

FINANCIAL PERFORMANCE ANALYSIS OF CONSTRUCTION COMPANY BEFORE AND DURING COVID-19 PANDEMIC IN INDONESIA

Wiwiek Mardawiyah Daryanto
May Iffah Rizki
Mahardhika

ABSTRACT

President of Indonesia, Joko Widodo, announced the first two cases of COVID-19 in Indonesia on 2nd March 2020. On 11th March 2020, WHO announced COVID-19 was characterized as a pandemic. Since this pandemic happened, a lot of regular activities such as going to work or even just dining in the restaurant are restricted by the government. Restriction by the government affected businesses across many sectors including the construction industry. Many construction projects have been postponed for an unspecified period. Therefore, it is important to know how COVID-19 affected construction companies' financial performance. This study aims to analyze the impact of COVID-19 pandemic on construction companies in Indonesia by analyzing significant differences on financial performance of a mall, hotel, and residential construction company in Indonesia named PT PP Properti before and during pandemic through return on asset, return on invested capital, return on equity, liquidity ratio, solvency ratio, profitability ratio, and activity ratio and also to increase literature on the subject of COVID-19 pandemic. The study also measures the bankruptcy prediction of a company using Altman Z-Score. The data were collected from the company's quarterly financial statements data from 2019 until 2020 to measure the company's financial performance before the pandemic and during the pandemic, respectively. Data before and during pandemic are compared using t-test to analyze the significance of financial performance changes. PT PP Properti financial performance has significant differences before and during pandemic. Based on liquidity ratio, solvency ratio, profitability ratio, activity ratio and Altman Z-Score, the company shows lower financial performance during the pandemic. Initially, based on Altman Z-Score, PT PP Properti was already in the grey zone in Q3 of 2019, but it worsened during the pandemic. It is concluded that the pandemic greatly affected the company's financial performance.

Keywords: financial performance, financial ratios, Altman Z-score, construction company, covid-19 pandemic

INTRODUCTION

The first coronavirus (COVID-19) cases appeared in Wuhan, China and were reported in late December 2019 (WHO, 2020), caused by a coronavirus (SARS-Cov-2), which causes respiratory diseases in humans. On 2nd March 2020, Joko Widodo, Indonesian President, announced the first two cases of COVID-19 in Indonesia. On 11th March 2020, WHO announced COVID-19 was characterized as a pandemic (WHO, 2020). This pandemic has become a public health crisis and affected the global economy. Significant economic impact can already be seen due to reduced productivity, loss of life, business closures, trade disruption, and decrease of the tourism industry (Pak et al., 2020). This happened because a lot of regular activities have been restricted such as going to work or even just dining in the restaurant. Large-scale social restrictions (PSBB) started to be implemented by the government first in Jakarta on 9th April 2020 (Hanggara, 2020), followed by other regions as COVID-19 cases in Indonesia rose. These restrictions affected businesses across many sectors including the construction industry.

Construction industry in Indonesia has slowed down even before the government chose to postpone some big infrastructure projects (Fachriansyah, 2020). It slowed down from 5.8% just to under 3% in Q4 of 2019 (Olivia et al., 2020). Around half of construction companies have already lost because of projects cancelled by local administrations that are reallocating 40 percent of their infrastructure budgets to fight the pandemic (Parama, 2020). The pandemic also caused interruption in construction materials supply and inability of construction workers to work on site (Ribeirinho et al., 2020).

Since the pandemic is still ongoing, literature on the subject of pandemic, especially the one related to construction companies in Indonesia, is still scarce. Therefore, it is important to investigate how COVID-19 pandemic affected construction companies' financial performance in Indonesia. This study aims to analyze the financial performance of construction companies in Indonesia before and during COVID-19 pandemic, by analyzing financial performance of PT PP Properti, one of Indonesia's construction companies that specializes in mall, hotel, and residential construction. This study is intended to see the impact of COVID-19 to financial performance. Results of this study will be useful for business owners, shareholders, and the government to prepare for future possibilities.

CONSTRUCTION COMPANY IN INDONESIA

The construction industry delivers infrastructure facilities thus supporting the sustainability of a country. PT PP, established on 26 August 1953, is one of the state-owned enterprises engaged in building planning and construction (PT PP, 2021). For more than six decades, it has been one of the main players in the national construction business, mainly buildings and civil buildings. PT PP Properti, established in 12 December 2013, is a subsidiary company developing hotel, mall, and residential construction mainly in the island of Java, Kalimantan, and Riau. In a research study conducted for an Indonesian construction company, results showed that its main performance indicators include profit margin (Fatima & Wibisono, 2017).

COVID-19 IN INDONESIA

The COVID-19 pandemic had impacted global health with no exception to Indonesia. The easily transmitted virus could be prevented by social distancing where people cannot have closed contacts with each other. To ensure their society comply with the health protocol, many governments in their countries applied lockdown or quarantine policies. In Indonesia, the Ministry of Health issued the regulation Number 9 of 2020 concerning Guidelines for Large-Scale Social Restrictions in the Context of Accelerating the Handling of CoronaVirus Disease 2019 (Ministry of Health, 2020). Although such regulations have a good impact on public health, business activities in most industries are undeniably disrupted. For example, the hotel industry is impacted by closed borders (Japutra & Situmorang, 2021). The tourism industries also experienced economic declines since massive reductions had occurred in international and domestic travels (Cahyadi & Newsome, 2021). The pandemic had significantly disrupted the Indonesian economy by the end of the first quarter (Q1) in the year of 2020 (Olivia et al., 2020). Economic declines due to the pandemic then lead to the extent of economic recession in Indonesia (Miharja et al., 2020).

IMPACT OF COVID-19 IN COMPANIES' PERFORMANCE

COVID-19 pandemic has shown its impacts on the economy and it can be seen in companies' recent performance. The economy and company performance will be impacted more the longer the virus spreads and will raise concerns about debt sustainability, especially for highly indebted countries and companies with the absence of official support (Segal & Gerstel, 2020). Studies conducted by Shen et al. (2020) and Rababah et al. (2020) stated that companies' performance declined significantly in Q1 of 2020. Negative impact is more pronounced in serious-impact areas and industries such as on the production, operation, and sales of tourism, catering, and transportation industries, also companies with smaller investment scale or sales revenue. Indonesian companies also get affected in the form of reduced import of raw materials and production capacity, decreased sales and sales turnover, decline of order demand, goods distribution difficulties, and only 70 percent to 80 percent of employees' salary is received (Purwanto et al., 2020). According to Lee (2020), infrastructure companies that are affected by the pandemic are the ones that are exposed to regional and global economic factors (based on the TICCS® Geo-economic Classification), under nationwide lockdown and the ones that use merchant and regulated schemes, a per the TICCS® Business-Risk Classification, where revenues depend on the level of activity, making an investment more susceptible to external economic shifts, contrast with contracted schemes where the income comes from fixed and pre-agreed amounts that are stated within a contract. Airport companies, port companies, rail companies, and road companies are under the most threat.

FINANCIAL PERFORMANCE

Financial Performance is the company's financial condition over a certain period that includes the collection and use of funds measured by several indicators of capital adequacy ratio, liquidity, leverage, solvency, and profitability (Fatihudin et al., 2018). It is important to use a ratio of measurement to determine the company's value to assess financial performance (Daryanto & Wijaya et al., 2020). Financial performance analysis is performed to evaluate business performance for decision-making purposes and also as a monitoring tool for managing finance (Daryanto & Yunianto et al., 2020). According to Stobierski (2020) there are several financial performance measures to monitor which are gross and net profit margin, working capital, current ratio, quick ratio, leverage, debt-to-equity ratio, inventory turnover, total asset turnover, return on equity, return on assets, operating cash flow, and seasonality.

ALTMAN Z-SCORE

Altman Z-score model is the quantitative model used to predict financial corporate distress, with the original model being designed for manufacturing companies and later modified so it can be used for manufacturing and non-manufacturing companies (Maccarthy, 2017). Z-score Edward I. Altman founded Altman Z-score in 1968 and it has been applied in a lot of financial distress and bankruptcy studies with satisfactory results. A Z-score above 2.99 is in the safe zone, whereas a Z-score below 1.81 is in the distress zone which indicates a high probability of distress within this time period (Liang & Pathak, 2018). Altman was the first one to use Multiple Discriminant Analysis (MDA) to develop a high degree accuracy prediction model (Al-Manaseer & Al-Oshaibat, 2018).

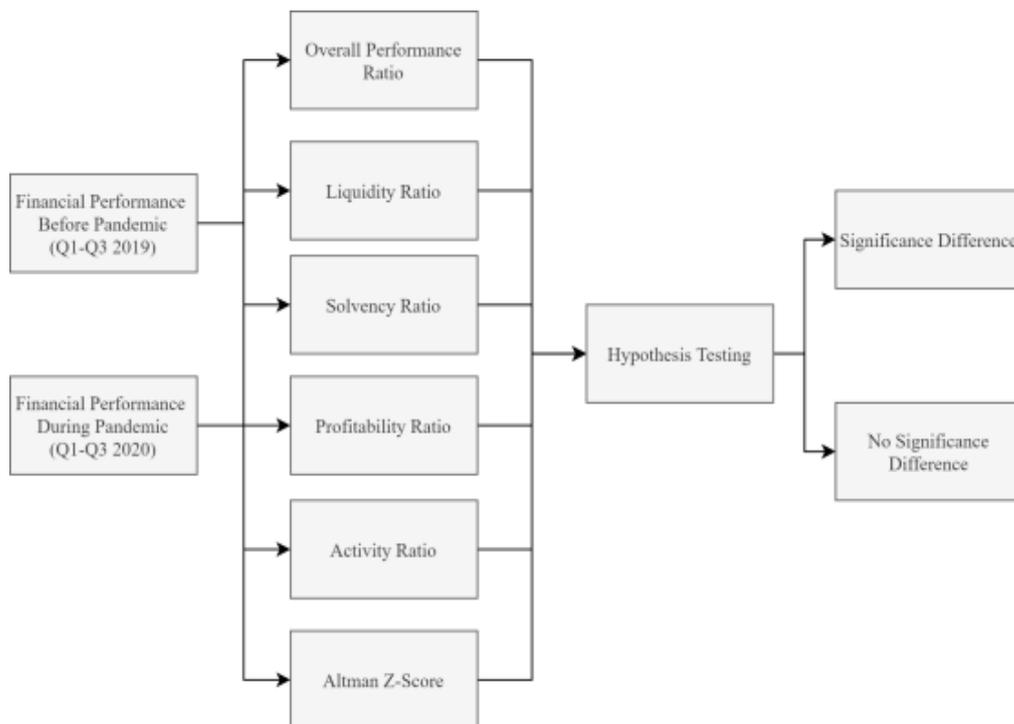
PREVIOUS RESEARCH

Research conducted by Daryanto and Amalia et al. (2020) analyzed the financial performance by measuring the financial health of a real estate company using Altman Z-score. Results have shown that the company faced financial difficulties in the last five years. In another study by Daryanto and Muhlisin et al. (2020), a mining company's financial performance was compared before and during COVID-19 using the liquidity ratio, solvency ratio, profitability ratio, and activity ratio. Although there were no metrics to show the significance difference in the comparison, the result illustrates a decrease in health level during pandemic. According to study performed by Gamil et al. (2020), the consequences of COVID-19 pandemic to the construction industry are time and cost overrun, suspension of projects, and labour and social impact. The most significant consequence is the economic impact that affects all project stakeholders. However, it was not elaborated in which aspect of the industry's economic impact had been affected.

RESEARCH METHOD

Research methodology used in this study is descriptive with a quantitative approach. Fig. 1 depicts the details of the whole method applied for evaluating significant differences of the company's financial performance before and during COVID-19. The model is adapted from previous research conducted by Daryanto and Wijaya et al., in 2020. The data used in this study are standardized secondary data collected from PT PP Properti's audited quarter and annual report from the first quarter of 2019 to the fourth quarter of 2020 (PT PP, 2021). PT PP Properti was selected because it is a part of the biggest construction company in Indonesia. This study uses financial ratio analysis such as return on assets (ROA), return on invested capital (ROIC), and return on equity (ROE) as overall performance measures, current ratio and quick ratio as liquidity ratio, debt to equity ratio and long term debt to capital ratio as solvency ratio, gross profit margin and net profit margin as profitability ratio, asset turnover ratio, inventory turnover ratio, and working capital ratio as activity ratio, and Altman Z-score.

Figure 1. Research Methodology



This study uses comparative analysis using paired sample t-tests. Paired sample t-tests aim to compare the mean values between two samples of dependent results, for example the difference between time related samples (Xu et al., 2017). The paired results are obtained from financial ratios, where the first result is before and the second result is during the pandemic. The method was chosen considering it is appropriate to examine whether there had been any significant differences. To check the difference in the thirteen ratios used, hypotheses are listed as below.

- H1: There is a significant difference in return on assets before and during pandemic.
- H2: There is a significant difference in return on invested capital before and during pandemic.
- H3: There is a significant difference in return on equity before and during pandemic.
- H4: There is a significant difference in current ratio before and during pandemic.
- H5: There is a significant difference in quick ratio before and during pandemic.
- H6: There is a significant difference in debt to equity ratio before and during pandemic.
- H7: There is a significant difference in long-term debt to capitalization ratio before and during pandemic.
- H8: There is a significant difference in gross profit margin before and during pandemic.
- H9: There is a significant difference in net profit margin before and during pandemic.
- H10: There is a significant difference in asset turnover ratio before and during pandemic.
- H11: There is a significant difference in inventory turnover ratio before and during pandemic.
- H12: There is a significant difference in working capital ratio before and during pandemic.
- H13: There is a significant difference in Altman Z-score before and during pandemic.

- a. **Overall Performance Measures** reflects how the company can generate profit using its assets, invested capital and equity. The study uses ratios from return on assets, return on invested capital and return on equity. The higher the ratio implies a better ability of a company to benefit from their source of finances.

Return on Assets (ROA) reflects how much the firm has earned on the investment of all the assets committed to the firm (Anthony et al., 2012).

$$\text{Return on Assets} = \frac{\text{Net Income} + \text{Interest} (1 - \text{Tax Rate})}{\text{Total Assets}}$$

Return on Invested Capital (ROIC) is equal to how much the firm has earned on the investment of non-current liabilities plus shareholders' equity. Invested capital represents the funds entrusted to the firm for relatively long periods of time (Anthony et al., 2012).

$$\text{Return on Invested Capital} = \frac{\text{Net Income} + \text{Interest} (1 - \text{Tax Rate})}{\text{Long - term Liabilities} + \text{Shareholder's equity}}$$

Return on Equity (ROE) reflects how much the firm has earned on the funds invested by the shareholders either directly or through retained earnings (Anthony et al., 2012).

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's equity}}$$

- b. **Liquidity Ratio** measures the ability of firms to meet their current liabilities using current assets. The higher liquidity ratio the better, meaning that the company has more sufficient money to pay off their obligation in a short-term period. Liquidity ratios can be measured with current ratio and quick ratio.

Current Ratio indicates an entity's ability to meet its current obligations because if current assets do not exceed current liabilities by a comfortable margin, the entity may be unable to pay its current bills (Anthony et al., 2012).

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Quick Ratio focuses on the relationship of monetary current assets to current liabilities (Anthony et al., 2012).

$$\text{Quick Ratio} = \frac{\text{Monetary Current Assets}}{\text{Current Liabilities}}$$

- c. **Solvency Ratio** is the firm's ability to meet its liabilities. Solvency ratio can be measured with debt to equity ratio and long-term debt to capitalization ratio. A firm that is not solvable is a firm whose total debt is greater than its total assets, but it does not mean that companies that are insolvent but liquid cannot carry out their activities since the ability of liquidity that is owned still allows the firm to be able to return its debt immediately (Amalia et al., 2020).

Debt to Equity Ratio shows the balance that the management of a particular company has struck between these forces of risks versus cost (Anthony et al., 2012).

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholder's equity}}$$

Long term Debt / Capitalization Ratio is the mix of debt and equity in the capital structure (Anthony et al., 2012).

$$\text{Long - term Debt to Capital Ratio} = \frac{\text{Long - term liabilities}}{\text{Long - term liabilities} + \text{Shareholder's equity}}$$

- d. **Profitability Ratio** reveals the firm's ability to earn profit in a certain period (Amalia et al., 2020). In this study, it is measured by gross profit margin and net profit margin, where profit is obtained from sales. The higher profitability ratio the better since it illustrates the higher profit that is generated.

Gross Profit Margin is used to measure the profitability of a company before applicable overhead costs (Daryanto & Dewanti et al., 2020).

$$\text{Gross Profit Margin} = \frac{\text{Gross Margin}}{\text{Net Sales Revenue}}$$

Net Profit Margin is used to assess the company's ability to seek profit (Daryanto & Dewanti et al., 2020).

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales Revenue}}$$

- e. **Activity Ratio (Tests of Investment Utilization)** is a measure to identify the efficiency of the firm's utilization to do daily activities (Daryanto & Dewanti et al., 2020). Higher turnover ratio is better since it shows quicker time for a firm to generate sales from its assets.

Asset Turnover Ratio is used to measure the turnover of the company's total asset and calculates how many sales are earned on every company asset (Daryanto & Dewanti et al., 2020).

$$\text{Asset Turnover Ratio} = \frac{\text{Sales Revenue}}{\text{Total Assets}}$$

Inventory Turnover Ratio is commonly used in analyzing the size of inventory items (Anthony et al., 2012).

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Inventory}}$$

Working Capital Ratio is used to measure a company's efficiency in using its working capital to support the level of sales or in generating revenue (Daryanto & Dewanti et al., 2020).

$$\text{Working Capital Ratio} = \frac{\text{Sales Revenue}}{\text{Working Capital}}$$

- f. **Z-SCORE** is produced into several models by Altman, where the model in 1968 is suitable solely for public and manufacturing companies and the model in 1983 is for private manufacturing companies (El Khoury & Al Beaino, 2014). Another revised model in 1993 was produced for non-manufacturing companies (Alareeni & Branson, 2013). Since PT PP Properti is a publicly listed company, the study uses the 1968 version. The 1968 model widely used in previous studies is written as below (Liang & Pathak, 2018).

$$\text{Altman Z - Score} = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1X_5$$

Net Working Capital / Total Assets is a measure of net liquid assets of the firm to total capitalization, where total capitalization is the difference between current assets and current liabilities. Firms that have operations losses will have decreasing current assets compared to their total assets (Altman, 1968).

$$X_1 = \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

Retained Earnings / Total Assets calculates the cumulative profitability of a firm, where new firms usually have a higher chance of bankruptcy due to lower cumulative profit (Altman, 1968).

$$X_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

EBIT / Total Assets measures the productivity of a firm's assets. It is useful since a company's bankruptcy is triggered by their liabilities exceeding their assets (Altman, 1968).

$$X_3 = \frac{\text{Earning Before Income Tax}}{\text{Total Assets}}$$

Market Value of Equity / Total Liabilities calculates how much a firm's asset can decline in value before the liabilities exceed the assets (Altman, 1968).

$$X_4 = \frac{\text{Market Value of Equity}}{\text{Total Liabilities}}$$

Sales / Total Assets shows the sales generating ability using their total assets (Altman, 1968).

$$X_5 = \frac{\text{Sales}}{\text{Total Assets}}$$

RESULTS AND DISCUSSION

Overall performance measures showed a decreasing ratio in each quarter compared before (2019) and during (2020) the pandemic. In general, the return on asset (ROA) ratio's highest value is 1.84% in Q4 of 2019 and the ratio's lowest value is 0.15% which was in the Q1 of 2020. The return on invested capital (ROIC) ratio's highest value is 2.90% in Q4 2019 and its lowest value is 0.24% in Q1 2020. Similar to ROA and ROIC, the return on equity (ROE) ratio is highest at Q4 2019 with 5.89% and lowest at Q1 2020 with 0.60%. Fig. 2 shown below describes the comparison of ROA, ROIC, and ROE before and during pandemic. The measures

of three ratios mentioned above are consistently better when they have higher value, meaning that their performance is at the peak in Q4 2019 and at the lowest in Q1 2020. Nevertheless, the company started to improve their performance steadily after the pandemic started.

Figure 2. Overall Performance Measure

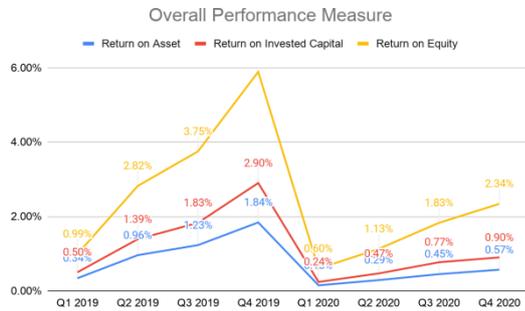
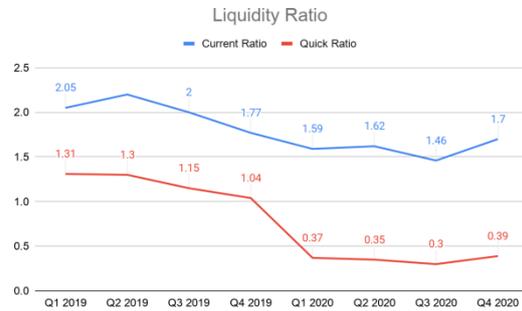


Figure 3. Liquidity Ratio



a. Liquidity Performance

Current ratio's highest value is 2.2 at Q2 2019 and the lowest value is 1.46 at Q3 2020, while quick ratio's highest value is 1.31 at Q1 2019 and lowest value is 0.30 at Q3 2020. Fig. 3 shown above describes the comparison of current ratio and quick ratio before and during pandemic. It illustrates that overall the liquidity ratios decreased during the pandemic meaning the company experienced lower ability to acquire cash.

b. Solvency Performance

Debt to equity ratio's highest value is 309.59% at Q1 202 and lowest value is 191.43% at Q1 2019. Fig. 4 reveals that the company's ratio ascended up to 90% in Q1 2020. It showed that the company increased their short-term debt since the pandemic started. In long-term debt to capitalization ratio, the highest ratio is 61.58% at Q4 2020 and lowest value is 50.01% at Q1 2019. During the six quarters of the period, it showed fluctuations between 50% to 61%. The company increased their long-term debt but not as much as their short-term debt. Fig. 4 shown below describes the comparison of debt to equity ratio and long-term debt to capitalization ratio before and during pandemic. It exhibits ratios mentioned above being higher values during the pandemic compared to before. It can be concluded that the solvency ratio underwent an increase mostly because the company raised their short-term debt since the beginning of the pandemic.

Figure 4. Solvency Ratio

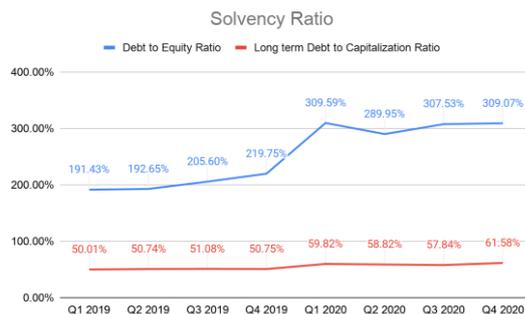
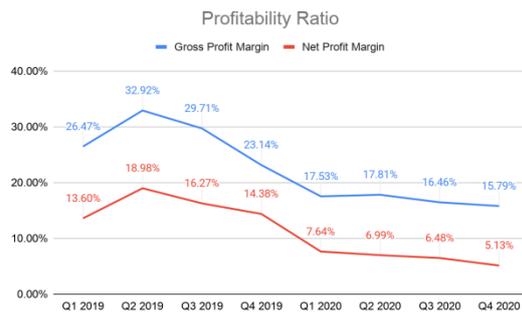


Figure 5. Profitability Ratio



c. Profitability Performance

In Q2 2019, the highest value occurs at Q2 2019 for gross profit margin and net profit margin with the value of 32.92% and 18.98% respectively. Both profit margins have the lowest value at Q4 2020, where gross profit margin is at 15.79% and net profit margin at 5.13%. Fig. 5 shown above describes the comparison of gross profit margin and net profit margin before and during pandemic. It shows the profitability ratios fluctuated before the pandemic and decreased 10% until 15% since the pandemic started.

d. Activity Performance

Asset turnover ratio's highest value is 0.13 at Q4 2019 and lowest value is 0.02 at Q1 2020. Inventory turnover ratio's highest value is 0.39 at Q4 2019 and lowest value is 0.04 at Q1 2020. Working capital ratio's highest value is 0.45 at Q4 2019 and lowest value is 0.08 at Q1 2019 and Q1 2020. Fig. 6 shown below describes the comparison of asset turnover ratio, inventory turnover ratio and working capital ratio before and during pandemic. It depicts the activity ratio declined from Q4 2019 to Q1 2020 but has steadily increased after Q1 2020. It can be seen from the chart that the working activity of the company decreased rapidly when the pandemic started, but not so long after that, the company started to be productive again during the pandemic.

Figure 6. Activity Ratio

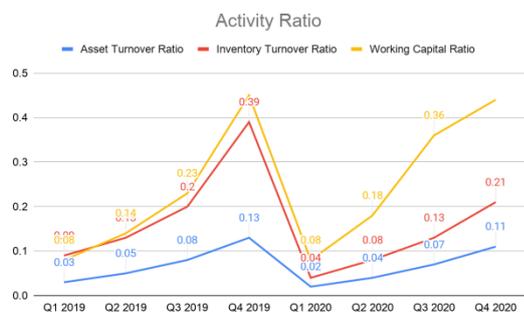


Figure 7. Z-Score



e. Prediction of Bankruptcy Using Altman Z-score

The Altman Z-score before the pandemic from Q1 to Q2 2019 illustrated a safe zone of 3.06 and 3.13, respectively. Scores from Q3 2019 and afterwards illustrates a grey zone. During the pandemic year of 2020, each quarter has shown scores classified in the grey area zone meaning that there is a good chance of the company going bankrupt within the next two years of operations. Fig. 7 displays the fluctuation of Z-scores before and during the pandemic. It showed that even before the pandemic started, the company was already in the grey area since Q3 2019. However, the score worsened as it reduced up to 0.5 points during the pandemic.

Table 1 below exhibits the quarterly data of Z-score from 2019 to 2020. Throughout the past quarters, X1 highest value is 0.37 at Q2 2019 which shows that it was the highest point of their current assets that exceeded their current liabilities. X1 lowest value is 0.19 at Q3 2020. Overall, the value of X1 during the pandemic is still positive but has lower values compared to before the pandemic, meaning that the company experienced an increase of difficulties to cover their current liabilities using their current assets. X2 highest value is 0.12 at Q1 and Q2 of 2019, while the lowest value is at 0.01 in Q1, Q3 and Q4 2020. The pandemic resulted in 14% decrease of retained earnings generated from the total assets. X3 highest value is 0.02 at Q4 2019 and lowest value is 0.004 at Q3 2020. X3 encountered a steady increase before pandemic. While during the pandemic, X3 steadily has a decrease except for the last quarter. It depicts that the company had a fluctuating profit income, mainly decreasing during the pandemic. X4 highest value is 4.11 at Q1 2019 and lowest value of 3.29 at Q1 and Q4 2020. The company's ability to meet their liabilities from the common stock decreased since before the pandemic and fluctuated during the pandemic. X5 highest score is 0.13 at Q4 2019 and lowest score is 0.02 at Q1 2020. The company's ability to generate revenue through its assets increased throughout the period before pandemic, decreased just when the pandemic started, and increased again during pandemic.

Table 1. Z-Score Formula

	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020
X1	0.33	0.37	0.33	0.28	0.23	0.23	0.19	0.25
X2	0.12	0.12	0.09	0.09	0.01	0.02	0.01	0.01
X3	0.003	0.01	0.01	0.02	0.001	0.002	0.004	0.01
X4	4.11	4.08	3.78	3.44	3.29	3.35	3.31	3.29
X5	0.03	0.05	0.08	0.13	0.02	0.04	0.07	0.11
Z-Score	3.07	3.13	2.90	2.71	2.29	2.37	2.31	2.42

f. Hypothesis Testing

Hypothesis testing results have shown that 9 out of 13 accepted the hypothesis, meaning that most financial performances during the pandemic are significantly different compared to the ones before pandemic. Paired sample t-tests were performed with 95%

confidence interval which accepts hypothesis when p-value < 0.05. Table 2 depicts the details of testing results. H2, H3, H11, and H12 reject the hypothesis. H1, H4, H5, H6, H7, H8, H9, H10, and H13 accept the hypothesis. There is a significant difference in liquidity ratio, solvency ratio, profitability ratio and Altman Z-score between before and during the pandemic. The four measures mentioned showed accurate results where all ratios in each measure are consistent with each other. In overall performance measures, only the return on assets has a significant difference. In activity ratio, only the asset turnover has a significant difference. The result shows that assets consistently contribute to a significant difference in overall performance measure and activity ratio.

Table 2. Hypothesis Testing Result

Measures	Description	Period	Means	Std. Deviation	Paired sample t-test	Decision
Overall Performance Measures	Return on Asset	Before	0.010925	0.0062222	0.046	Accept Hypothesis
		During	0.00365	0.00183576		
	Return on Invested Capital	Before	0.01655	0.0099748	0.06	Reject Hypothesis
		During	0.00595	0.00297377		
	Return on Equity	Before	0.033625	0.02038093	0.062	Reject Hypothesis
		During	0.01475	0.00765702		
Liquidity Ratio	Current Ratio	Before	2.005	0.17823	0.039	Accept Hypothesis
		During	1.5925	0.09979		
	Quick Ratio	Before	1.2	0.12936	0.001	Accept Hypothesis
		During	0.3525	0.03862		
Solvency Ratio	Debt to Equity Ratio	Before	2.023575	0.13249637	< 0.001	Accept Hypothesis
		During	3.04035	0.0943065		
	Long term Debt to Capitalization Ratio	Before	0.50645	0.00451848	0.002	Accept Hypothesis
		During	0.59515	0.01596444		
Profitability Ratio	Gross Profit Margin	Before	0.2806	0.0420621	0.009	Accept Hypothesis
		During	0.168975	0.00939978		
	Net Profit Margin	Before	0.158075	0.02393705	0.005	Accept Hypothesis
		During	0.0656	0.01064988		
Activity Ratio	Asset Turnover Ratio	Before	0.0725	0.04349	0.015	Accept Hypothesis
		During	0.06	0.03916		
	Inventory Turnover Ratio	Before	0.2025	0.13301	0.068	Reject Hypothesis
		During	0.115	0.07326		
	Working Capital Ratio	Before	0.225	0.16217	0.299	Reject Hypothesis
		During	0.265	0.16442		
Z-Score		Before	2.9546895	0.18760895	0.013	Accept Hypothesis
		During	2.3512997	0.06039367		

LIMITATIONS

This study analysis focused only on one company's financial performance which is PT PP Properti's financial performance before and during COVID-19. The compared periods only use four quarters of 2019 as a period before the pandemic and four quarters of 2020 as a period during the pandemic. Four samples only used per period because of the pandemic have only started in the first quarter of 2020.

CONCLUSION AND RECOMMENDATIONS

The purpose of this study is to analyze the financial ratios before and during the COVID-19 pandemic of an Indonesian construction company named PT PP Properti. Using overall performance measures, liquidity, solvency, profitability, and activity ratios, it is found that the company has better performance before the pandemic. Using Altman Z-score analysis, it can be concluded that the company had been classified as a grey zone, prone to bankruptcy, since before the pandemic had started. During the pandemic, the company is still at the grey zone but with lower scores. Another finding that we found was the performance before and during pandemic has significant differences, mainly in liquidity ratio, solvency ratio, profitability ratio and Altman Z-score. Based on the results, it can be claimed that the pandemic greatly affected the company's financial performance. This study has extended the financial ratio analysis of the construction company and contributed to studies that evaluate the one of the many influences that is caused by the pandemic to the business industries. Due to the scarcity of literature study on COVID-19 impact especially to the construction industry, this study can gain beneficial insights for business owners, shareholders and governments to understand the effect of COVID-19 on financial performance, especially in companies that contribute to a country's infrastructure development. For future study, it is suggested to conduct further analysis with more data samples such as using financial reports before, during, and after the pandemic. Moreover, another future study that can be implemented is further investigation in more Indonesian companies in various industries.

REFERENCES

- Al-Manaseer S. R., & Al-Oshaibat, S. D. (2018). Validity of Altman Z-Score Model to Predict Financial Failure: Evidence From Jordan. *International Journal of Economics and Finance*, 10(8), pp. 181-189. <https://doi.org/10.5539/ijef.v10n8p181>
- Alareeni, B., & Branson, J. (2013). Predicting listed companies' failure in Jordan using Altman models: a case study. *International Journal of Business and Management*, 8(1), 113.
- Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of Finance*, 23(4), 589. doi:10.2307/2978933
- Amalia, S., Fadriah, N. E., & Nugraha, N. M. (2020). The Influence of the Financial Ratio to the Prevention of Bankruptcy in Cigarette Manufacturing Companies Sub Sector. *Journal of Solid State Science and Technology*, (63)3.
- Anthony, R. N., Hawkins, D. F., & Merchant, K. A. (2012). *Accounting text and cases*. McGraw-Hill.
- Cahyadi, H. S., & Newsome, D. (2021). The post COVID-19 tourism dilemma for geoparks in Indonesia. *International Journal of Geoheritage and Parks*. doi:10.1016/j.ijgeop.2021.02.003
- Daryanto, W. M., Amalia, S., & Nofyan, S. K. (2020). Financial Health Analysis of PT Ciputra Development TBK According to Altman Z-Score in the Period of 2015-2019. *International CEO Communication, Economics, Organization & Social Sciences Congress*, pp. 392-400.
- Daryanto, W. M., Dewanti, R. W., & Farras, R. (2020). Financial Ratio Analysis of PT Unilever Indonesia Tbk to Measure Financial Performance. *International Journal of Business, Economics and Law*, 23 (1), pp. 288-297.
- Daryanto, W. M., Muhlisin, I. A., & Nugraha, I. M. (2020). Financial Performance and Stock Performance Analysis at PT Aneka Tambang Tbk. Before and When The COVID-19 Pandemic in The First Half of 2020. *South East Asia Journal of Contemporary Business, Economics and Law*, 23 (1).
- Daryanto, W. M., Wijaya, J., & Renatauli, R. (2020). Financial Performance Analysis of PT Ace Hardware Indonesia, Tbk. Before and After the Launch of Ruparupa.com. *International Journal of Business, Economics and Law*, 23 (1), pp. 288-297.
- Daryanto, W. M., Yuniyanto, E. P., & Nasel, F. M. (2020) Comparative Study of Financial Performance in Listed Indonesia Fried Chicken Companies: Case Study in Fast Food Indonesia and Pioneerindo Gourmet International. *International Journal of Business, Economics and Law*, 23 (1), pp. 169-180.
- El Khoury, R., & Al Beaino, R. (2014). Classifying manufacturing firms in Lebanon: An application of Altman's model. *Procedia-Social and Behavioral Sciences*, 109(1), 11-18.
- Fachriansyah, R. (2020). What You Need to Know about Large-Scale Social Restrictions in Jakarta. Retrieved from <https://www.thejakartapost.com/news/2020/04/08/jakarta-will-impose-stronger-mobility-restrictions-on-friday-heres-what-you-need-to-know.html>
- Fatihudin, D., Jusni, & Mochklas, M. (2018). How Measuring Financial Performance. *International Journal of Civil Engineering and Technology (IJCIET)*, 9 (6), pp. 553-557.
- Fatima, I., & Wibisono, D. (2017). Main Performance Indicators for A Construction Company in Indonesia. *Asia Pacific Journal of Advanced Business and Social Studies*, 3(2). doi:10.25275/apjabssv3i2bus8
- Gamil, Y., & Alhagar, A. (2020). The Impact of Pandemic Crisis on the Survival of Construction Industry: A Case of COVID-19. *Mediterranean Journal of Social Sciences*, 11(4), 122. doi:10.36941/mjss-2020-0047
- Hanggara, A. G. (2020). Jakarta Response to COVID-19 Outbreak: A Timeline. Retrieved from

- <https://corona.jakarta.go.id/en/artikel/linimasa-kebijakan-penanganan-pandemi-covid-19-di-jakarta>
- Japutra, A., & Situmorang, R. (2021). The repercussions and challenges of COVID-19 in the hotel industry: Potential strategies from a case study of Indonesia. *International Journal of Hospitality Management*, 95, 102890. doi:10.1016/j.ijhm.2021.102890
- Liang, F., & Pathak, S. (2018). Financial Health & Corporate Performance: A Comparison of Manufacturing Companies in China. *Journal of Asian Development*, 4(123). doi:10.5296/jad.v4i2.13839.
- Lee, J. (2020). Report: Q1 2020 Estimates of Covid-19 Impact in Infrastructure Companies Future Revenues. Retrieved from <https://edhec.infrastructure.institute/announcement/covid-19-impact-in-infrastructure-companies-future-revenues-q1-2020-estimates/>
- Maccarthy, J. (2017). Using Altman Z-score and Beneish M-score Models to Detect Financial Fraud and Corporate Failure: A Case Study of Enron Corporation. *International Journal of Finance and Accounting* 2017, 6(6): 159-166. doi: 10.5923/j.ijfa.20170606.01
- Miharja, M., Setiawati, S., & Lubis, A. L. P. (2020). How dangerous the Indonesian recession due to COVID-19 pandemic: review policy and strategy to recovery. *International Journal of Social Sciences and Humanities*, 4(3), 121-129. <https://doi.org/10.29332/ijssh.v4n3.470>
- Ministry of Health. (2020). Regulasi. Retrieved from <https://covid19.go.id/p/regulasi/permenkes-no-9-tahun-2020-tentang-pedoman-psbb-dalam-rangka-percepatan-penanganan-covid-19>
- Olivia, S., Gibson, J., & Nasrudin, R. (2020). Indonesia in the Time of Covid-19. *Bulletin of Indonesian Economic Studies*, 56(2), 143-174. doi:10.1080/00074918.2020.1798581
- Pak, A., Adegboye, O. A., Adekunle, A. I., Rahman, K. M., McBryde, E. S., & Eisen, D. P. (2020). Economic Consequences of the COVID-19 Outbreak: the Need for Epidemic Preparedness. *Frontiers in Public Health*, 8(241). <https://doi.org/10.3389/fpubh.2020.00241>
- Parama, M. (2020). Half of All Construction Contractors Close Down as Projects Stall: Association. Retrieved from <https://www.thejakartapost.com/news/2020/09/16/half-of-all-construction-contractors-close-down-as-projects-stall-association.html>
- PT PP. (2021). Ikhtisar Keuangan. Retrieved from <https://pp-properti.com/informasi-investor/ikhtisar-keuangan>
- PT PP. (2021). Sejarah Perusahaan. Retrieved from <https://www.ptpp.co.id/about/milestone>
- Purwanto, A., Fahlevi, M., Zuniawan, A., Kusuma, R. D. P., Supriatna, H., & Maryani, E. (2020) The COVID-19 Pandemic Impact on Industries Performance: Explorative Study of Indonesian Companies. *Journal of Critical Reviews*, 7(15), pp. 1965-1972.
- Rababah, A., Al-Haddad, L., Sial, M. S., Chunmei, Z., & Cherian, J. (2020). The Effects of COVID-19 on the financial performance of Chinese Listed Companies. *J Public Affairs*, 20(4). <https://doi.org/10.1002/pa.2440>
- Ribeirinho, M. J., Mischke, J., Strube, G., Sjödin, E., Blanco, J. L., Palter, R., Björck, J., Rockhill, D., & Andersson, T. (2020). The Next Normal in Construction: How Disruption is Reshaping the World's Largest Ecosystem. McKinsey & Company.
- Segal, S., & Gerstel, D. (2020). The Global Economic Impacts of Covid-19. Retrieved from <https://www.csis.org/analysis/global-economic-impacts-covid-19>
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The Impact of the COVID-19 Pandemic on Firm Performance. *Emerging Markets Finance and Trade*, 56 (100), pp. 2213-2230. <https://doi.org/10.1080/1540496X.2020.1785863>
- Stobierski, T. (2020). 13 Financial Performance Measures Managers Should Monitor. Retrieved from <https://online.hbs.edu/blog/post/financial-performance-measures>
- World Health Organization (WHO). (2020). Coronavirus Disease 2019 (COVID-19), Situation Report - 1. Retrieved from https://www.who.int/docs/default-source/searo/indonesia/covid19/who-indonesia-situation-report-1.pdf?sfvrsn=6be5b359_0
- World Health Organization (WHO). (2020). Origin of SARS-CoV-2. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/332197/WHO-2019-nCoV-FAQ-Virus_origin-2020.1-eng.pdf
- Xu, M., Fralick, D., Zheng, J. Z., Wang, B., Tu, X. M., & Feng, C. (2017). The Differences and Similarities Between Two-Sample T-Test and Paired T-Test. *Shanghai Arch Psychiatry*, 29(3), 184-188. doi: 10.11919/j.issn.1002-0829.217070

Wiwiek Mardawiyah Daryanto
Sekolah Tinggi Manajemen IPMI
Email: wiwiek.daryanto@ipmi.ac.id,

May Iffah Rizki
Sekolah Bisnis dan Manajemen, Institut Teknologi Bandung
Email: may_rizki@sbm-itb.ac.id,

Mahardhika
Sekolah Bisnis dan Manajemen, Institut Teknologi Bandung
Email: mahardhika@sbm-itb.ac.id,