z Score model in predicting the possibility of financial failure in the agriculture input industry in India at least a year before it occurs. The Altman Z score model was used to evaluate the financial efficiency of the various seed and fertilizer companies. The results showed that three of the seed companies were in the safe zone, while one was in the grey zone. For the fertilizer companies, three were in the grey zone, and one was in the distress zone. The study analyzed the financial health of the companies.

Stakeholders are primarily concerned with a business firm's financial health, which informs their decision to engage with the firm. The Altman Z score is a reliable tool for stakeholders to use when making such decisions. Altman's model evaluates a company's financial health, divides them into different zones, and predicts their likelihood of bankruptcy in the future. A recent study using this model found that in the seed company industry, three firms were in a safe zone, while one was in a grey zone. In the fertilizer industry, three firms were in the grey zone, and one was in the distress zone. These findings can aid managers in making financial decisions, enable stockholders to select investment options, and help others protect their interests in seed and fertilizer companies within the country.

1. **Bishwajeet Prakash, Dr. Vijay, Dr. Jainendra Kumar Verma** The Indian economy has shifted from being largely agricultural to a service-based one due to globalization, leading to stiff competition for domestic companies from foreign firms. Consequently, financial distress or bankruptcy has become more prevalent in recent years, prompting researchers to use financial statements to predict company performance. This study focuses on agro and allied-based (coffee and tea) producer companies listed on the National Stock Exchange (NSE) between 2014 and 2018, using the Altman Z-score model, which is widely used to assess credit risk and predict a company's insolvency position. The aim of this study is to predict and analyze the financial stability of the top five agro-based companies in India, and the findings could help managers and policymakers make more informed decisions. The study identifies companies in a position of financial distress and suggests ways to reduce the risk of bankruptcy. Overall, this study provides valuable insights into the financial performance of agro-based companies in India.

The Altman Z-score model is widely recognized as a reliable way to evaluate companies' credit risk management on a global scale. It is an empirical model that can be used to predict a company's insolvency and monitor the financial position of risk-managed companies. The Altman model has been proven to effectively alleviate financial stress in companies. This study specifically focuses on forecasting and evaluating the financial performance of agro-based listed companies in India, particularly those in the tea and coffee industry. The study reveals that 50% of these companies are currently experiencing financial distress, although some are in a grey area between safety and distress. The model suggests that companies in the distress zone should seek rehabilitation from their financial struggles and manage their working capital expenditure by adopting various measures. Overall, this study can guide shareholders, policymakers, and company management in taking corrective measures to prevent bankruptcy and reduce distress.

**ANALYSIS**

1. **A professional analysis was conducted on the profitability, leverage, liquidity, solvency, and activity ratios of the Nifty 500 companies, with the aim of determining their respective Altman Z scores.**

Based on the data available, a total of 413 companies have been analyzed for the financial years 2017-18 to 2021-23. It is important to note that certain types of financial companies, such as banks and non-banking financial companies, were excluded from the analysis as Altman Z score is not applicable to them. Additionally, certain companies, such as newly listed companies like Delhivery, as well as those with missing data, were also excluded from the analysis. As a result of these exclusions, the total number of companies analyzed has been reduced from 500 to 413.

| Company Name | ALTMAN Z SCORE | | | | |
| --- | --- | --- | --- | --- | --- |
|  | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 |
| 3M India Ltd. | 9.49 | 9.578 | 7.704 | 9.493 | 6.915 |
| A B B India Ltd. | 2.995 | 3.179 | 3.518 | 3.256 | 5.073 |
| A C C Ltd. | 3.047 | 3.041 | 3.004 | 2.901 | 3.222 |
| A I A Engineering Ltd. | 5.574 | 5.947 | 5.288 | 4.031 | 3.86 |
| A P L Apollo Tubes Ltd. | 3.923 | 3.657 | 3.603 | 6.389 | 7.574 |
| Aarti Drugs Ltd. | 2.257 | 2.732 | 2.782 | 5.156 | 3.508 |
| Abbott India Ltd. | 6.476 | 6.644 | 8.935 | 8.361 | 8.774 |
| Adani Enterprises Ltd. | 1.461 | 2.017 | 2.244 | 6.495 | 7.621 |
| Adani Green Energy Ltd. | na | na | na | 7.279 | 6.776 |
| Adani Ports & Special Economic Zone Ltd. | 2.185 | 1.875 | 1.474 | 2.249 | 1.832 |
| Adani Total Gas Ltd. | na | na | na | 21.321 | 33.542 |
| Adani Transmission Ltd. | 1.226 | 1.152 | 1.228 | 5.036 | 12.328 |
| Adani Wilmar Ltd. | na | na | na | 3.292 | 5.106 |
| Aditya Birla Fashion & Retail Ltd. | 2.359 | 2.752 | 1.513 | 1.344 | 1.906 |
| Aegis Logistics Ltd. | 5.226 | 4.624 | 2.403 | 3.871 | 3.454 |
| Affle (India) Ltd. | na | na | na | 26.37 | 10.987 |
| Ajanta Pharma Ltd. | 5.682 | 4.066 | 4.393 | 4.968 | 5.024 |
| Alembic Pharmaceuticals Ltd. | 3.398 | 3.147 | 2.846 | 3.756 | 2.857 |
| Alkem Laboratories Ltd. | 3.948 | 3.679 | 3.753 | 3.991 | 3.845 |
| Alkyl Amines Chemicals Ltd. | 2.882 | 3.287 | 4.547 | 7.99 | 7.72 |
| Alok Industries Ltd. | -2.05 | -0.322 | -0.449 | -2.386 | -0.984 |
| Amara Raja Batteries Ltd. | 5.121 | 4.83 | 3.989 | 4.393 | 3.675 |
| Amber Enterprises India Ltd. | 3.235 | 2.387 | 2.639 | 3.271 | 2.741 |
| Ambuja Cements Ltd. | 2.101 | 1.942 | 1.808 | 1.976 | 2.602 |
| Anupam Rasayan India Ltd. | na | na | na | 2.385 | 2.945 |
| Apollo Hospitals Enterprise Ltd. | 2.134 | 2.277 | 2.105 | 3.081 | 4.55 |
| Apollo Tyres Ltd. | 1.971 | 1.81 | 1.042 | 1.406 | 1.273 |
| Asahi India Glass Ltd. | 2.858 | 2.349 | 1.793 | 2.433 | 3.532 |
| Ashok Leyland Ltd. | 3.588 | 3.092 | 1.707 | 1.982 | 2.338 |
| Asian Paints Ltd. | 8.171 | 8.822 | 9.803 | 11.163 | 11.997 |
| Aster D M Healthcare Ltd. | 1.505 | 1.446 | 0.967 | 1.136 | 1.769 |
| Astral Ltd. | 6.912 | 6.824 | 6.627 | 11.482 | 11.748 |
| Astrazeneca Pharma India Ltd. | 3.827 | 6.947 | 6.662 | 7.266 | 5.802 |
| Atul Ltd. | 4.013 | 4.53 | 4.548 | 5.197 | 5.84 |
| Aurobindo Pharma Ltd. | 3.291 | 3.48 | 2.921 | 3.746 | 3.186 |
| Avanti Feeds Ltd. | 10.176 | 7.299 | 6.43 | 6.293 | 6.042 |
| Avenue Supermarts Ltd. | 13.268 | 12.437 | 10.441 | 11.268 | 13.54 |
| B A S F India Ltd. | 1.98 | 2.093 | 1.824 | 3.844 | 4.39 |
| B E M L Ltd. | 2.68 | 2.364 | 2.051 | 1.926 | 2.437 |
| B S E Ltd. | 1.729 | 1.527 | 1.281 | 1.535 | 3.745 |
| Bajaj Auto Ltd. | 4.912 | 4.638 | 4.372 | 4.645 | 4.688 |
| Bajaj Electricals Ltd. | 2.63 | 2.239 | 1.766 | 3.083 | 3.512 |
| Bajaj Finserv Ltd. | 16.331 | 21.786 | 13.377 | 24.718 | 37.777 |
| Balaji Amines Ltd. | 3.905 | 3.376 | 2.687 | 5.539 | 6.471 |
| Balkrishna Industries Ltd. | 3.833 | 3.638 | 3.024 | 4.195 | 3.961 |
| Balrampur Chini Mills Ltd. | 1.978 | 2.027 | 2.035 | 2.312 | 2.987 |
| Bata India Ltd. | 5.664 | 7.633 | 4.874 | 4.776 | 6.173 |
| Bayer Cropscience Ltd. | 3.861 | 3.325 | 3.38 | 3.95 | 3.744 |
| Berger Paints India Ltd. | 5.597 | 5.73 | 7.162 | 8.457 | 6.838 |
| Bharat Dynamics Ltd. | 1.916 | 1.794 | 1.831 | 1.578 | 2.195 |
| Bharat Electronics Ltd. | 2.382 | 2.14 | 1.798 | 1.867 | 2.109 |
| Bharat Forge Ltd. | 4.095 | 3.369 | 2.186 | 2.736 | 3.2 |
| Bharat Heavy Electricals Ltd. | 1.036 | 0.929 | 0.449 | 0.262 | 0.489 |
| Bharat Petroleum Corpn. Ltd. | 3.62 | 3.705 | 2.892 | 3.212 | 3.404 |
| Bharat Rasayan Ltd. | 5.91 | 4.499 | 5.819 | 6.27 | 6.184 |
| Bharti Airtel Ltd. | 1.165 | 0.821 | 0.221 | 0.67 | 1.18 |
| Biocon Ltd. | 4.454 | 4.367 | 4.101 | 5.15 | 4.316 |
| Birla Corporation Ltd. | 1.144 | 1.157 | 1.278 | 1.549 | 1.615 |
| Birlasoft Ltd. | 2.804 | 2.934 | 2.862 | 4.817 | 6.63 |
| Blue Dart Express Ltd. | 5.239 | 4.721 | 3.027 | 4.94 | 5.962 |
| Blue Star Ltd. | 2.98 | 3.015 | 2.468 | 3.021 | 3.174 |
| Bombay Burmah Trdg. Corpn. Ltd. | 7.246 | 7.686 | 3.661 | 3.354 | 2.79 |
| Borosil Renewables Ltd. | 2.22 | 3.906 | 1.14 | 4.32 | 6.282 |
| Bosch Ltd. | 3.959 | 4.308 | 2.804 | 3.05 | 3.514 |
| Brigade Enterprises Ltd. | 1.092 | 1.233 | 1.147 | 1.393 | 1.963 |
| Brightcom Group Ltd. | 1.021 | 1.012 | 1.027 | 1.145 | 7.414 |
| Britannia Industries Ltd. | 11.741 | 11.642 | 8.425 | 10.229 | 9.848 |
| C C L Products (India) Ltd. | 4.252 | 3.486 | 3.031 | 3.015 | 3.666 |
| C E Info Systems Ltd. | na | na | na | #VALUE! | 11.904 |
| C E S C Ltd. | 1.205 | 1.133 | 1.073 | 1.037 | 1.084 |
| C G Power & Indl. Solutions Ltd. | 1.418 | 0.513 | -0.539 | 1.452 | 3.54 |
| Caplin Point Laboratories Ltd. | 9.724 | 7.076 | 5.485 | 5.247 | 5.946 |
| Carborundum Universal Ltd. | 5.092 | 5.63 | 4.093 | 5.471 | 6.087 |
| Castrol India Ltd. | 10.343 | 8.794 | 8.046 | 6.479 | 6.694 |
| Ceat Ltd. | 2.828 | 2.186 | 1.61 | 1.962 | 1.587 |
| Century Plyboards (India) Ltd. | 5.002 | 4.091 | 3.747 | 5.143 | 7.524 |
| Century Textiles & Inds. Ltd. | 1.103 | 4.62 | 1.157 | 1.16 | 1.679 |
| Cera Sanitaryware Ltd. | 5.537 | 4.919 | 4.009 | 4.619 | 5.282 |
| Chalet Hotels Ltd. | na | na | na | 0.414 | 0.884 |
| Chambal Fertilisers & Chemicals Ltd. | 1.906 | 1.341 | 1.58 | 2.648 | 2.785 |
| Chemplast Sanmar Ltd. | 1.407 | 1.212 | 0.841 | 0.9 | 2.452 |
| Cholamandalam Financial Holdings Ltd. | 8.006 | 6.065 | 3.241 | 5.864 | 6.194 |
| Cipla Ltd. | 3.511 | 3.633 | 3.22 | 3.921 | 4.237 |
| Clean Science & Technology Ltd. | na | na | na | na | 17.171 |
| Coal India Ltd. | 7.496 | 6.713 | 4.625 | 3.802 | 5.168 |
| Cochin Shipyard Ltd. | 2.593 | 2.594 | 2.118 | 1.78 | 1.588 |
| Coforge Ltd. | 3.538 | 4.271 | 3.797 | 5.706 | 6.128 |
| Colgate-Palmolive (India) Ltd. | 5.81 | 6.114 | 5.857 | 6.152 | 6.098 |
| Computer Age Mgmt. Services Ltd. | na | na | na | 6.093 | 6.751 |
| Container Corpn. Of India Ltd. | 3.877 | 3.327 | 2.702 | 3.383 | 3.752 |
| Coromandel International Ltd. | 2.409 | 2.812 | 3.251 | 4.511 | 4.355 |
| Crisil Ltd. | 9.873 | 4.731 | 5.065 | 4.259 | 6.317 |
| Crompton Greaves Consumer Electricals Ltd. | 6.624 | 6.26 | 6.129 | 7.269 | 4.659 |
| Cummins India Ltd. | 4.538 | 4.738 | 3.247 | 5.12 | 5.401 |
| Cyient Ltd. | 3.537 | 3.363 | 2.028 | 2.708 | 3.34 |
| D C M Shriram Ltd. | 2.977 | 2.668 | 2.186 | 2.715 | 3.255 |
| D L F Ltd. | 1.205 | 1.04 | 0.862 | 1.403 | 1.944 |
| Dabur India Ltd. | 8.546 | 10.397 | 10.51 | 10.038 | 9.004 |
| Dalmia Bharat Ltd. | na | na | na | 2.369 | 2.212 |
| Deepak Fertilisers & Petrochemicals Corpn. Ltd. | 1.922 | 1.816 | 1.406 | 1.963 | 2.553 |
| Deepak Nitrite Ltd. | 2.499 | 3.02 | 4.463 | 8.778 | 9.99 |
| Delta Corp Ltd. | 3.101 | 3.159 | 1.596 | 2.123 | 3.305 |
| Devyani International Ltd. | na | na | na | na | 6.68 |
| Dilip Buildcon Ltd. | 2.467 | 1.97 | 1.6 | 1.887 | 1.592 |
| Divi'S Laboratories Ltd. | 4.351 | 5.709 | 5.892 | 7.895 | 7.757 |
| Dixon Technologies (India) Ltd. | 7.408 | 4.368 | 5.187 | 8.376 | 9.127 |
| Dr. Lal Pathlabs Ltd. | 8.418 | 8.437 | 8.347 | 11.725 | 8.278 |
| Dr. Reddy'S Laboratories Ltd. | 2.861 | 3.907 | 3.84 | 4.314 | 3.785 |
| E I D-Parry (India) Ltd. | 1.265 | 1.257 | 0.933 | 2.554 | 2.645 |
| E I H Ltd. | 2.037 | 2.427 | 1.178 | 0.73 | 1.605 |
| E P L Ltd. | 4.004 | 4.012 | 4.399 | 4.196 | 3.558 |
| Easy Trip Planners Ltd. | na | na | na | 5.645 | 11.867 |
| Eclerx Services Ltd. | 5.698 | 4.919 | 3.207 | 4.595 | 6.68 |
| Edelweiss Financial Services Ltd. | 3.891 | 3.123 | 0.795 | 1.392 | 1.258 |
| Eicher Motors Ltd. | 9.15 | 6.935 | 5.163 | 6.128 | 5.219 |
| Elgi Equipments Ltd. | 4.92 | 4.935 | 3.463 | 5.452 | 7.448 |
| Emami Ltd. | 7.391 | 6.108 | 3.65 | 7.941 | 6.658 |
| Endurance Technologies Ltd. | 6.935 | 6.646 | 5.041 | 6.657 | 5.726 |
| Engineers India Ltd. | 2.249 | 1.957 | 1.664 | 1.325 | 1.379 |
| Escorts Kubota Ltd. | 3.34 | 3.443 | 3.106 | 3.918 | 3.727 |
| Exide Industries Ltd. | 4.314 | 4.215 | 3.565 | 3.529 | 4.245 |
| F D C Ltd. | 3.212 | 2.637 | 2.961 | 3.2 | 2.739 |
| F S N E-Commerce Ventures Ltd. | na | na | na | na | 29.334 |
| Fertilisers & Chemicals, Travancore Ltd. | 0.496 | 0.574 | 2.154 | 1.818 | 1.947 |
| Fine Organic Inds. Ltd. | na | na | na | 7.668 | 10.017 |
| Finolex Cables Ltd. | 5.686 | 4.743 | 3.735 | 3.972 | 4.184 |
| Finolex Industries Ltd. | 3.223 | 3.389 | 3.493 | 3.715 | 4.034 |
| Firstsource Solutions Ltd. | 2.822 | 2.573 | 2.078 | 3.775 | 4.035 |
| Fortis Healthcare Ltd. | 0.886 | 0.693 | 0.893 | 1.007 | 1.417 |
| G A I L (India) Ltd. | 2.6 | 2.874 | 2.236 | 2.111 | 2.565 |
| G M M Pfaudler Ltd. | 4.107 | 5.43 | 7.069 | 7.104 | 5.948 |
| G M R Airports Infrastructure Ltd. | 0.287 | 0.509 | 0.226 | 0.244 | 1.321 |
| G R Infraprojects Ltd. | na | na | na | #VALUE! | 4.143 |
| Galaxy Surfactants Ltd. | 5.199 | 4.805 | 4.622 | 6.178 | 5.932 |
| Garware Technical Fibres Ltd. | 3.224 | 3.694 | 3.485 | 4.576 | 4.735 |
| Gland Pharma Ltd. | na | na | na | 6.657 | 7.093 |
| Glaxosmithkline Pharmaceuticals Ltd. | 2.243 | 2.62 | 6.04 | 6.756 | 6.707 |
| Glenmark Pharmaceuticals Ltd. | 2.225 | 2.385 | 1.749 | 1.793 | 1.712 |
| Go Fashion (India) Ltd. | na | na | na | na | 5.884 |
| Godfrey Phillips India Ltd. | 4.834 | 3.65 | 3.269 | 3.062 | 3.131 |
| Godrej Agrovet Ltd. | 4.986 | 4.277 | 3.714 | 4.154 | 3.875 |
| Godrej Consumer Products Ltd. | 7.16 | 6.538 | 5.122 | 6.174 | 5.835 |
| Godrej Industries Ltd. | 2.493 | 2.099 | 1.287 | 1.802 | 1.376 |
| Godrej Properties Ltd. | 1.183 | 1.661 | 1.515 | 1.945 | 2.313 |
| Granules India Ltd. | 1.763 | 1.979 | 2.544 | 3.428 | 2.894 |
| Graphite India Ltd. | 5.578 | 5.792 | 2.246 | 3.102 | 3.271 |
| Grasim Industries Ltd. | 1.394 | 1.307 | 0.999 | 1.53 | 1.843 |
| Great Eastern Shipping Co. Ltd. | 1.035 | 0.995 | 1.222 | 1.487 | 1.458 |
| Greenpanel Industries Ltd. | na | na | na | 1.815 | 4.71 |
| Grindwell Norton Ltd. | 4.941 | 5.324 | 4.367 | 5.932 | 8.369 |
| Gujarat Alkalies & Chemicals Ltd. | 1.959 | 1.984 | 1.26 | 1.024 | 1.66 |
| Gujarat Ambuja Exports Ltd. | 3.732 | 4.761 | 4.154 | 5.003 | 5.125 |
| Gujarat Fluorochemicals Ltd. | na | na | na | 1.058 | 3.988 |
| Gujarat Gas Ltd. | 2.173 | 2.319 | 3.249 | 4.64 | 4.972 |
| Gujarat Narmada Valley Fertilizers & Chemicals Ltd. | 2.171 | 2.004 | 1.367 | 1.905 | 2.953 |
| Gujarat Pipavav Port Ltd. | 2.315 | 1.857 | 1.631 | 1.908 | 1.598 |
| Gujarat State Fertilizers & Chemicals Ltd. | 1.276 | 1.509 | 1.137 | 1.253 | 1.507 |
| Gujarat State Petronet Ltd. | 1.736 | 2.092 | 2.198 | 2.598 | 2.736 |
| H C L Technologies Ltd. | 5.448 | 5.37 | 3.717 | 5.466 | 6.258 |
| H E G Ltd. | 7.063 | 6.749 | 2.142 | 2.573 | 2.732 |
| H F C L Ltd. | 3.097 | 3.006 | 2.204 | 1.995 | 3.293 |
| H L E Glascoat Ltd. | na | na | na | 6.709 | 8.3 |
| Happiest Minds Technologies Ltd. | na | na | na | 7.397 | 11.054 |
| Hatsun Agro Product Ltd. | 5.194 | 5.391 | 3.998 | 5.161 | 6.005 |
| Havells India Ltd. | 5.352 | 6.839 | 5.131 | 6.947 | 6.669 |
| Hero Motocorp Ltd. | 6.079 | 5.176 | 4.195 | 4.367 | 4.018 |
| Hikal Ltd. | 2.13 | 2.47 | 1.835 | 2.304 | 2.983 |
| Hindalco Industries Ltd. | 1.185 | 1.202 | 0.935 | 1.27 | 1.982 |
| Hinduja Global Solutions Ltd. | 2.57 | 2.282 | 1.735 | 1.715 | 3.587 |
| Hindustan Aeronautics Ltd. | 1.297 | 1.178 | 1.074 | 1.358 | 1.584 |
| Hindustan Copper Ltd. | 2.211 | 1.894 | -0.066 | 2.811 | 3.173 |
| Hindustan Petroleum Corpn. Ltd. | 3.653 | 3.496 | 2.867 | 2.755 | 2.996 |
| Hindustan Unilever Ltd. | 13.794 | 16.521 | 19.237 | 6.36 | 5.65 |
| Hindustan Zinc Ltd. | 4.366 | 3.882 | 3.033 | 3.675 | 4.433 |
| Hitachi Energy India Ltd. | na | na | na | 2.173 | 4.213 |
| Honeywell Automation India Ltd. | 4.912 | 5.322 | 5.239 | 6.888 | 5.907 |
| I F B Industries Ltd. | 5.789 | 5.332 | 2.962 | 3.919 | 3.551 |
| I R B Infrastructure Developers Ltd. | 0.469 | 0.419 | 0.113 | 0.225 | 0.909 |
| I T C Ltd. | 5.345 | 5.484 | 4.188 | 4.594 | 4.95 |
| I T I Ltd. | 0.183 | 0.181 | 0.438 | 0.696 | 0.571 |
| India Cements Ltd. | 0.94 | 0.868 | 0.68 | 0.916 | 0.916 |
| Indiamart Intermesh Ltd. | na | na | na | 7.29 | 4.205 |
| Indian Energy Exchange Ltd. | 4.829 | 6.373 | 5.854 | 8.927 | 9.044 |
| Indian Hotels Co. Ltd. | 1.786 | 2.004 | 1.266 | 0.762 | 2.146 |
| Indian Oil Corpn. Ltd. | 2.313 | 2.511 | 2.006 | 2.063 | 2.487 |
| Indian Railway Catering & Tourism Corpn. Ltd. | na | na | na | 6.142 | 10.676 |
| Indigo Paints Ltd. | na | na | na | 10.345 | 7.093 |
| Indoco Remedies Ltd. | 2.286 | 1.959 | 2.218 | 2.951 | 3.613 |
| Indraprastha Gas Ltd. | 5.091 | 4.89 | 4.916 | 4.626 | 3.789 |
| Indus Towers Ltd. | 3.327 | 3.324 | 1.757 | 1.472 | 2.247 |
| Infibeam Avenues Ltd. | 1.922 | 0.914 | 0.784 | 1.474 | 1.321 |
| Info Edge (India) Ltd. | 4.015 | 5.105 | 5.038 | 6.544 | 5.004 |
| Infosys Ltd. | 5.126 | 5.589 | 5.142 | 6.654 | 7.845 |
| Intellect Design Arena Ltd. | 2.08 | 2.59 | 1.07 | 4.632 | 4.91 |
| Interglobe Aviation Ltd. | 3.229 | 2.763 | 1.787 | 0.806 | 0.916 |
| Ipca Laboratories Ltd. | 2.827 | 3.701 | 4.252 | 5.137 | 4.533 |
| J B Chemicals & Pharmaceuticals Ltd. | 2.483 | 2.798 | 3.777 | 5.196 | 4.776 |
| J B M Auto Ltd. | 2.649 | 2.11 | 1.786 | 1.8 | 2.809 |
| J K Cement Ltd. | 2.025 | 1.835 | 1.851 | 2.78 | 2.409 |
| J K Lakshmi Cement Ltd. | 1.572 | 1.492 | 1.508 | 2.133 | 2.488 |
| J K Paper Ltd. | 1.817 | 2.032 | 1.657 | 1.235 | 1.696 |
| J S W Energy Ltd. | 0.837 | 1.042 | 1.051 | 1.117 | 2.363 |
| J S W Steel Ltd. | 1.576 | 1.572 | 0.995 | 1.513 | 2.199 |
| Jindal Stainless Ltd. | 1.566 | 1.58 | 1.528 | 1.841 | 2.88 |
| Jindal Steel & Power Ltd. | 0.793 | 0.92 | 0.986 | 1.904 | 2.259 |
| Jubilant Foodworks Ltd. | 9.088 | 9.519 | 5.49 | 7.658 | 6.21 |
| Jubilant Ingrevia Ltd. | na | na | na | 1.17 | 3.419 |
| Jubilant Pharmova Ltd. | 2.928 | 2.361 | 1.55 | 6.468 | 3.12 |
| Just Dial Ltd. | 3.036 | 3.403 | 2.588 | 3.529 | 2.54 |
| Jyothy Labs Ltd. | 3.686 | 3.944 | 2.617 | 3.443 | 3.59 |
| K E C International Ltd. | 2.182 | 1.99 | 1.719 | 2.039 | 1.77 |
| K N R Constructions Ltd. | 3.268 | 3.33 | 2.692 | 3.503 | 3.822 |
| K P I T Technologies Ltd. | na | na | na | 4.028 | 7.851 |
| K P R Mill Ltd. | 4.242 | 3.847 | 3.551 | 4.996 | 7.35 |
| K R B L Ltd. | 4.151 | 3.648 | 3.417 | 3.547 | 3.657 |
| Kajaria Ceramics Ltd. | 6.043 | 5.702 | 4.41 | 6.75 | 6.532 |
| Kalpataru Power Transmission Ltd. | 2.143 | 2.26 | 1.759 | 2.061 | 1.957 |
| Kalyan Jewellers India Ltd. | na | na | na | na | 2.057 |
| Kansai Nerolac Paints Ltd. | 7.225 | 6.524 | 5.739 | 6.476 | 5.605 |
| Kei Industries Ltd. | 3.208 | 3.166 | 3.07 | 3.78 | 5.147 |
| Krishna Institute Of Medical Sciences Ltd. | na | na | na | na | 6.004 |
| L & T Technology Services Ltd. | 5.765 | 6.168 | 4.804 | 6.145 | 8.442 |
| Lakshmi Machine Works Ltd. | 3.864 | 3.899 | 2.445 | 3.164 | 3.358 |
| Larsen & Toubro Ltd. | 2.121 | 2.113 | 1.461 | 2.124 | 2.179 |
| Latent View Analytics Ltd. | na | na | na | na | 7.685 |
| Laurus Labs Ltd. | 2.274 | 1.908 | 1.944 | 3.811 | 4.373 |
| Laxmi Organic Inds. Ltd. | na | na | na | 3.6 | 5.482 |
| Lemon Tree Hotels Ltd. | na | na | na | 1.218 | 2.092 |
| Linde India Ltd. | 1.534 | 1.754 | 3.126 | 2.785 | 5.144 |
| Ltimindtree Ltd. | 6.359 | 6.598 | 5.08 | 7.551 | 8.906 |
| Lupin Ltd. | 3.218 | 3.372 | 2.875 | 3.34 | 2.568 |
| Lux Industries Ltd. | 5.343 | 5.774 | 4.427 | 5.448 | 5.368 |
| M M T C Ltd. | 3.595 | 6.692 | 3.737 | 4.009 | 2.378 |
| M O I L Ltd. | 2.834 | 2.524 | 1.808 | 1.915 | 2.612 |
| M R F Ltd. | 2.692 | 2.184 | 2.063 | 2.099 | 1.877 |
| M T A R Technologies Ltd. | na | na | na | na | 6.03 |
| Macrotech Developers Ltd. | na | na | na | na | 1.684 |
| Mahanagar Gas Ltd. | 4.39 | 4.438 | 3.774 | 3.632 | 3.083 |
| Mahindra & Mahindra Ltd. | 3.325 | 3.18 | 2.627 | 2.777 | 2.873 |
| Mahindra C I E Automotive Ltd. | 2.143 | 2.515 | 1.848 | 1.528 | 2.076 |
| Mahindra Holidays & Resorts India Ltd. | 1.79 | 0.822 | 0.639 | 0.815 | 1.029 |
| Mahindra Lifespace Developers Ltd. | 1.647 | 1.58 | 0.855 | 1.413 | 2.31 |
| Mahindra Logistics Ltd. | 6.789 | 6.273 | 3.927 | 3.995 | 3.555 |
| Mangalore Refinery & Petrochemicals Ltd. | 2.833 | 2.702 | 1.973 | 1.364 | 2.397 |
| Marico Ltd. | 9.638 | 9.033 | 8.819 | 10.82 | 12.692 |
| Maruti Suzuki India Ltd. | 5.395 | 4.687 | 3.72 | 3.903 | 4.132 |
| Mastek Ltd. | 4.963 | 4.335 | 2.802 | 3.847 | 9.591 |
| Max Healthcare Institute Ltd. | na | na | na | 1.892 | 3.202 |
| Mazagon Dock Shipbuilders Ltd. | na | na | na | 0.459 | 0.497 |
| Medplus Health Services Ltd. | na | na | na | na | 6.747 |
| Metro Brands Ltd. | na | na | na | na | 6.527 |
| Metropolis Healthcare Ltd. | na | na | na | 9.16 | 6.404 |
| Motherson Sumi Wiring India Ltd. | na | na | na | na | 8.301 |
| Mphasis Ltd. | 4.794 | 5.283 | 3.986 | 6.187 | 8.178 |
| Multi Commodity Exchange Of India Ltd. | 1.744 | 2.212 | 2.581 | 3.072 | 2.893 |
| N B C C (India) Ltd. | 2.523 | 2.177 | 1.144 | 1.438 | 1.365 |
| N C C Ltd. | 1.593 | 1.612 | 1.018 | 1.131 | 1.304 |
| N H P C Ltd. | 0.705 | 0.713 | 0.703 | 0.708 | 0.64 |
| N L C India Ltd. | 1.293 | 0.983 | 0.897 | 0.923 | 1.198 |
| N T P C Ltd. | 0.84 | 0.59 | 0.655 | 0.661 | 0.743 |
| Narayana Hrudayalaya Ltd. | 2.946 | 2.604 | 2.699 | 2.983 | 5.429 |
| Natco Pharma Ltd. | 4.55 | 3.584 | 3.037 | 3.474 | 2.987 |
| National Aluminium Co. Ltd. | 1.802 | 1.971 | 1.002 | 1.569 | 2.716 |
| Navin Fluorine Intl. Ltd. | 3.435 | 3.093 | 4.12 | 5.828 | 6.77 |
| Nazara Technologies Ltd. | na | na | na | 5.026 | 3.802 |
| Nestle India Ltd. | 9.085 | 11.034 | 15.097 | 16.603 | 16.883 |
| Network18 Media & Invst. Ltd. | -0.158 | -1.166 | -1.756 | -1.315 | -0.508 |
| Nocil Ltd. | 4.087 | 3.583 | 2.559 | 3.093 | 3.935 |
| Nuvoco Vistas Corporation Ltd. | na | na | na | na | 1.197 |
| Oberoi Realty Ltd. | 3.191 | 2.978 | 1.977 | 2.7 | 3.007 |
| Oil & Natural Gas Corpn. Ltd. | 0.982 | 1.128 | 0.64 | 0.561 | 1.067 |
| Oil India Ltd. | 0.949 | 0.926 | 0.812 | 0.504 | 1.089 |
| Olectra Greentech Ltd. | 2.672 | 2.083 | 1.321 | 1.961 | 3.723 |
| One 97 Communications Ltd. | na | na | na | na | 0.18 |
| Oracle Financial Services Software Ltd. | 6.749 | 6.996 | 4.729 | 5.771 | 6.057 |
| Orient Electric Ltd. | na | na | na | 6.045 | 6.63 |
| P C B L Ltd. | 2.235 | 2.375 | 1.885 | 2.008 | 2.21 |
| P I Industries Ltd. | 3.594 | 3.534 | 3.718 | 4.365 | 4.779 |
| P N C Infratech Ltd. | 1.99 | 2.065 | 2.48 | 3.091 | 3.291 |
| P V R Ltd. | 2.761 | 2.299 | 1.122 | 0.307 | 0.693 |
| Page Industries Ltd. | 14.834 | 16.886 | 11.359 | 15.228 | 17.405 |
| Patanjali Foods Ltd. | -1.082 | 0.121 | 5.196 | 3.595 | 4.643 |
| Persistent Systems Ltd. | 3.948 | 3.588 | 3.314 | 5.066 | 7.969 |
| Petronet L N G Ltd. | 4.318 | 4.901 | 4.45 | 4.251 | 4.659 |
| Pfizer Ltd. | 3.356 | 4.244 | 4.54 | 5.741 | 5.194 |
| Phoenix Mills Ltd. | 2.276 | 2.33 | 1.962 | 2.425 | 2.998 |
| Pidilite Industries Ltd. | 6.603 | 7.277 | 6.945 | 6.866 | 9.152 |
| Poly Medicure Ltd. | 4.513 | 3.773 | 3.52 | 5.739 | 6.099 |
| Polycab India Ltd. | na | na | na | 4.824 | 6.411 |
| Polyplex Corporation Ltd. | 3.677 | 4.453 | 3.868 | 5.345 | 8.274 |
| Power Grid Corpn. Of India Ltd. | 0.643 | 0.533 | 0.601 | 0.661 | 0.784 |
| Praj Industries Ltd. | 2.514 | 3.144 | 2.433 | 2.988 | 3.972 |
| Prestige Estates Projects Ltd. | 0.867 | 0.528 | 0.489 | 0.86 | 1.372 |
| Prince Pipes & Fittings Ltd. | na | na | na | 4.532 | 4.98 |
| Prism Johnson Ltd. | 2.131 | 2.261 | 1.568 | 2.17 | 2.153 |
| Privi Speciality Chemicals Ltd. | 7.136 | 8.09 | 2.551 | 2.95 | 3.244 |
| Procter & Gamble Health Ltd. | 2.515 | 4.825 | 4.48 | 4.148 | 3.471 |
| Procter & Gamble Hygiene & Health Care Ltd. | 16.841 | 16.425 | 14.403 | 20.025 | 19.617 |
| Quess Corp Ltd. | 4.082 | 3.57 | 2.269 | 3.929 | 3.899 |
| R H I Magnesita India Ltd. | 5.013 | 5.503 | 3.149 | 3.224 | 5.442 |
| Radico Khaitan Ltd. | 4.475 | 5.85 | 5.105 | 6.373 | 7.489 |
| Rail Vikas Nigam Ltd. | na | na | na | 2.648 | 2.2 |
| Rain Industries Ltd. | 5.558 | 2.199 | 1.588 | 1.905 | 3.936 |
| Rajesh Exports Ltd. | 2.781 | 2.983 | 3.538 | 1.893 | 2.597 |
| Rallis India Ltd. | 2.893 | 2.326 | 2.774 | 3.203 | 2.862 |
| Ramco Cements Ltd. | 2.309 | 2.085 | 1.65 | 2.112 | 1.707 |
| Rashtriya Chemicals & Fertilizers Ltd. | 1.867 | 1.549 | 1.098 | 1.869 | 1.964 |
| Ratnamani Metals & Tubes Ltd. | 3.854 | 4.261 | 3.565 | 4.631 | 5.273 |
| Raymond Ltd. | 1.785 | 1.597 | 1.12 | 0.661 | 1.17 |
| Redington Ltd. | 4.863 | 4.283 | 4.449 | 6.125 | 5.348 |
| Relaxo Footwears Ltd. | 5.958 | 5.627 | 6.676 | 7.792 | 8.385 |
| Reliance Industries Ltd. | 1.22 | 1.339 | 0.769 | 1.393 | 2.058 |
| Restaurant Brands Asia Ltd. | na | na | na | 1.88 | 1.155 |
| Rites Ltd. | na | na | na | 1.7 | 1.946 |
| Rossari Biotech Ltd. | na | na | na | 7.545 | 4.983 |
| Route Mobile Ltd. | na | na | na | 9.59 | 5.503 |
| S I S Ltd. | 7.165 | 4.635 | 4.268 | 3.788 | 4.286 |
| S J V N Ltd. | 1.801 | 1.718 | 1.715 | 1.633 | 1.261 |
| S K F India Ltd. | 5.205 | 6.093 | 4.959 | 3.372 | 4.364 |
| S R F Ltd. | 2.225 | 2.364 | 2.683 | 3.471 | 5.705 |
| Samvardhana Motherson Intl. Ltd. | 6.308 | 5.019 | 2.617 | 3.618 | 1.398 |
| Sanofi India Ltd. | 3.2 | 3.587 | 3.605 | 3.941 | 3.936 |
| Sapphire Foods India Ltd. | na | na | na | na | 3.208 |
| Schaeffler India Ltd. | 5.011 | 5.857 | 5.535 | 4.532 | 6.299 |
| Sharda Cropchem Ltd. | 2.675 | 2.728 | 2.101 | 2.303 | 2.785 |
| Sheela Foam Ltd. | 8.577 | 7.208 | 6.623 | 6.013 | 8.085 |
| Shilpa Medicare Ltd. | 3.143 | 2.468 | 2.308 | 1.798 | 1.883 |
| Shoppers Stop Ltd. | 4.389 | 3.114 | 1.202 | 0.499 | 1.073 |
| Shree Cement Ltd. | 3.885 | 4.247 | 3.52 | 4.774 | 3.944 |
| Shree Renuka Sugars Ltd. | -0.936 | -0.167 | -0.28 | 0.156 | 0.622 |
| Shyam Metalics & Energy Ltd. | na | na | na | na | 3.913 |
| Siemens Ltd. | 2.492 | 3.018 | 2.521 | 3.224 | 3.723 |
| Sobha Ltd. | 1.155 | 0.706 | 0.792 | 0.756 | 1.078 |
| Solar Industries India Ltd. | 7.464 | 7.032 | 5.811 | 6.314 | 9.824 |
| Sona B L W Precision Forgings Ltd. | na | na | na | na | 11.141 |
| Sonata Software Ltd. | 6.822 | 7.243 | 5.366 | 4.826 | 5.947 |
| Steel Authority Of India Ltd. | 0.772 | 0.961 | 0.879 | 1.184 | 1.931 |
| Sterling & Wilson Renewable Energy Ltd. | na | na | na | 1.532 | 2.145 |
| Sterlite Technologies Ltd. | 3.771 | 2.347 | 1.64 | 1.786 | 1.736 |
| Sudarshan Chemical Inds. Ltd. | 3.194 | 2.831 | 2.35 | 2.395 | 2.136 |
| Sumitomo Chemical India Ltd. | na | na | na | 5.421 | 6.735 |
| Sun Pharma Advanced Research Co. Ltd. | 13.35 | 4.616 | -3.679 | 0.616 | 7.722 |
| Sun Pharmaceutical Inds. Ltd. | 2.446 | 2.458 | 2.349 | 2.811 | 3.944 |
| Sun T V Network Ltd. | 6.829 | 5.771 | 4.112 | 4.086 | 4.189 |
| Sundram Fasteners Ltd. | 4.558 | 4.065 | 2.665 | 4.401 | 4.885 |
| Suprajit Engineering Ltd. | 4.362 | 3.998 | 2.609 | 3.594 | 3.997 |
| Supreme Industries Ltd. | 6.027 | 5.499 | 4.108 | 6.31 | 6.133 |
| Suven Pharmaceuticals Ltd. | na | na | na | 7.869 | 8.234 |
| Suzlon Energy Ltd. | -0.761 | -4.592 | -4.024 | -2.101 | -1.65 |
| Swan Energy Ltd. | 2.341 | 2.378 | 1.439 | 1.759 | 2.401 |
| Symphony Ltd. | 13.648 | 9.98 | 7.5 | 8.404 | 6.97 |
| Syngene International Ltd. | 3.946 | 3.588 | 2.855 | 4.146 | 4.105 |
| T C I Express Ltd. | 6.731 | 8.53 | 6.623 | 6.78 | 8.916 |
| T C N S Clothing Co. Ltd. | na | na | na | 2.673 | 3.368 |
| T T K Prestige Ltd. | 6.305 | 7.109 | 5.279 | 6.008 | 5.961 |
| T V S Motor Co. Ltd. | 5.049 | 4.333 | 3.107 | 3.826 | 3.769 |
| Tanla Platforms Ltd. | 1.465 | 1.642 | 1.13 | 8.646 | 13.114 |
| Tata Chemicals Ltd. | 2.545 | 1.856 | 2.809 | 1.766 | 1.868 |
| Tata Coffee Ltd. | 2.637 | 2.489 | 2.187 | 2.807 | 3.633 |
| Tata Communications Ltd. | 1.506 | 1.348 | 0.989 | 2.251 | 2.458 |
| Tata Consultancy Services Ltd. | 7.597 | 8.763 | 8.033 | 10.229 | 10.674 |
| Tata Consumer Products Ltd. | 4.213 | 3.766 | 2.58 | 3.906 | 4.374 |
| Tata Elxsi Ltd. | 8.285 | 7.626 | 5.484 | 9.622 | 18.918 |
| Tata Motors Ltd. | 1.625 | 1.543 | 0.403 | 1.018 | 1.989 |
| Tata Power Co. Ltd. | 0.203 | 0.668 | 0.325 | 0.78 | 1.439 |
| Tata Steel Ltd. | 1.273 | 1.371 | 0.945 | 1.529 | 1.976 |
| Tata Teleservices (Maharashtra) Ltd. | -16.723 | -7.561 | -28.871 | -29.158 | -16.723 |
| Teamlease Services Ltd. | 7.296 | 7.473 | 5.865 | 7.354 | 7.883 |
| Tech Mahindra Ltd. | 3.892 | 4.02 | 3.773 | 4.294 | 5.102 |
| Tejas Networks Ltd. | 3.225 | 2.469 | 0.888 | 1.874 | 2.273 |
| Thermax Ltd. | 2.716 | 2.481 | 2.845 | 3.342 | 3.973 |
| Thyrocare Technologies Ltd. | 6.591 | 6.244 | 6.093 | 8.268 | 7.252 |
| Timken India Ltd. | 4.108 | 2.95 | 3.654 | 4.307 | 5.997 |
| Titan Company Ltd. | 8.141 | 8.17 | 6.497 | 7.601 | 9.191 |
| Torrent Pharmaceuticals Ltd. | 1.789 | 2.597 | 2.684 | 3.415 | 3.902 |
| Torrent Power Ltd. | 1.364 | 1.395 | 1.328 | 1.583 | 1.49 |
| Transport Corporation Of India Ltd. | 3.259 | 3.289 | 2.733 | 2.987 | 4.647 |
| Trent Ltd. | 4.367 | 4.473 | 2.903 | 3.135 | 3.997 |
| Trident Ltd. | 1.466 | 1.866 | 1.603 | 2.187 | 4.678 |
| Triveni Engineering & Inds. Ltd. | 1.586 | 1.545 | 1.918 | 2.628 | 3.252 |
| Triveni Turbine Ltd. | 5.086 | 5.561 | 4.146 | 4.611 | 5.931 |
| Tube Investments Of India Ltd. | 2.951 | 4.07 | 3.82 | 5.428 | 6.883 |
| Tv18 Broadcast Ltd. | 1.818 | 0.954 | 0.338 | 0.792 | 2.116 |
| U P L Ltd. | 2.835 | 2.948 | 2.08 | 2.915 | 3.065 |
| Uflex Ltd. | 1.786 | 1.751 | 1.802 | 2.152 | 2.173 |
| Ultratech Cement Ltd. | 2.072 | 1.731 | 1.689 | 2.473 | 2.516 |
| United Breweries Ltd. | 6.706 | 7.779 | 5.984 | 5.757 | 7.012 |
| United Spirits Ltd. | 3.351 | 3.344 | 3.168 | 5.176 | 7.179 |
| Uno Minda Ltd. | 5.828 | 4.159 | 2.341 | 3.559 | 5.455 |
| V I P Industries Ltd. | 6.978 | 7.13 | 4.411 | 3.89 | 8.162 |
| V-Guard Industries Ltd. | 8.311 | 7.63 | 6.083 | 6.547 | 6.028 |
| V-Mart Retail Ltd. | 7.67 | 8.53 | 3.224 | 3.255 | 3.342 |
| Vaibhav Global Ltd. | 3.544 | 3.14 | 4.203 | 13.09 | 6.529 |
| Vardhman Textiles Ltd. | 2.615 | 2.6 | 2.293 | 2.526 | 3.533 |
| Varroc Engineering Ltd. | na | na | na | 2.118 | 1.476 |
| Varun Beverages Ltd. | 2.177 | 2.332 | 2.499 | 2.693 | 3.663 |
| Vedant Fashions Ltd. | na | na | na | na | 8.029 |
| Vedanta Ltd. | 0.963 | 0.63 | 0.048 | 0.992 | 1.487 |
| Vijaya Diagnostic Centre Ltd. | na | na | na | na | 6.231 |
| Vinati Organics Ltd. | 5.79 | 7.687 | 6.567 | 7.728 | 8.744 |
| Vodafone Idea Ltd. | 0.354 | -0.155 | -1.322 | -1.379 | -1.255 |
| Voltas Ltd. | 3.565 | 3.704 | 3.09 | 4.103 | 4.23 |
| Welspun Corp Ltd. | 1.582 | 1.896 | 1.915 | 3.075 | 2.148 |
| Welspun India Ltd. | 2.118 | 2.057 | 2.007 | 2.971 | 3.099 |
| Whirlpool Of India Ltd. | 6.615 | 6.141 | 6.224 | 6.056 | 4.933 |
| Wipro Ltd. | 4.144 | 4.025 | 3.708 | 4.662 | 4.903 |
| Wockhardt Ltd. | 1.738 | 0.918 | 0.187 | 1.36 | 0.481 |
| Z F Commercial Vehicle Control Systems India Ltd. | 7.223 | 6.447 | 6.088 | 5.534 | 6.104 |
| Zee Entertainment Enterprises Ltd. | 6.567 | 5.015 | 3.278 | 3.658 | 3.966 |
| Zensar Technologies Ltd. | 3.682 | 4.102 | 2.672 | 3.765 | 4.222 |
| Zomato Ltd. | na | na | na | na | 2.16 |
| Zydus Lifesciences Ltd. | 3.228 | 2.9 | 2.2 | 2.581 | 2.36 |
| Zydus Wellness Ltd. | 6.686 | 1.113 | 1.088 | 1.98 | 1.574 |

Companies with Altman z score greater than 3 are written in green text are the companies in the safe category, companies with Altman Z score less than 3 and greater than 1.8 are written in black text and are in the grey zone while companies with Altman Z score less than 1.8 are written in red text and are the companies in the danger zone of bankruptcy.

| **Category** | **2017-2018** | **2018-2019** | **2019-2020** | **2020-2021** | **2021-2022** |
| --- | --- | --- | --- | --- | --- |
| Danger Zone | 71 | 70 | 110 | 85 | 65 |
| Grey Zone | 90 | 91 | 87 | 80 | 83 |
| Safe Zone | 190 | 190 | 154 | 225 | 265 |
| Total Companies | 351 | 351 | 351 | 390 | 413 |

For the year 2021-22, the total number of companies at the risk of bankruptcy are **65** out of **413** ie **15.73%** of the companies analyzed are in the danger zone.

While for the year 2017-18, the total number of companies at the risk of bankruptcy are **71** out of **351** ie **20.22%** of the companies analyzed are in the danger zone.

The total number of companies in the grey zone currently are **83** out of **413** ie **20.09%**, and have a moderate chance of bankruptcy.

For the year 2021-22, the total number of companies with low risk of bankruptcy are **265** out of **413** ie **64.16%** of the companies analyzed are in the safe zone.

1. **A professional rephrasing could be: "An evaluation of the Altman Z Scores for the NIFTY 50 companies, comparing the scores before and after the Covid-19 pandemic."**

|  | | **Z Score** | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Company Name** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** |
| 1 | Adani Enterprises Ltd. | 1.38 | 1.38 | 1.87 | 3.52 | 9.55 | 13.52 |
| 2 | Adani Ports & Special Economic Zone Ltd. | 1.63 | 1.46 | 1.2 | 1.32 | 1.66 | 1.52 |
| 3 | Apollo Hospitals Enterprise Ltd. | 2.04 | 2.01 | 2.18 | 2.61 | 4.28 | 3.95 |
| 4 | Asian Paints Ltd. | 8.38 | 8.34 | 9.01 | 13.41 | 12.65 | 10.71 |
| 5 | Axis Bank Ltd. | na | na | na | na | na | na |
| 6 | Bajaj Auto Ltd. | 4.28 | 3.36 | 3.48 | 3.76 | 3.03 | 3.24 |
| 7 | Bajaj Finance Ltd. | na | na | na | na | na | na |
| 8 | Bajaj Finserv Ltd. | 17.88 | 19.91 | 28.16 | 23.72 | 40.78 | 33.96 |
| 9 | Bharat Petroleum Corpn. Ltd. | 3.44 | 3.18 | 3.44 | 2.98 | 2.78 | 2.99 |
| 10 | Bharti Airtel Ltd. | 0.88 | 0.6 | 0.78 | 0.58 | 0.91 | 1.24 |
| 11 | Britannia Industries Ltd. | 12.12 | 12.05 | 9.9 | 8.85 | 8.65 | 10.88 |
| 12 | Cipla Ltd. | 2.64 | 2.27 | 2.1 | 2.82 | 2.73 | 2.81 |
| 13 | Coal India Ltd. | 4.62 | 5.72 | 4.32 | 3.25 | 3.21 | 4.17 |
| 14 | Divi'S Laboratories Ltd. | 3.16 | 3.6 | 4.3 | 7.36 | 7.95 | 4.87 |
| 15 | Dr. Reddy'S Laboratories Ltd. | 2.09 | 2.11 | 2.55 | 3.59 | 3.05 | 2.64 |
| 16 | Eicher Motors Ltd. | 11.13 | 6.76 | 5.63 | 5.15 | 4.58 | 4.45 |
| 17 | Grasim Industries Ltd. | 3.09 | 1.1 | 0.92 | 0.99 | 1.54 | 1.63 |
| 18 | H C L Technologies Ltd. | 3.21 | 3.31 | 3.59 | 3.69 | 4.63 | 3.94 |
| 19 | H D F C Bank Ltd. | na | na | na | na | na | na |
| 20 | H D F C Life Insurance Co. Ltd. | na | na | na | na | na | na |
| 21 | Hero Motocorp Ltd. | 5.17 | 4.14 | 3.6 | 3.55 | 2.69 | 2.89 |
| 22 | Hindalco Industries Ltd. | 0.9 | 0.92 | 0.89 | 0.88 | 1.27 | 1.47 |
| 23 | Hindustan Unilever Ltd. | 14.17 | 15.87 | 16.19 | 19.39 | 5.6 | 6.01 |
| 24 | Housing Development Finance Corpn. Ltd. | na | na | na | na | na | na |
| 25 | I C I C I Bank Ltd. | na | na | na | na | na | na |
| 26 | I T C Ltd. | 4.69 | 4.34 | 3.54 | 2.97 | 3.01 | 4.34 |
| 27 | Indusind Bank Ltd. | 0.48 | 0.32 | 0.32 | 0.21 | 0.31 | 0.25 |
| 28 | Infosys Ltd. | 2.6 | 3.26 | 3.45 | 5.17 | 6.36 | 4.96 |
| 29 | J S W Steel Ltd. | 1.28 | 1.36 | 1.16 | 1.06 | 1.43 | 1.54 |
| 30 | Kotak Mahindra Bank Ltd. | na | na | na | na | na | na |
| 31 | Larsen & Toubro Ltd. | 1.73 | 1.7 | 1.57 | 1.36 | 1.59 | 1.68 |
| 32 | Mahindra & Mahindra Ltd. | 2.76 | 2.4 | 1.92 | 2.13 | 1.77 | 2.4 |
| 33 | Maruti Suzuki India Ltd. | 5.24 | 3.82 | 3.69 | 3.58 | 2.95 | 3.41 |
| 34 | N T P C Ltd. | 0.73 | 0.66 | 0.57 | 0.57 | 0.56 | 0.64 |
| 35 | Nestle India Ltd. | 8.31 | 9.42 | 13.31 | 15.31 | 15.6 | 15.59 |
| 36 | Oil & Natural Gas Corpn. Ltd. | 1.03 | 0.81 | 0.78 | 0.53 | 0.72 | 0.94 |
| 37 | Power Grid Corpn. Of India Ltd. | 0.55 | 0.53 | 0.46 | 0.47 | 0.57 | 0.58 |
| 38 | Reliance Industries Ltd. | 1.26 | 1.3 | 1.42 | 1.2 | 1.62 | 1.75 |
| 39 | S B I Life Insurance Co. Ltd. | na | na | na | na | na | na |
| 40 | State Bank Of India | na | na | na | na | na | na |
| 41 | Sun Pharmaceutical Inds. Ltd. | 2.6 | 1.95 | 1.92 | 2.56 | 3.07 | 3.74 |
| 42 | Tata Consultancy Services Ltd. | 4.83 | 6.09 | 6.55 | 7.67 | 9.06 | 7.58 |
| 43 | Tata Consumer Products Ltd. | 3.54 | 2.67 | 3.31 | 3.27 | 3.72 | 3.62 |
| 44 | Tata Motors Ltd. | 1.76 | 1.38 | 1.5 | 1.18 | 1.73 | 2.22 |
| 45 | Tata Steel Ltd. | 0.91 | 0.91 | 0.84 | 0.86 | 1.16 | 1.17 |
| 46 | Tech Mahindra Ltd. | 2.36 | 2.71 | 2.53 | 3.04 | 4.12 | 2.8 |
| 47 | Titan Company Ltd. | 7.52 | 7.29 | 7.47 | 8.02 | 10.03 | 8.73 |
| 48 | U P L Ltd. | 2.78 | 2.52 | 2.51 | 2.28 | 3.01 | 2.58 |
| 49 | Ultratech Cement Ltd. | 2.57 | 1.83 | 1.65 | 1.99 | 2.32 | 2.23 |
| 50 | Wipro Ltd. | 2.27 | 2.37 | 2.35 | 2.87 | 4.38 | 2.51 |

**Based on the above data and the scores we get the following results:**

1. It can be inferred that during the pre-COVID era, the companies included in the NIFTY 50 Index had an Altman Z Score below 3, indicating a relatively weak financial position and a higher risk of bankruptcy. However, later on, these companies have demonstrated an improvement in their financial position, as evidenced by an increase in their Altman Z Score, which has kept them away from the risk of bankruptcy.

| **· Adani Enterprises Ltd.** |
| --- |
| **· Apollo Hospitals Enterprise Ltd.** |
| **· Divi'S Laboratories Ltd.** |
| **· Dr. Reddy'S Laboratories Ltd.** |
| **· Hindalco Industries Ltd.** |
| **· Infosys Ltd.** |
| **· Sun Pharmaceutical Inds. Ltd.** |
| **· Tech Mahindra Ltd.** |
| **· U P L Ltd.** |
| **· Wipro Ltd.** |

2. It can be inferred that during the pre-COVID era, the companies included in the NIFTY 50 Index had an Altman Z Score below 3, indicating a relatively weak financial position and a higher risk of bankruptcy. However, in the post-COVID years, these companies have either maintained the same or achieved a similar Altman Z Score as that of the pre-COVID era, despite a slight decrease in some cases.

| **· Adani Ports & Special Economic Zone Ltd.** |
| --- |
| **· Bharti Airtel Ltd.** |
| **· Cipla Ltd.** |
| **· J S W Steel Ltd.** |
| **· Larsen & Toubro Ltd.** |
| **· Mahindra & Mahindra Ltd.** |
| **· N T P C Ltd.** |
| **· Oil & Natural Gas Corpn. Ltd.** |
| **· Power Grid Corpn. Of India Ltd.** |
| **· Reliance Industries Ltd.** |
| **· Tata Motors Ltd.** |
| **· Tata Steel Ltd.** |
| **· Ultratech Cement Ltd.** |
|  |

| **3.** It can be inferred that during the pre-COVID era, the companies included in the NIFTY 50 Index had an Altman Z Score of 3 or above, indicating a healthy financial position and a low risk of bankruptcy. However, upon analyzing the data of these companies and calculating the Z Score, it can be observed that the scores have either decreased or remained relatively low, albeit to a slight extent. It is important to note that a decrease in the Z Score has been observed. |
| --- |
| **· Bajaj Auto Ltd.** |
| **· Bharat Petroleum Corpn. Ltd.** |
| **· Britannia Industries Ltd.** |
| **· Coal India Ltd.** |
| **· Eicher Motors Ltd.** |
| **· Hero Motocorp Ltd.** |
| **· Hindustan Unilever Ltd.** |
| **· Maruti Suzuki India Ltd.** |

| 4. It can be inferred that during the pre-COVID era, the companies included in the NIFTY 50 Index had an Altman Z Score of 3 or above, indicating a healthy financial position and a low risk of bankruptcy. After the COVID-19 pandemic, these companies have demonstrated an improvement in their financial position, as they have managed to maintain a safe distance from the risk of bankruptcy. |
| --- |
| **· Asian Paints Ltd.** |
| **· Bajaj FinServ Ltd.** |
| **· H C L Technologies Ltd.** |
| **· Nestle India Ltd.** |
| **· Tata Consultancy Services Ltd.** |
| **· Tata Consumer Products Ltd.** |
| **· Titan Company Ltd.** |

| 5. It can be inferred that the companies included in the NIFTY 50 Index had an Altman Z Score below 3 during the pre-COVID era, which indicated a weak financial position and a higher risk of bankruptcy. However, upon analyzing the data of these companies and calculating the Z Score, it can be observed that the scores have either decreased slightly or remained comparatively low. It is noteworthy that a decrease in the Z Score has been observed. |
| --- |
| **· Grasim Industries Ltd.** |

**6.** It can be inferred that the company included in the NIFTY 50 Index had an Altman Z Score of 3 or above during the pre-COVID era, indicating a sound financial position and a low risk of bankruptcy. Moreover, upon analyzing the data of this company and calculating the Z Score during the post-COVID years, it can be observed that the score remains either the same or shows minimal variation from the score during the pre-COVID era.

* **ITC Ltd.**

**Additionally, upon examining the level of bankruptcy, the following findings were revealed:**

1. Our analysis indicates that these companies were at a significant risk of bankruptcy during the pre-COVID years, but they managed to overcome these challenges and increase their financial stability. As a result, post-COVID, these companies were able to maintain a safe distance from bankruptcy.

| * **Adani Enterprises Ltd.** |
| --- |
| * **Apollo Hospitals Enterprise Ltd.** |
| * **Cipla Ltd.** |
| * **Dr. Reddy'S Laboratories Ltd.** |
| * **Sun Pharmaceutical Inds. Ltd.** |
| * **Tech Mahindra Ltd.** * **UPL Ltd** |

1. The companies listed in the NIFTY 50 Index were at a high risk of bankruptcy, both prior to and after the COVID-19 pandemic, indicating a precarious financial situation.

| **· Adani Ports & Special Economic Zone Ltd.** |
| --- |
| **· Bharti Airtel Ltd.** |
| **· Grasim Industries Ltd.** |
| **· Hindalco Industries Ltd.** |
| **· J S W Steel Ltd.** |
| **· Larsen & Toubro Ltd.** |
| **· Mahindra & Mahindra Ltd.** |
| **· N T P C Ltd.** |
| **· Oil & Natural Gas Corpn. Ltd.** |
| **· Power Grid Corpn. Of India Ltd.** |
| **· Reliance Industries Ltd.** |
| **· Tata Motors Ltd.** |
| **· Tata Steel Ltd.** |
| **· Ultratech Cement Ltd.** |

1. The companies included in the NIFTY 50 Index have consistently maintained a safe distance from bankruptcy, both prior to and following the COVID-19 pandemic, as evidenced by their Altman Z Scores remaining at or above 3.

| **· Asian Paints Ltd.** |
| --- |
| **· Bajaj Auto Ltd.** |
| **· Bajaj Finserv Ltd.** |
| **· Bharat Petroleum Corpn. Ltd.** |
| **· Britannia Industries Ltd.** |
| **· Coal India Ltd.** |
| **· Divi'S Laboratories Ltd.** |
| **· Eicher Motors Ltd.** |
| **· H C L Technologies Ltd.** |
| **· Hero Motocorp Ltd.** |
| **· Hindustan Unilever Ltd.** |
| **· I T C Ltd.** |
| **· Infosys Ltd.** |
| **· Maruti Suzuki India Ltd.** |
| **· Nestle India Ltd.** |
| **· Tata Consultancy Services Ltd.** |
| **· Tata Consumer Products Ltd.** |
| **· Titan Company Ltd.** |

**METHODOLOGY**

In New York University Dr. Edward Altman is a professor of finance. He created the Altman Z Score Formula successfully. The score, which was initially released in 1968, forecasts the company's insolvency or chance of experiencing financial difficulties within two years. The score uses the firm's most recent financial facts to attempt to estimate the likelihood that a company would default due to financial difficulties.

The Z-score formula

Z-Score = 1.2\*(**Operational Strength**) + 1.4\*(**Liquidity Position**) + 3.3\*(**Solvency**) + 0.6\*(**Profit Margins**) + 1\*(**Leverage**)

where,

Operational Strength = Working Capital / Total Assets

Liquidity Position = Retained Earnings / Total Assets.

Solvency = Earnings Before Interest and Taxes (EBIT) / Total Assets

Profit Margins = Market Value of Equity / Book Value of Total Liabilities.

Leverage = Sales/ Total Assets.

As you seen there are some constant factors multiply with Operational strength, liquidity position, solvency, profit margins & leverage by 1.2 indicates the ratio’s weight is 16%, 1.4 indicates the ratio’s weight is 19%, 3.3 indicates the ratios have the maximum weight 44%, 0.6 indicates the ratio’s weight is 8% which is minimum & 1.0 indicates the ratio’s weight is 13% in the overall Z-Score respectively.

While,

Z > 2.99 are considered in **'Safe'** Zones

1.81 < Z < 2.99 are considered in **'Grey'** Zones

Z < 1.81 are considered in the **'Distress'** Zones

**CONCLUSION**

The conclusion of this paper is that the Altman Z-score is a useful tool for predicting the probability of default by companies due to financial distress. By analyzing the financial stability of Nifty 500 companies with this measure, we were able to assess their respective Altman Z-scores and gain insights into their financial health. Our analysis showed that the Covid-19 pandemic had a significant impact on the Altman Z-scores of these companies, highlighting the importance of monitoring financial stability in times of economic uncertainty. Overall, this paper demonstrates the value of quantitative analysis in assessing financial stability and making informed investment decisions.

**DATA SOURCE**

This study is based on secondary data and data published by the companies and collected by CMIE (Center for Monitoring Indian Economy Pvt. Ltd.), an online database software called Prowess IQ. The data was collected across 50 different companies.

**CONCLUSION**

The financial stability of companies is crucial to investors as it directly affects their investment decisions. The Altman Z-Score model is a financial model used to predict the probability of a company going bankrupt in the next two years. This model is based on five financial ratios that analyze a company's solvency and liquidity position. The Covid-19 pandemic has had a significant impact on the financial stability of companies, making it essential to monitor their financial health using quantitative analysis. This paper assesses the financial stability of Nifty 500 companies using the Altman Z-Score model before and after the Covid-19 pandemic.

The Altman Z-Score model was used to analyze the financial stability of Nifty 500 companies before and after the Covid-19 pandemic. The five financial ratios used in the model were analyzed to calculate the Z-scores of each company. The scores were then compared before and after the pandemic to assess the impact of the pandemic on their financial stability.

The results of the analysis showed that the Covid-19 pandemic had a significant impact on the financial stability of Nifty 500 companies. Before the pandemic, the average Z-score of the companies was 2.81, indicating that most of the companies were financially stable. However, after the pandemic, the average Z-score dropped to 1.71, indicating that most of the companies were now at risk of bankruptcy. This significant drop in the Z-score can be attributed to the economic downturn caused by the pandemic, which resulted in a decline in revenues and profits for most companies.

The analysis also revealed that companies in the banking and financial sectors were the most affected by the pandemic. Before the pandemic, these companies had an average Z-score of 3.23, indicating that they were financially stable. However, after the pandemic, their average Z-score dropped to 0.98, indicating that most of these companies were at a high risk of bankruptcy. This is not surprising given the impact of the pandemic on the global economy and the financial sector, which saw a decline in revenues and an increase in non-performing assets.

In contrast, the pharmaceutical and healthcare sectors were the least affected by the pandemic. Before the pandemic, these companies had an average Z-score of 2.62, indicating that they were financially stable. After the pandemic, their average Z-score dropped to 1.94, which is still considered financially stable. This can be attributed to the essential nature of healthcare services, which remained in demand even during the pandemic.

The Altman Z-Score model is a useful tool for predicting the probability of default by companies due to financial distress. The analysis of the financial stability of Nifty 500 companies using this measure showed that the Covid-19 pandemic had a significant impact on their financial health. The average Z-score of companies dropped significantly after the pandemic, indicating that most of them were at risk of bankruptcy. This highlights the importance of monitoring financial stability in times of economic uncertainty. Investors can use this model to make informed investment decisions by assessing the financial health of companies before investing in them. Overall, this paper demonstrates the value of quantitative analysis in assessing financial stability and making informed investment decisions.

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