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Profitability of Manufacturing Firms in Indonesia Amidst the Pandemic

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Abstract

Research Originality: In the realm of manufacturing firms, profitability remains a foremost concern. This paper distinguishes itself through its innovative approach, integrating key factors such as liquidity, leverage, activity, and the influence of the COVID-19 pandemic.

Research Objectives: This study is of utmost importance as it aims to evaluate the profitability of manufacturing firms in Indonesia. It specifically delves into the impact of liquidity, leverage, and activity measures on profitability while examining how the COVID-19 pandemic factors into this equation.

Research Methods: This study employs a quantitative approach. It utilizes panel data gathered from 134 manufacturing firms in Indonesia from 2018 to 2023. The analysis relies on a panel regression model to draw insights.

Empirical Results: The analysis yields significant findings. Notably, leverage demonstrates a negative and statistically significant influence on manufacturing firms' profitability, whereas firm activity shows a positive and statistically significant effect. Conversely, liquidity and the COVID-19 pandemic appear to have negligible impacts on profitability.

Implications: These findings have significant implications for policymakers and practitioners within Indonesia's manufacturing sector. To bolster the profitability of manufacturing firms, policymakers should prioritize reducing leverage and fostering increased company activity, possibly through amplified sales efforts. This practical advice will keep you informed and prepared for the future.

Keywords:

financial performance; liquidity; leverage; pandemic COVID-19; manufacturing firms

How to Cite:

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INTRODUCTION

Profitability holds paramount significance in financial literature, particularly emphasized by Budagaga (2022), who reinforced the dividend irrelevance theory, asserting that a company's performance hinges solely on its ability to generate fundamental profits and navigate business risks. Numerous studies corroborate that profitability indeed dictates a company's performance (Agegnew & Gujral, 2022; Fujianti et al., 2022; Hossain, 2021; Pervan et al., 2019; Pratiwi et al., 2021; Susilo et al., 2020). Notably, the examination of manufacturing firms' profitability in Indonesia (Aryantini & Jumono, 2021; Fujianti et al., 2022; Susan et al., 2022; Susilo et al., 2020) has garnered considerable attention in recent years.

Manufacturing profitability in Indonesia has experienced a downward trajectory due to the COVID-19 pandemic (Fujianti et al., 2022). Amid the pandemic, the average profitability of manufacturing firms stood at 3.5 percent, marking a decline of 1.4 percent compared to the pre-pandemic figure of 4.9 percent. Despite the manufacturing sector contributing 76.49 percent to the total national exports in 2021, industrial utilities witnessed a decline from 76.3 percent to 61.1 percent by the end of 2020 (BPS, 2021), underscoring the adverse effects of the pandemic. According to data from the Central Statistics Agency (BPS), the Gross Domestic Product (GDP) growth rate of the manufacturing industry in Indonesia was -2.93 percent in 2020, 3.39 percent in 2021, and 4.89 percent in 2022, indicating a contraction during the COVID-19 outbreak, with gradual recovery seen in 2022.

The above explanation underscores the importance of profitability for manufacturing companies in Indonesia. Profitability refers to a company's ability to generate profit while managing its assets. The higher the profitability, the better the company's performance, as its value will increase (Halfiyyah & Suriawinata, 2019; Parlindungan & Dewi, 2022; Pratiwi et al., 2021; Soukotta et al., 2023; Sudiyatno et al., 2021; Tui et al., 2017). Profitability is influenced by liquidity, leverage, company activity, and COVID-19.

Liquidity is one of the factors affecting profitability. Generally, the greater the available liquidity, the higher the company's profitability (Sethi et al., 2023; Tailab, 2014). Higher corporate liquidity signals to investors that the company can meet its short-term obligations. However, excessively high liquidity indicates many unproductive assets, which can reduce the firm's profitability. While liquidity refers to the short-term obligations a company must meet, leverage pertains to long-term obligations. Leverage creates fixed costs for the company, meaning that the higher the company's leverage, the greater the interest expenses, which can suppress profitability (Agegnew & Gujral, 2022; Hossain, 2021; Pratiwi et al., 2021; Sethi et al., 2023; Tailab, 2014). However, according to the trade-off theory, increased debt up to a certain point can enhance profitability due to tax benefits outweighing bankruptcy costs (Alarussi & Gao, 2023; Aryantini & Jumono, 2021; Ifeduni & Charles, 2018).

Firm activity also affects profitability. This activity is measured by how often a firm generates sales from its total asset management. The faster the turnover, the higher the profitability (Aryantini & Jumono, 2021; Hossain, 2021; Pratiwi et al., 2021). The profitability of manufacturing firms declined during the pandemic (Fujianti et al., 2022). Several studies have investigated the pandemic's impact on profitability in various sectors,

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including finance and banking (Khalifaturofi'ah et al., 2023; Wahyuni et al., 2021), telecommunications (Homayoun et al., 2023), and healthcare (Malahayati et al., 2021).

Existing research predominantly examines the profitability of manufacturing firms (Aryantini & Jumono, 2021; Škuflić et al., 2016; Susan et al., 2022). Previous studies (Agegnew & Gujral, 2022; Pratiwi et al., 2021; Susilo et al., 2020) have highlighted factors such as company size, growth, liquidity, leverage, and business activity influencing profitability. However, these findings do not specifically address the impact of COVID-19 on the profitability of manufacturing firms in Indonesia. Earlier research (Aryantini & Jumono, 2021; Susan et al., 2022) focused on small samples of manufacturing firms, whereas the current study will examine 134 firms from the total population. Although previous studies have attempted to analyze the pandemic's impact on manufacturing firms, many have adopted different methodologies, examining only the differences before and during COVID-19 (Qadri et al., 2023; Wahyuni et al., 2021). Thus, this study aims to fill the research gap that previous studies have overlooked.

METHODS

This study examines a population of manufacturing firms listed on the Indonesian Stock Exchange (BEI). From the total of 193 manufacturing firms listed on the BEI, a sample of 134 firms was selected for the research period spanning from 2018 to 2023. The selection criteria encompass manufacturing firms listed on the stock exchange from 2018 to 2023, which have provided complete financial reports from 2018 to 2023, exhibit positive equity and have yet to be delisted. The sample encompasses three primary sectors: the basic and chemical industry, various industrial sectors, and the consumer goods industry. Financial statements were collected by observing and recording data obtained from the official website of Bursa Efek Indonesia.

For data analysis, panel regression with static panels was employed. The researchers conducted the LM test, the Chow test, and the Hausman test. These tests were conducted with the objective of determining the most suitable model for the static panel. The tests helped ascertain whether the common effect model, fixed effect model, or random effect model provided the best fit for the data. The significance of the independent variables concerning the dependent variable was analyzed using the t-test. The panel regression model utilized in this research is as follows:

$$ROA_{it}=\alpha+\beta_1 CR_{it}+ \beta_2 DER_{it}+ \beta_3 TATO_{it}+ \beta_4 DC+\varepsilon_{it} \quad (1)$$

Where:

ROA = represents Return on Asset
DC = denotes a dummy variable for COVID-19
CR = signifies Current Ratio
DER = stands for Debt To Equity ratio
TATO = denotes Total asset turnover.

The dependent variable in this study is profitability, measured using return on assets. We also consider four independent variables: liquidity, leverage, activity, and the dummy

variable for COVID-19. The dummy variable for COVID-19 is a key component of our research, as it distinguishes between the period during COVID-19 and the period before the pandemic. It takes the value of 1 during the COVID-19 period and 0 before the pandemic, helping us to isolate the specific impact of the pandemic on profitability.

The literature offers various approaches to measuring the impact of COVID-19, such as utilizing a dummy variable, examining specific cases affected by COVID-19, or analyzing the period during which the pandemic occurred. For this study, COVID-19 is measured using a dummy variable that distinguishes between the period during COVID-19 and before COVID-19.

RESULTS AND DISCUSSION

This study aims to analyze the influence of liquidity, leverage, activity, and COVID-19 on the profitability of manufacturing firms in Indonesia. The findings reveal that the COVID-19 pandemic did not significantly impact the profitability of Indonesian manufacturing firms between 2018 and 2023. Analyzing 134 manufacturing firms listed on the Indonesian Stock Exchange, the study shows that liquidity did not significantly influence profitability. However, leverage, measured by the debt-to-equity ratio, had a negative and significant effect, indicating that higher debt levels increased interest expenses, thus reducing profitability. Conversely, the activity ratio, measured by total asset turnover, positively and significantly impacted profitability, suggesting that higher asset utilization contributed to better financial performance. The analysis involves several stages, including both descriptive and inferential methods.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Maximum	Minimum
Profitability (ROA)	804	0.0462	0.0985	0.9210	-0.4014
Liquidity (CR)	804	3.1793	8.7217	206.8642	0.1295
Leverage (DER)	804	1.1520	1.4068	17.2106	0.0461
Activity (TATO)	804	1.0024	0.8296	12.6246	0.0031
COVID-19 (DC)	804	0.6667	0.4717	1.0000	0.0000

Source: Data processed, 2024

Table 1 presents the descriptive statistics of the research variables. The table indicates that, on average, manufacturing firms can generate profits of 4.62 percent from their assets. Meanwhile, the ability of manufacturing firms to meet short-term obligations stands at 3.1793. This result suggests that, on average, manufacturing firms have current assets exceeding their current liabilities. The average proportion of debt to equity is also higher at around 115.20 percent. On average, manufacturing firms have net sales proportions almost equivalent to their total assets. This result indicates good operational efficiency as sales still exceed total assets by 1.0024. The descriptive data indicate heterogeneous profitability, liquidity, and leverage variation, while activity and the COVID-19 dummy variable exhibit homogeneous data variation. The data variability of both independent

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and dependent variables appears adequate. The highest data fluctuation occurs in the liquidity variable, with a maximum value of 206.8642 and a minimum value of 0.1295, accompanied by a standard deviation of 8.7217.

Furthermore, Table 2 illustrates the matrix relationship between variables. It's reassuring to note that no value exceeds 0.8, indicating the absence of multicollinearity among the independent variables. This strengthens the reliability of our research. From Table 3, it is observed that ROA negatively correlates with COVID-19, liquidity, and leverage, while it positively correlates with activity.

Table 2. Correlation Matrix

	ROA	CR	DER	TATO	DC
ROA	1				
CR	-0.03534	1			
DER	-0.16291	-0.134885	1		
TATO	0.292588	-0.064152	0.070321	1	
DC	-0.03357	0.050854	-0.03256	-0.02988	1

Source: Data processed, 2024

The next step following descriptive statistics is inferential statistics. In the proposed panel regression model, $ROA_{it}=\alpha+\beta_1 CR_{it}+ \beta_2 DER_{it}+ \beta_3 TATO_{it}+ \beta_4 DC+\varepsilon_{it}$, a static panel regression test is conducted, encompassing three models: the common effect model, the fixed effect model, and the random effect model. Table 3 presents the results of the panel regression.

The panel regression model utilizing common effect, fixed effect, and random effect models yields adjusted R-squared values of 11.76 percent, 57.09 percent, and 16.48 percent, respectively. Based on the F-test, all three models exhibit a good fit as their p-values are less than 5 percent.

Table 3: Panel Regression Results

	Common effect model			Fixed effect model			Random effect model		
Variable	**Coef.**		**Std. Er.**	**Coef.**		**Std.Er.**	**Coef.**		**Std.Er.**
C	0.0310	***	0.0076	-0.0021		0.0078	0.0108		0.0090
CR	-0.0005		0.0004	-0.0004		0.0003	-0.0004		0.0003
DER	-0.0133	***	0.0023	-0.0090	***	0.0028	-0.0109	***	0.0025
TATO	0.0359	***	0.0040	0.0626	***	0.0053	0.0525	***	0.0045
DC	-0.0060		0.0069	-0.0042		0.0049	-0.0049		0.0048
R-squared	0.1219			0.6441			0.1690		
Adjusted R-squared	0.1176			0.5709			0.1648		
F-statistic	27.7419			8.7992			40.6096		
Prob(F-statistic)	0.0000			0.0000			0.0000		

Note : *p<0.1, **p<0.05, ***p<0.01, Coef=Coefficient regression, Std.Er.= Standar Error
Source: Data processed, 2024

After conducting the regression test, the next step involves selecting the best model to address the research question regarding profitability and the influence of independent

variables. Based on Table 4, the preferred model is the fixed effect model due to the Chow test (0.0000 < 0.0500) and the Hausman test (0.0074 < 0.0500) values being below the significance level of 0.05. According to the fixed effect model, the contribution of independent variables, namely liquidity, leverage, activity, and the COVID-19 dummy variable, in explaining the profitability of manufacturing firms, amounts to 57.09 percent. Variables outside the model influence the remaining 42.91 percent.

Table 4. The Best Model Selection Test

Test	Probability	Decision
Chow test	0.0000	Fixed Model
Hausman test	0.0074	Fixed Model
LM-test	0.0000	Random Model
The best Selected Model		***Fixed Model***

Source: Data processed, 2024

Before analyzing the influence of liquidity, leverage, activity, and the COVID-19 dummy variable, classical assumption tests are conducted to meet the assumption of Best Linear Unbiased Estimators (BLUE). Table 5 presents the results of the BLUE test.

Table 5. BLUE Test

Blue test	Multicollinearity	Heteroscedasticity	Autocorrelation
Collinearity	Value of collinearity < 0.8		
Glejser		Value of probability > 0.05	
Durbin watson			Value of DW 2.0771

Source: Data processed, 2024

Based on Table 5, the panel regression model has been cleared of multicollinearity, heteroskedasticity, and autocorrelation issues. Therefore, the analysis can proceed to the next stage, which involves examining the influence of independent variables, namely liquidity, leverage, activity, and the Covid-19 dummy variable, on the profitability of manufacturing firms in Indonesia. Table 6 presents the selected fixed effect model based on the results of the Chow test and the Hausman test.

In the fixed-effect model, the four independent variables—liquidity, leverage, activity, and COVID-19—collectively explain 57.09 percent of the variance in manufacturing firms' profitability. Interestingly, the study reveals that liquidity, as measured by the current ratio, does not significantly influence profitability during the research period. This result implies that liquidity is not a primary indicator of a manufacturing firm's profitability.

The absence of a substantial impact of liquidity, as measured by the current ratio, on manufacturing firms' profitability could stem from various factors. The current ratio assesses a company's ability to meet short-term liabilities using its current assets. While a higher current ratio signifies better liquidity and the prompt payment of short-term debts, this liquidity metric may not directly translate into profitability for manufacturing firms.

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Table 6. Fixed Effect Model

	Fixed effect model	
Variable	**Coef.**	**Std.Error**
C	-0.0021	0.0078
CR	-0.0004	0.0003
DER	-0.0090***	0.0028
TATO	0.0626***	0.0053
DC	-0.0042	0.0049
R-squared	0.6441	
Adjusted R-squared	0.5709	
F-statistic	8.7992	
Prob(F-statistic)	0.0000	

Note : *p<0.1, **p<0.05, ***p<0.01, Coef=Coefficient regression,
Source: Data processed, 2024

One potential explanation for this insignificance is that manufacturing firms may have adopted conservative financial strategies to maintain an adequate liquidity without compromising profitability. These firms likely strike a balance between ensuring they possess sufficient cash to meet short-term obligations and effectively utilizing their assets to generate profits. Moreover, Fujianti et al. (2022) suggest no discernible difference in liquidity among manufacturing firms before and during the COVID-19 pandemic.

Furthermore, industry-specific factors and prevailing economic conditions may influence the correlation between liquidity and profitability. For example, manufacturing firms operating in capital-intensive industries with lengthy production cycles may prioritize efficient asset management and production efficiency over maintaining excessively high liquidity levels. Conversely, firms in cash-intensive industries may prioritize liquidity due to the immediate need for cash flows to support their operations. In the banking sector, El-Chaarani et al. (2023) assert that liquidity creation, in conjunction with asset quality and bank size, enhances bank profitability, particularly during periods of substantial liquidity supply shocks like the COVID-19 crisis. This finding aligns with prior research (Pratiwi et al., 2021; Sulitiyani & Noor, 2022), indicating that liquidity does not significantly impact profitability.

Another piece of evidence that can elucidate why liquidity does not affect profitability is presented in Figure 1. Liquidity values during the research period exhibit the highest variability among the variables, indicating a considerable bias. From Figure 1, the average growth of liquidity in manufacturing firms peaked in 2020 at 4.7800. Upon closer examination of Figure 1, liquidity appears to fluctuate without corresponding fluctuations in profitability. This result raises the question: Why did liquidity in manufacturing firms increase during the COVID-19 period?

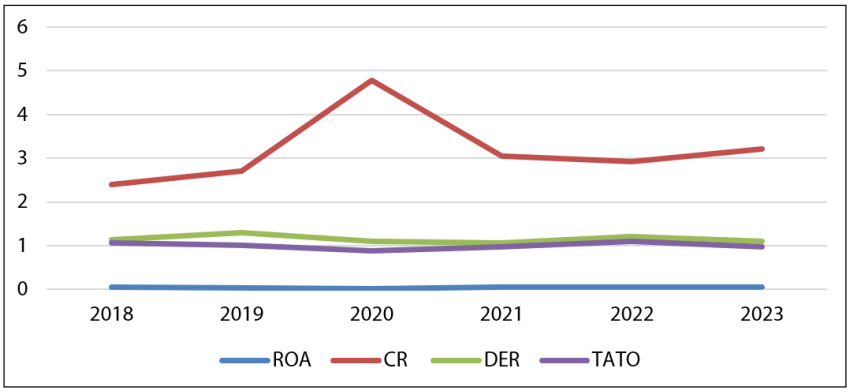
The high level of liquidity in manufacturing firms during the COVID-19 pandemic can be attributed to several factors. Firstly, the surge in demand for essential products, such as healthcare products, personal protective equipment (PPE), and food items, may have played a significant role. This increased demand could have led to a substantial growth in cash flow and liquidity for these firms, indicating a potential for growth even in challenging times.

Secondly, the implementation of cost-saving measures during periods of economic uncertainty, such as the pandemic, may have significantly contributed to the high liquidity levels. Many firms took significant steps to reduce operational expenses, cut capital expenditures, and postpone non-essential projects. These actions not only optimize the use of company funds but also enhance liquidity, providing a sense of financial stability even in turbulent times.

Thirdly, substantial government subsidies and assistance have maintained high liquidity levels. Governments worldwide provided various forms of aid to firms to help them weather the economic crisis caused by COVID-19. This assistance, ranging from direct cash grants to tax exemptions and low-interest loans, played a crucial role in bolstering company liquidity, providing a sense of support from the government.

Lastly, a focus on cash management emerged as a priority during the COVID-19 pandemic. Many firms intensified their cash and liquidity management efforts to navigate the economic uncertainty. This condition involved tightening inventory management, delaying payments, and optimizing revenue cycles. Such intensive focus on cash management could elevate company liquidity levels.

Figure 1. Average Research Variables



Source: Data processed, 2024

Conversely, leverage, as measured by the debt-to-equity ratio (DER), demonstrated a notable negative impact on profitability. This result suggests that elevated debt levels impose increased interest payments on manufacturing firms, diminishing profitability. The higher the leverage, the lower the profitability. The adverse and significant influence of the Debt-to-Equity Ratio (DER) on profitability can be explicated through several mechanisms.

A higher DER indicates more debt than equity, signifying heavy reliance on borrowed capital to fund operations. Consequently, this heightened debt load can escalate financial leverage and interest expenses, exerting pressure on the company's profitability. Elevated debt levels necessitate interest payments, eroding profits and diminishing overall profitability. As debt accumulates, so do interest payments, resulting in an adverse effect on profitability.

Moreover, a heightened DER implies heightened financial risk (Sulitiyani & Noor, 2022). Firms laden with significant debt may need help in meeting debt obligations, particularly during economic downturns or financial strain. This financial risk may

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dissuade potential investors and impact the company's creditworthiness, further impinging on profitability. Additionally, elevated debt levels can curtail financial maneuverability, compelling the allocation of a substantial portion of earnings toward debt repayment, thereby restricting investments in growth prospects or shareholder dividends. Such diminished financial flexibility may impede the company's adaptability to evolving market conditions or capitalization on new business opportunities.

Additionally, investors may interpret a high DER as a sign of financial distress or instability, potentially resulting in a company's stock price decline. Consequently, this could impact the company's market capitalization and shareholder wealth, extending the negative influence of DER on profitability beyond financial ramifications to affect overall market perception and the company's long-term prospects.

The theoretical framework of this study posits that leverage, as measured by DER, exerts a negative and significant influence on profitability in Indonesian manufacturing firms. This finding aligns with prior research investigating the relationship between leverage and profitability across different contexts. For instance, Tao et al. (2022) observed a negative correlation between leverage and profitability in Chinese firms during the pandemic, attributing it to heightened financial risk and reduced profitability due to increased leverage levels. Similarly, previous studies (Agegnew & Gujral, 2022; Hossain, 2021; Pratiwi et al., 2021; Sethi et al., 2023; Tailab, 2014) documented a negative impact of leverage on profitability, linking it to amplified financial constraints and elevated interest expenses amid economic challenges posed by the pandemic. These findings are consistent with earlier studies (Agegnew & Gujral, 2022; Hossain, 2021; Pratiwi et al., 2021), underscoring that heightened reliance on debt collateral diminishes profitability.

While this study's outcomes align with these consistent findings, it is crucial to acknowledge that not all studies have reported a negative correlation between leverage and profitability. Other studies (Alarussi & Gao, 2023; Aryantini & Jumono, 2021; Ifeduni & Charles, 2018) even identified a positive impact of leverage on profitability. Thus, the influence of DER on profitability may vary depending on specific company circumstances, industry dynamics, and economic conditions.

Furthermore, the study unveiled that the activity ratio, gauged by total asset turnover (TATO), wielded a positive and significant effect on manufacturing firms' profitability (Aryantini & Jumono, 2021; Hossain, 2021; Pratiwi et al., 2021). The higher the firm's activity, the higher the profitability of the manufacturing firms. Elevated activity ratios signify efficient asset utilization and, consequently, enhanced profitability. This discovery echoes the findings of research conducted by Arifiana and Khalifaturofi'ah (2022), reinforcing the notion that optimal activity ratios mitigate financial distress and bolster profit generation.

The favorable and substantial influence of the activity ratio, measured by total asset turnover (TATO), on the profitability of manufacturing firms stems from the effective utilization of assets to generate revenue. When a manufacturing firm efficiently employs its assets to drive sales, it signifies proficient operation and resource management, thereby fostering heightened profitability.

A high TATO signifies the company generating greater sales relative to its total assets. This result reflects efficient asset utilization in producing and selling goods or services, amplifying revenue. Effective asset management minimizes idle resources and enhances productivity, positively impacting profitability. Moreover, a higher TATO suggests that the company can bolster revenue without necessitating additional investments in fixed assets. This efficiency translates into enhanced profit margins, as the company can generate more revenue while minimizing operating costs.

Several prior studies have corroborated a positive correlation between activity and profitability across various industries and countries (Aryantini & Jumono, 2021; Hossain, 2021; Pratiwi et al., 2021). For instance, research by Taruli and Panggabean (2019) focusing on firms in Indonesia and Malaysia revealed a positive effect of TATO on profitability. Similarly, a study by Pratiwi et al. (2021) on Indonesian-listed firms highlighted the positive impact of TATO on profitability, particularly in the real estate sector in Indonesia. These findings support the notion that efficient asset turnover contributes to enhanced profitability in manufacturing firms. TATO's favorable and significant impact on manufacturing firms' profitability can be attributed to efficient asset utilization, resulting in increased sales revenue and reduced operating costs. These findings are consistent with numerous previous studies, indicating a recurring trend across diverse industries and countries.

The presence of COVID-19 did not significantly affect profitability, which means that the pandemic will not affect the profitability of manufacturing firms. The variability in profitability data ranged from 2.4 percent to 5.9 percent. The average profitability value before COVID-19 was 5.1 percent, while the average during COVID-19 was 4.4 percent. These findings contradict previous studies (Devi et al., 2020; Pratiwi et al., 2021), highlighting the adverse effects of COVID-19 on profitability, activity, and leverage in various sectors, including real estate and property.

COVID-19 did not impact profitability significantly due to the manufacturing firms' relatively robust financial performance, which is evident in the stability of profitability, leverage, and activity before and during COVID-19. Manufacturing firms were deemed sufficiently resilient to withstand the Covid-19 pandemic. Several reasons explain why COVID-19 did not significantly impact the profitability of manufacturing firms during this period. Many firms have responded proactively to the evolving situation since the onset of the COVID-19 pandemic. Manufacturing firms took anticipatory measures to mitigate its impact, such as securing alternative supply chains, adjusting production to meet changing demands, and reassessing financial policies.

Some manufacturing sectors experienced relatively stable or even increased demand during this period. For instance, demand for specific products such as healthcare supplies, sanitation equipment, and food and beverages may have remained high or even increased during the pandemic, supporting the profitability of manufacturing firms in these sectors.

Furthermore, many governments worldwide provided economic stimulus and financial assistance to firms to help them survive the pandemic. These measures helped manufacturing firms maintain profitability by providing access to additional resources and shielding them from adverse economic impacts. Manufacturing firms may have adopted

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innovations or adapted their business models to address the challenges faced during the pandemic. For example, firms may have improved operational efficiency, expanded their online presence, or adjusted their product portfolios to meet changing market demands. This result is consistent with Gaisani et al. (2021), which found that COVID-19 does not affect the profitability of manufacturing firms in Indonesia.

Profitability holds significant importance for manufacturing firms (Agegnew & Gujral, 2022; Aryantini & Jumono, 2021; Lambey, 2021; Škuflić et al., 2016), as it does for small businesses in the banking sector (Saady et al., 2020). Within the manufacturing sector, achieving high profitability depends on several internal variables examined in this research. Specifically, maintaining low corporate debt (Hossain, 2021), optimizing asset utilization (Ifeduni & Charles, 2018), and operating within a stable economic environment are key factors contributing to improved profitability (Yuen et al., 2022).

These findings underscore the significance of maximizing asset utilization and practicing prudent debt management to enhance profitability within the manufacturing sector. Such insights can be valuable for policymakers and stakeholders in formulating effective strategies to bolster the financial performance of manufacturing firms in Indonesia amidst evolving economic conditions.

CONCLUSION

This study delved into the financial performance and the impact of the COVID-19 pandemic on profitability in Indonesian manufacturing firms spanning from 2018 to 2023. The analysis encompassed 134 manufacturing firms listed on the Indonesian Stock Exchange. The findings unveiled that liquidity and COVID-19 had no significant impact on the profitability of manufacturing firms during the research period. Conversely, leverage, as gauged by the debt-to-equity ratio, exhibited a negative and substantial effect on profitability, suggesting that elevated debt levels translated to heightened interest expenses and diminished profitability. On the other hand, activity, assessed by total asset turnover, demonstrated a positive and notable influence on profitability, signifying that higher activity levels contributed to heightened profitability. This study offers valuable insights into the factors influencing profitability in Indonesian manufacturing firms. The results suggest that prudent financial management can bolster profitability in manufacturing firms.

The policy recommendations from this study are highly pertinent for policymakers and industry practitioners. Policymakers can leverage these findings to design targeted interventions and policies that support manufacturing firms during economic crises. For instance, policies that promote debt restructuring or provide interest relief during economic downturns can help mitigate the negative impact of high leverage on profitability. Furthermore, initiatives that encourage efficient asset utilization and technological upgrades can enhance the financial performance of manufacturing firms. For industry practitioners, the study's insights underscore the importance of maintaining prudent financial management practices. Manufacturing firms should keep leverage levels low to minimize interest expenses and financial risk. Additionally, increasing asset utilization efficiency is crucial, as evidenced by the positive impact of the activity ratio

on profitability. Firms can achieve this by investing in technology and processes that optimize production and inventory management.

It is imperative to acknowledge the limitations of this study. The research relied on panel data from a specific timeframe (2018-2023), and factors influencing profitability may evolve. Moreover, while this study covered a substantial proportion of the manufacturing population in Indonesia, further research could incorporate a broader sample or explore other economic sectors for a comprehensive analysis. In conclusion, this study sheds light on the critical aspects of financial performance and profitability in Indonesian manufacturing firms, particularly during the COVID-19 pandemic. The research provides valuable guidance for industry stakeholders and sets the stage for future research endeavors.

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