The effect of working capital management and capital structure on firm value through profitability as a mediating variable in manufacturing companies during the COVID-19 pandemic

Dinda Puspita Sari
Faculty of Economics and Business, Universitas Padjadjaran

Prima Yusi Sari
Faculty of Economics and Business, Universitas Padjadjaran

Adisti Gilang Cempaka
Faculty of Economics and Business, Universitas Padjadjaran

Abstract: *During the COVID-19 pandemic, many companies experienced a decline in performance due to market uncertainty, cash flow limitations, and disruptions to supply chains. Therefore, effective capital management to support company performance became crucial. This study aims to analyze the impact of working capital management (CCC) and capital structure (DER) on firm value (Tobin's Q) through profitability (ROA) among manufacturing companies listed on the Indonesia Stock Exchange during the Covid-19 pandemic from 2020 to 2022. The sample was selected using purposive sampling, resulting in a total of 118 companies. Data analysis includes descriptive statistics, normality tests, Robust Least Squares regression, coefficient of determination tests, partial tests, path analysis, and Sobel test. The results indicate that the independent variables CCC and DER do not have a direct significant effect on firm value during the Covid-19 pandemic. However, when profitability (ROA) is considered as a mediating variable, both CCC and DER show a negative impact on firm value. Furthermore, the study reveals a differing direct relationship between capital structure (DER) and firm value, where the relationship is positive.*

Keywords: *Capital Management; Cash Conversion Cycle; Capital Structure; Profitability; Firm Value*

Introduction

Firm value is an important indicator for investors in stock purchase decisions (Pratiwi et al., 2020). An increase in firm value originates from good performance, achieved through operational optimization, including the effective and efficient management of resources and finances (Roza & Mashuri, 2023). Therefore, before starting the operational period, management will formulate a strategic plan to optimize operations. However, despite well-prepared planning, there remain potential threats outside the company's control, such as the COVID-19 pandemic that emerged in 2020.

The COVID-19 pandemic had a significant impact on the global and national economies. The global economy contracted by 4.3% in 2020 (World Bank, 2021), while in Indonesia, social restrictions hampered economic activities, leading to a contraction of 5.32% in the second quarter of 2020 (BPS, 2020). Indonesia's manufacturing sector contracted by 6.19% in the second quarter of 2020 due to decreased domestic and international demand. During the pandemic, many factories ultimately reduced production capacity or even temporarily halted operations due to social restrictions. Consequently, operational performance drastically declined, and many manufacturing companies faced a drop in sales and profitability. Thus, in such conditions, research on aspects supporting operational continuity, such as working capital management and capital structure selection, is valuable. Decision-making regarding these two aspects outside of normal economic conditions poses a challenge for managers to determine the right decisions to maintain good company performance or minimize significant declines.

Working capital is the source of funding for a company's daily operational activities (Sugathadasa, 2018). Effective working capital allows the company to minimize the risk of cash shortages so the company can maintain production and sales activities without interruptions. The Cash Conversion Cycle (CCC) is one of the key tools used to assess operational efficiency and effectiveness in managing working capital (Chen et al., 2022). Through CCC, companies can monitor cash flow efficiency and determine if there is a cash deficit or surplus (Sugathadasa, 2018). Thus, companies can formulate appropriate strategies for operations, financing, and investment (Sugathadasa, 2018). Research on CCC remains varied. Some studies suggest a longer CCC is beneficial as it can increase firm value by ensuring smooth production and improving liquidity ratios, while other studies suggest a shorter CCC is better as it can enhance profitability by reducing costs (Dash et al., 2023).

Aside from working capital management, capital structure, which reflects the proportion of long-term debt and equity, is also crucial in influencing firm value. The use of debt is generally cheaper than equity because interest on debt provides tax benefits (Hanafi, 2016). According to the trade-off theory, if the capital structure reaches an optimal level, further increases in debt could reduce firm value (Hastutik et al., 2022). High leverage levels can indeed enhance returns but also increase risk (Talundima & Kelen, 2022). Wulandari et al. (2023) found that during the pandemic, the Debt-to-Equity Ratio (DER) had a significant negative impact on firm value, with 8 out of 10 food and beverage companies in the sample experiencing an average debt increase of 24%, even reaching 310%. This is risky because uncertain cash flow could hinder the company's ability to pay off debt and increase bankruptcy risk. However, according to Santosa et al. (2022) studies conducted during normal economic periods, high debt does not always have a negative impact if the company can achieve high profitability, so profitability can serve as a mitigating factor in maintaining firm value.

Literature review and hypothesis development

Firm value

Firm value is a critical measure reflecting investors' perceptions and expectations regarding a company's performance, typically demonstrated through its stock price, as discussed by Dewantari et al. (2019). A high stock price signifies a high firm value, thereby contributing significantly to enhancing shareholder welfare, which is a fundamental objective for most companies, according to Ningrum et al. (2023) and Rutin et al. (2019). This situation often attracts both investors and creditors, as companies that exhibit high value are perceived as having robust performance and promising future prospects, a sentiment echoed by Sembiring & Trisnawati (2019) and Sutama & Lisa (2018). Thus, firm value serves as a crucial indicator for stakeholders, providing insights into the company's current and future standing.

The importance of firm value cannot be overstated as it plays a pivotal role in strategic decision-making and stakeholder assurance. Numerous factors can influence a company's value, spanning both internal and external dimensions. Internally, elements such as capital structure, profitability, and liquidity are major determinants. Companies that can effectively manage their resources and optimize their operational efficiencies tend to see an increase in their firm value. Meanwhile, external factors include macroeconomic variables such as interest rates, economic growth rates, and market conditions, which can also significantly impact firm value, as highlighted by Pasaribu et al. (2019) and Saputri & Giovanni (2021).

Moreover, firm value is not only crucial from a financial perspective but also serves as a measure of stakeholder trust and confidence in the company's strategic direction and governance practices. High firm value can lead to broader market opportunities, increased competitive advantage, and enhanced corporate reputation. As such, companies strive to consistently improve their firm value by innovating, maintaining strong financial health, and adapting to changing market conditions.

Working capital management

In their book, Gitman & Zutter (2015) they define working capital as all current assets that continuously cycle through daily business activities, transforming from one form to another—starting as cash, moving to inventory, then becoming accounts receivable, and finally returning to cash. Effective working capital planning is a critical decision for a business because it relates to funding for short-term needs. With sufficient working capital, a company will not face funding constraints and can operate as economically as possible (Sukmalana, 2008).

The Cash Conversion Cycle (CCC) is an essential metric for assessing the efficiency and effectiveness of operations in managing working capital (Chen et al., 2022). Companies often use the CCC as a tool to measure working capital management, as it helps businesses estimate the time needed from the initial cash outlay for purchasing raw materials until cash is received from product sales within operating activities (Asman et al., 2022; Linh & Mohanlingam, 2018). In other words, the CCC can assist companies in forecasting cash inflows, enabling them to determine the adequate amount of cash to support daily operations, pay short-term liabilities, and avoid additional costs due to ineffective management of current assets.

A shorter CCC indicates that a company can handle inventory more quickly, collect receivables efficiently, and delay or slow down cash payments to suppliers. This cash availability can help the company optimize working capital, ultimately enhancing performance through more effective and efficient operational activities (Pratiwi et al., 2020; Winata et al., 2023; Yulandreano et al., 2020). A shorter CCC allows the company to avoid additional costs associated with warehousing expenses, uncollected receivables, or penalties for delayed debt payments, reducing the cost of capital as a benefit of efficient cash usage and increasing company revenue (Yulandreano et al., 2020). Consequently, the performance improvement resulting from an optimized CCC will increase investor and creditor

confidence in the company's prospects, thereby enhancing firm value.

H1: Cash Conversion Cycle (CCC) negatively affects firm value.
H3: Cash Conversion Cycle (CCC) negatively affects profitability.
H6: Profitability mediates the relationship between the Cash Conversion Cycle (CCC) and firm value.

Capital structure

According to Talundima & Kelen (2022), capital structure is the ratio between the total amount of equity and debt used to fund the company. Managing capital structure is crucial for companies to create an optimal combination that maximizes the company's stock price (Sukmalana, 2008). An optimal capital structure balances risk and returns in an ideal way, which occurs when the tax savings gained are equal to the additional bankruptcy costs (Hanafi, 2016; Hastutik et al., 2022; Umdiana & Nurjanah, 2020).

The Trade-off Theory explains that the cost of capital from debt financing is cheaper than the cost of equity because the interest on debt can act as a tax shield, whereas dividends, as the cost of equity, are not tax-deductible. Therefore, managers tend to use debt financing under the premise that the higher the debt, the greater the tax savings (Hanafi, 2016). As long as the benefits received exceed the costs incurred, an increase in debt is acceptable. Conversely, further debt is not advisable if the associated costs outweigh the benefits. When a company's debt level rises within its capital structure, it creates a domino effect on company risk, primarily through the risk of bankruptcy.

Debt usage above the optimal level will increase bankruptcy risk due to the high cost of capital, ultimately reducing firm value (Ningrum et al., 2023). This is because the increasing debt repayment costs or interest expenses result in reduced profitability and elevate bankruptcy risk (Arifin, 2021). Therefore, understanding the optimal capital structure is essential, as achieving this level allows a company to invest more in productive assets, thereby increasing profitability. With solid profitability, the public responds positively, which, in turn, raises the company's value. Santosa et al. (2022) explain that with profitability acting as a mediating factor, capital structure can have a positive impact on firm value. As capital structure risk increases, companies strive to maintain their value by achieving high profitability.

H2: Capital structure negatively affects firm value.
H4: Capital structure negatively affects profitability.
H7: Profitability mediates the relationship between capital structure and firm value.

Profitability

In the research conducted by Lubis (2017), as cited in Wulandari et al. (2023), it is emphasized that firm value can be influenced by a variety of factors stemming from both internal and external sources. Among these, profitability stands out as a significant internal determinant. Profitability represents a company's capacity to generate income within a specific timeframe, as highlighted by Winata et al. (2023). Investors generally favor firms with high and stable earnings since these profits signify a robust ability to generate earnings, which in turn enhances investor confidence regarding the company's future viability and growth prospects, according to Wulandari et al. (2023).

Furthermore, Irawan et al. (2022), in their contribution to Wulandari et al. (2023), assert that a company becomes more attractive to investors when it is well-managed, resulting in high and stable returns. This attractiveness is crucial as it directly correlates with the firm's value—the greater the profitability, the more appealing the company becomes to investors. This, in turn, boosts investment and ultimately enhances the firm's value, as supported by the findings of Rahmantika & Juliarto (2020) and Yulandreano et al. (2020).

Additionally, external factors such as market trends, economic conditions, and regulatory changes can also significantly impact a firm's value. Market trends can signal shifts in consumer preferences or technological advancements that a firm might leverage to enhance its profitability. Economic conditions, including inflation rates, interest rates, and economic growth, can affect consumer spending and investment returns, thereby influencing firm value. Regulatory changes might impose new compliance costs or open up new markets, which can also impact the firm's profitability and attractiveness to investors.

Ultimately, a comprehensive understanding of both internal and external influences on profitability and firm value can help companies and investors make informed decisions to maximize growth and investment returns. This holistic approach ensures that companies are not only internally efficient but also strategically aligned with external market dynamics, leading to sustained growth and increased firm value over time.

H5: Profitability has a positive effect on firm value

Research Method

Population and sample

The population examined in this study includes companies from the manufacturing sector that are publicly listed on the Indonesia Stock Exchange (IDX) over the period from 2020 to 2022. The researchers employed purposive sampling techniques, a non-probability sampling method where the sample is selected based on specific characteristics or criteria considered essential for the research. These criteria ensure that the selected companies adequately represent the broader manufacturing sector and that they align with the study's objectives. Ultimately, this rigorous selection process resulted in a total sample size of 118 manufacturing companies, ensuring a robust basis for the analysis and conclusions drawn from this study. A summary of the sample selection is presented in Table 1.

Table 1. Sample selection

Criteria	Total
Number of manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2022	186
Manufacturing sector companies that did not actively trade their shares on the Indonesia Stock Exchange (IDX) from 2020 to 2022	(23)
Manufacturing companies that did not continuously issue audited annual reports from 2020 to 2022	(21)
Manufacturing sector companies that prepare annual reports in currencies other than Rupiah	(24)
Manufacturing sector companies that did not provide complete information related to variable-forming components	(0)
Total manufacturing sector companies meeting the criteria	118
Total Sample × 3 (research period)	354

Variable definition and operationalization

This research project carefully examines the relationships between several types of variables, categorizing them into three distinct groups. Firstly, the independent variables include Working Capital Management and Capital Structure, which serve as the foundational elements influencing other factors in the study. Secondly, there is a mediating variable, Profitability, which acts as an intermediary, potentially altering the impact of the independent variables on the final outcome. Lastly, the dependent variable is Firm Value, which reflects the overall success and market perception of the company. Each of these variables is represented by specific indicators that are meticulously chosen to provide a comprehensive and nuanced understanding of the dynamics at play.

Table 2. Variables operationalization

Variables	Indicator
Working Capital Management (X1)	CCC = AAI + AAR – AAP Where: AAI = Average Age of Inventory AAR = Average Age of Receivable AAP = Average Age of Payment
Capital Structure (X2)	$DER = \frac{Total\ Liability}{Total\ Equity}$
Firm Value (Y)	$Tobin's\ Q\ Ratio = \frac{MVS + TL}{TA}$ Where: MVS (Market Value of Stock)= closing price* x outstanding common stock *Closing price = closing price d+10 workday after financial reporting date TL = Total Liabilities TA = Total Assets
Profitability (M)	$ROA = \frac{Earnings\ available\ for\ common\ stockholders}{Total\ Assets}$

Data Analysis Technique

In this research, a comprehensive approach is taken to analyze the data using robust least squares regression. This technique allows us to effectively determine the correlation and significance of each variable involved in our study. The primary aim of this research is to explore the mediating effect of profitability on the relationship between working capital management, capital structure, and firm value. To achieve this, the study is structured around two core equations, each designed to elucidate different aspects of the relationship:

1. ROA $= \alpha + \beta 1CCC + \beta 2DER + \epsilon$
2. TOBINSQ $= \alpha + \beta 1CCC + \beta 2DER + \beta 3ROA + \epsilon$

By integrating profitability (as measured by ROA) into the analysis of firm value (as measured by Tobin's Q), this study seeks to provide a nuanced understanding of how working capital management and capital structure drive firm performance. The robust least squares regression methodology ensures the reliability and validity of our findings, minimizing the influence of outliers or anomalies in the data.

Result

Direct effect analysis

This regression model provides three estimation options. The selection will be made by choosing the best model (Ernawati & Fikri, 2024; Kusumaputra & Astuty, 2020). Table 3 presents the analysis results for each estimation for each substructure. Based on Table 3, S-estimation can be chosen for Substructure I and M-Estimation for Substructure II. These two estimations are selected because they demonstrate the best estimation models. The regression results yield the following equations:

Table 3. Comparison of R-Squared for Each Estimation

	Substructure I	Substructure II
M-Estimation	0.011568	0.057054
S-Estimation	0.134279	0.036081
MM-Estimation	0.114049	0.021715

According to Table 4, the Adjusted R-squared value for substructure I is 0.134. This indicates that the independent variables CCC and DER account for 13.4% of the variation in ROA. The remaining 86.6% (e1) is attributed to other variables not included in the research model. In contrast, substructure II has an Adjusted R-squared of 0.057. This signifies that the independent variables CCC and DER, along with the mediating variable ROA, only explain 5.7% of the variation in the dependent variable Tobin's Q. The remaining 94.3% (e2) is due to variables not addressed by the regression model.

Table 4. Results of the Coefficient of Determination Test

Model	*R-Square*	Adj. R-squared
Substructural I	0.134	0.129
Substructural II	0.057	0.049

Analyzing the data provided in Table 5, it becomes clear that while direct effects, particularly the changes in Cash Conversion Cycle (CCC) and Debt-to-Equity Ratio (DER), do not have a notable impact on the overall company value, they do significantly influence profitability in a negative way. Specifically, an increase in either the CCC period or the debt level corresponds to a decline in the company's profitability. This highlights the importance of managing these factors to ensure financial health and sustainable growth. Interestingly, profitability itself shows a significant positive influence on company value. This implies that while an increase in the CCC period doesn't directly boost company value, improved profitability does contribute positively to it. Thus, effective management and optimization of operational efficiencies can lead to enhanced profitability, ultimately benefiting the company's overall valuation.

Table 5. Results of t-Test

Model	z statitic	z table	α	Prob.	Conclusion on hypothesis
X1 → M	-2.19	-1.65	0.05	0.0281	Ha3 accepted
X2 → M	-37.35	-1.65	0.05	0.0000	Ha4 accepted
X1 → Y	-1.02	-1.65	0.05	0.3079	Ha1 rejected
X2 → Y	0.43	1.65	0.05	0.6665	Ha2 rejected
M → Y	8.44	1.65	0.05	0.0000	Ha5 accepted

Mediating effect analysis

According to the results of the Sobel test displayed in Table 6, the p-values for the effects of the Cash Conversion Cycle (CCC) and Debt Equity Ratio (DER) on Tobin's Q, mediated through Return on Assets (ROA) are less than 0.05. Additionally, the t-statistic is negative. These findings lead to the acceptance of the alternate hypotheses Ha6 and Ha7. This indicates that profitability serves as a negative mediator in the relationship between working capital management and capital structure concerning firm value. In simpler terms, as profitability intervenes in this relationship, it results in a decrease in firm value when considering the effects of working capital management and capital structure. The study highlights the critical role profitability plays in determining how efficiently capital is allocated and utilized within a firm, ultimately impacting its overall value. This finding is significant for financial strategists who aim to optimize firm operations for enhanced value, emphasizing that merely managing capital and structuring debt isn't sufficient; its impact on profitability must also be considered.

Table 6. Results of Sobel Test

Model	Coefficient a	SEa	Coefficient b	SEb	Test statistic	*p-values*
	(X1 → M)		(M → Y)			
X1 → M → Y	-0.0000712	0.0000324	3.152647	0.373715	-3.100103	0.001935
X2 → M → Y	-0.020419	0.000547	3.152647	0.373715	-8.226002	0.000000

Discussion

The influence of the cash conversion cycle on firm value

The findings from the test results reveal that alterations in the Cash Conversion Cycle (CCC) do not significantly impact a firm's value. Despite the theoretical understanding that the CCC is crucial in managing a company's working capital and operational efficiency, the empirical evidence suggests otherwise. Investors appear to prioritize other metrics, particularly those directly linked to profitability and overall financial performance, such as sales and profit margins. This observation aligns with the conclusions drawn by Putra & Ugut (2021) and Setyawan (2021), who emphasized that investors generally concentrate on financial indicators that reflect profitability rather than the efficiency of working capital.

Furthermore, the interpretation of the CCC period during the pandemic might be distorted due to the substantial impairment loss allowances that companies have reported in their inventories and receivables. Such allowances, when factored into calculations, could artificially enhance the perceived value of a firm; however, this uplift does not genuinely depict an advantageous scenario for the company. The pandemic introduced unique economic challenges that necessitated a recalibration of how working capital metrics like the CCC are evaluated in the context of firm valuation. Hence, while the CCC remains a fundamental component of financial analysis, its relative importance may have been temporarily overshadowed by broader economic pressures and the heightened focus on maintaining profitability amid turbulent market conditions.

In summary, while traditional financial theory underscores the importance of the CCC in value assessment and operational management, current market dynamics and investor priorities suggest a shift towards profitability indicators. This shift could be reflective of a broader trend where immediate financial performance metrics overshadow the long-term benefits of efficient working capital management, particularly in extraordinary economic circumstances such as those experienced during the pandemic.

The influence of capital structure on firm value

The capital structure is often debated in financial literature, with its impact on firm value being a central theme. Recent findings suggest that capital structure does not significantly influence firm value. This conclusion is supported by the work of Irawan & Kusuma (2019), Prasetia et al. (2014), and Veny et al. (2022), who observed a positive relationship between capital structure and firm value, yet deemed the effect statistically insignificant. The trade-off theory posits that a higher capital structure might lower the cost of capital. Nevertheless, other elements, such as market conditions, management efficiency, and external economic factors, might play a more significant role in shaping investors' perceptions of a firm's value.

The COVID-19 pandemic dramatically impacted global markets, creating unforeseen challenges for companies worldwide. Many organizations encountered supply chain disruptions and sales declines, as noted by the OECD (2020). These challenges necessitated acquiring additional capital to maintain operations amidst diminishing resources. In this scenario, the choice of liabilities as a form of capital became a preferred strategy. Utilizing liabilities helped companies reduce operational costs during the crisis, aligning with strategic financial management practices.

An increase in the debt-equity ratio (DER) can be interpreted as a signal of creditors'

confidence in a firm's future prospects, according to Utomo & Christy (2017). However, this increase does not automatically encourage investors to purchase more shares. A continuous rise in DER beyond the optimal threshold heightens the risk of default due to escalating interest expenses, potentially jeopardizing shareholder value. Consequently, investors remain wary of firms' strategies to fulfill their obligations during turbulent times such as the pandemic, as emphasized by both Utomo & Christy (2017) and Veny et al. (2022).

In conclusion, while capital structure strategies like increasing DER can offer short-term financial relief, stakeholders must carefully consider the long-term implications of such strategies on firm stability and investor confidence. The pandemic has underscored the necessity for a balanced approach, combining prudent financial management with strategic foresight to navigate challenges effectively. The evolving landscape invites further research to explore the nuanced dynamics between capital structure decisions and their broader impact on firm value in post-pandemic economies.

The influence of Cash Conversion Cycle on profitability

The Cash Conversion Cycle (CCC) is a crucial metric that significantly impacts a company's profitability. Essentially, the CCC measures the time it takes for a company to convert its investments in inventory and other resources into cash flows from sales. A longer CCC indicates that a company's cash is tied up in its operational cycle for a longer period, which tends to result in lower profitability. This relationship is supported by the research of Asman et al. (2022) and Sugathadasa (2018), who assert that a shorter CCC reflects more effective working capital management, thereby enhancing the company's profitability. Efficient cash turnover enables businesses to minimize additional expenses such as storage costs, bad debt losses, and late payment penalties.

In contrast, inefficient management of working capital can lead to extended CCC periods. This often occurs when a company allows excessive inventory accumulation or fails to collect receivables promptly. Consequently, cash remains tied up in non-liquid assets, which can severely impact profitability. Without sufficient liquid assets, a company may struggle to finance daily operations or seize new investment opportunities. Sugathadasa (2018) further elaborates on this inefficiency, noting that it diminishes cash flow and earnings potential because the cash tied up does not quickly convert into revenue. Additionally, as Dash et al. (2023) argue, a prolonged CCC typically signals inventory pile-ups and challenges in cash collection from customers, which can lead to increased storage costs and the risk of bad debt losses, both of which further erode profitability.

Furthermore, companies with a prolonged CCC may face liquidity challenges, impacting their ability to meet short-term obligations. Maintaining an optimal CCC is essential for sustaining operational efficiency and profitability. It involves balancing the speed of inventory turnover, the prompt collection of receivables, and the strategic management of payables to ensure that the company maximizes its cash flow and minimizes its costs. Businesses striving for high profitability must prioritize improving their CCC by streamlining operations, enhancing inventory management, and optimizing their credit policies. This strategic approach not only facilitates better financial health but also positions the company for long-term success and growth in a competitive marketplace.

The influence of capital structure on profitability

The study's findings indicate that the debt-equity ratio (DER) significantly and negatively impacts profitability. When a company increases its reliance on debt, it encounters higher interest expenses, thereby diminishing its profitability (Gitman & Zutter, 2015). This conclusion is corroborated by Puspita & Siswanti (2021), who assert that the capital structure, specifically measured by DER, plays a crucial role in influencing profitability. The rationale behind this is that increased debt leads to a higher interest burden, subsequently reducing net profits. Similarly, Arifin (2021) highlights that an uptick in debt without a concurrent rise in equity exerts additional pressure on profitability due to hefty fixed costs, including interest and other debt-related obligations.

This finding also supports the trade-off theory, which suggests that while debt can offer tax advantages, surpassing an optimal debt level can heighten the risk of bankruptcy as the cost of interest negates these tax benefits. In the current climate of high market volatility, exacerbated by the pandemic, the strategy of accumulating debt is particularly precarious. With sales declining, the increase in debt correlates with further reductions in profitability, making it imperative for companies to consider the delicate balance between debt and equity.

The pandemic has forced many businesses to reassess their financial strategies, focusing particularly on maintaining efficient capital structures. In times of economic downturn, securing financial stability through prudent management of debt levels becomes critical for survival. Companies are encouraged to navigate these challenges by optimizing their financial practices, potentially exploring alternative sources of funding, and strengthening their equity

base to mitigate the adverse effects on profitability.

The influence of profitability on firm value

The analysis results indicate that profitability significantly enhances firm value, implying that higher profitability boosts the company's market valuation. Profitability is a measure of a company's efficiency in generating profits through asset utilization (Romadhani et al., 2020). As explained by Ehrhardt & Brigham (2009) in Romadhani et al. (2020), profitability is influenced not only by a company's core operations but also by optimal management of liquidity, assets, and debt. Consequently, companies with high profitability are regarded as having effective management, which increases investor confidence and enhances firm value (Inayah, 2022).

This observation aligns with Agency Theory, which proposes that effective management enhances profitability and maximizes shareholder interests. When management can significantly improve earnings, it reflects their ability to meet shareholder expectations, thereby boosting investor confidence and contributing to the growth of firm value. This result is consistent with studies by Saputra & Kuntadi (2024) and Wulandari et al. (2023), which suggest that high profitability attracts investors, increases the firm value and indicates a positive business outlook. Profitability is pivotal in drawing investor interest and boosting firm value.

The extent to which profitability influences firm value can vary depending on several factors, such as industry type, market conditions, and the overall economic environment. Companies operating in highly competitive markets might face challenges in maintaining profitability, which could affect their valuation. Additionally, external economic factors like inflation, interest rates, and global economic trends can also impact how profitability translates into firm value. Therefore, while profitability generally enhances firm value, its impact might be moderated by these external and internal factors, making it crucial for companies to adopt a holistic approach in managing profitability and firm value.

The influence of cash conversion cycle on firm value through profitability

The research findings reveal a complete mediation by profitability in the relationship between the Cash Conversion Cycle (CCC) and firm value, characterized by a negative mediation direction. This negative mediation suggests that an elongated CCC period exacerbates the negative impact on profitability, consequently diminishing firm value. A protracted CCC increases operational costs, including warehousing expenses and bad debt losses, while indicating sluggish product sales, all of which detract from profitability and, ultimately, firm value. Enhancing operational efficiency through more rapid CCC management can, therefore, bolster both profitability and firm value.

These findings corroborate the research of Yulandreano et al. (2020), who also identified profitability as a mediating factor between CCC and firm value, albeit with a positive mediation effect. Their study concluded that efficient CCC management not only accelerates inventory turnover and receivable collections but also enhances profitability and financial performance. The disparity in mediation direction could be attributed to specific conditions, such as the pandemic, where an extended CCC notably exacerbates profitability declines due to heightened market uncertainty and supply chain disruptions.

Moreover, the nuanced understanding of CCC's impact during differing economic climates underscores the importance of adaptable financial strategies. In stable economic conditions, firms can leverage efficient CCC management to enhance operational fluidity, reduce carrying costs, and accelerate cash flows, thereby improving overall financial health. Conversely, in times of economic turmoil, firms must remain vigilant of potential elongation in CCC, which can erode profitability and firm value more significantly. Thus, strategic flexibility in CCC management is crucial in navigating both prosperous and challenging economic environments.

The influence of capital structure on firm value through profitability

The research findings emphasize that profitability fully mediates the relationship between capital structure and firm value, resulting in a total negative effect. The observed negative t-statistic highlights that an increase in debt negatively impacts profitability, thereby diminishing firm value. This outcome aligns with the findings of Santosa et al. (2022), where profitability also serves as a mediator in this relationship. However, Santosa et al. (2022) discovered that debt additions could enhance firm value if profitability remains unchanged.

In the current study, the direct effect of capital structure on firm value is identified as positive but statistically insignificant, implying that companies may perceive debt increases as a cost-efficiency strategy, particularly during the pandemic. While the addition of debt may signal creditors' confidence in the company's future prospects, this confidence alone does not suffice to attract increased investor interest. When

profitability is considered as a mediating variable, a significant negative effect emerges, reinforcing the conclusions of Santosa et al. (2022). Nonetheless, within the context of the pandemic, firms face substantial difficulties in preserving profitability and increases in unproductive debt merely escalate interest obligations, thereby diminishing profitability and, ultimately, firm value.

Moreover, this study suggests that during economic downturns, such as the pandemic, firms must navigate the delicate balance between capital structure and profitability with caution. Emphasizing operational efficiency and cost reductions, rather than relying solely on debt financing, could potentially safeguard profitability. Additionally, strategic initiatives focused on sustainable growth and profitability are critical to maintaining and enhancing firm value in the volatile economic climate. The impact of external economic conditions on firm strategies indicates the necessity for adaptive financial planning and the importance of robust financial management practices.

Conclusion

This research aimed to explore the influence of working capital management and capital structure on profitability and firm value during the turbulent period of the COVID-19 pandemic. By delving into data from 118 manufacturing companies listed on the Indonesia Stock Exchange (IDX) between 2020 to 2022, the study concluded that alterations in the Cash Conversion Cycle (CCC) period or increments in debt within the capital structure do not directly impact Firm Value. This absence of direct effect is attributed to investors prioritizing immediate financial metrics, particularly profitability.

The findings reveal that profitability serves as a critical mediating factor. An extended CCC period tends to diminish company profitability, subsequently leading to a decline in firm value, as inefficient management of working capital escalates associated costs. This inefficiency is perceived negatively by investors, who are acutely aware of the expense burden it brings.

On the other hand, a heightened level of debt in the capital structure also exhibits a considerable adverse effect on profitability. An increase in debt levels appears to erode profitability, thus undermining investor confidence in the firm's value. This reduction in confidence is primarily driven by concerns regarding the company's capability to effectively manage its interest obligations amidst the pervasive market uncertainties brought about by the COVID-19 pandemic.

Overall, the study underscores the necessity for firms to maintain a balanced approach in managing working capital and structuring debt to safeguard profitability and sustain firm value, particularly during periods of economic instability. By focusing on optimizing these financial strategies, companies can better position themselves to navigate and withstand future economic disruptions.

Research Limitation

This research encompasses certain limitations in both temporal and sample scope. Specifically, it focuses exclusively on the period of the COVID-19 pandemic, spanning from 2020 to 2022, and is confined to the manufacturing sector. These constraints may restrict the applicability of the results to other industrial sectors. Moreover, the study singularly examines profitability as a mediating variable. Other potential mediators, such as liabilities or solvency, could be explored to enrich the understanding of the relationship between the Cash Conversion Cycle (CCC) and Debt-Equity Ratio (DER) on Firm Value.

Additionally, the methodology for measuring the CCC in this study employed net inventory and receivables data as depicted in the financial position statement. Future inquiries might benefit from utilizing gross figures to provide a clearer picture of the underlying working capital dynamics. Expanding this research could involve a broader sectoral analysis, incorporating diverse industries beyond manufacturing to validate the generalizability of the findings. Furthermore, an extended analysis period could offer deeper insights into the long-term impacts of CCC and DER on firm value, thus enhancing the robustness of the conclusions drawn from this research. By considering additional variables and broader data sets, future studies might provide a more comprehensive view of the financial mechanisms at play, offering valuable insights for decision-makers and stakeholders in various sectors.

Suggestion

The authors, building on the results of the study and acknowledging its limitations, propose several avenues for future research. Firstly, they suggest extending the study period to gain a comprehensive understanding of conditions before, during, and after the COVID-19 pandemic. This temporal expansion could reveal deeper insights into the pandemic's impact.

Secondly, they recommend exploring additional sectors such as services, trade, or technology. This exploration aims to determine whether the study's findings hold true across different industries or if notable differences exist.

Thirdly, they propose examining other variables like liabilities and solvency as potential mediators or moderators. This examination could uncover whether these factors significantly alter

or enhance the relationship between working capital management, capital structure, and firm value.

Lastly, they suggest calculating the cash conversion cycle (CCC) using gross inventory or receivables values. This method may provide a more precise assessment of the company's working capital condition, potentially leading to more accurate conclusions and strategies for improving firm financial health.

References

Arifin, A. H. (2021). Pengaruh Struktur Modal terhadap Profitabilitas pada Perusahaan Farmasi di Bursa Efek Indonesia. *Journal of Management & Business*, *4*(2), 487–495. https://doi.org/10.37531/sejaman.v5i1.1587

Asman, F. N., Fernandez, D., Jamaludin, N. A., Omar Zaki, H., & Ghazali, A. W. (2022). Cash Conversion Cycle and Firm's Performance. *International Journal of Academic Research in Business and Social Sciences*, *12*(11), Pages 2682-2692. https://doi.org/10.6007/IJARBSS/v12-i11/15276

BPS. (2020, August 5). *Ekonomi Indonesia Triwulan II 2020 Turun 5,32 Persen—Badan Pusat Statistik Indonesia*. https://www.bps.go.id/id/pressrelease/2020/08/05/1737/ekonomi-indonesia-triwulan-ii-2020-turun-5-32-persen.html

Chen, C. H., Choy, S. K., & Tan, Y. (2022). The cash conversion cycle spread: International evidence. *Journal of Banking & Finance*, *140*, 106517. https://doi.org/10.1016/j.jbankfin.2022.106517

Dash, S. R., Sethi, M., & Swain, R. K. (2023). Financial condition, working capital policy and profitability: Evidence from Indian companies. *Journal of Indian Business Research*, *15*(3), 318–355. https://doi.org/10.1108/JIBR-12-2020-0378

Dewantari, N. L. S., Cipta, W., & Susila, G. P. A. J. (2019). Pengaruh Ukuran Perusahaan Dan Leverage Serta Profitabilitas Terhadap Nilai Perusahaan Pada Perusahaan Food And Beverages Di Bei. *Prospek: Jurnal Manajemen Dan Bisnis*, *1*(2), 74. https://doi.org/10.23887/pjmb.v1i2.23157

Ernawati, N., & Fikri, R. S. (2024). Faktor-Faktor Yang Mempengaruhi Financial Distress Pada Perusahaan Transfortasi Yang Terdaftar Di Bursa Efek Indonesia (BEI) Tahun 2016-2022. *Journal of Economic, Bussines and Accounting (COSTING)*, *7*(4), 7515–7528. https://doi.org/10.31539/costing.v7i4.8266

Gitman, L. J., & Zutter, C. J. (2015). *Principles of managerial finance* (14. ed., global ed). Pearson.

Hanafi, M. M. (2016). *Manajemen Keuangan Internasional* (3rd ed.). BPFE-Yogyakarta.

Hastutik, S., Soetjipto, B. E., Wadoyo, C., & Winarno, A. (2022). Trade-Off and Pecking Order Theory of Capital Structure in Indonesia: Systematic Literature Review. *Journal of Positive School Psychology*, *6*(5), 5585–5597. ttps://journalppw.com/index.php/jpsp/article/view/7624

Inayah, Z. (2022). Analisis Struktur Modal, Profitabilitas Dan Kinerja Keuangan Terhadap Nilai Perusahaan (Penelitian Literature Review Manajemen Keuangan). *Jurnal Manajemen Pendidikan Dan Ilmu Sosial*, *3*(2), 788–795. https://doi.org/10.38035/jmpis.v3i2.1141

Irawan, D., & Kusuma, N. (2019). Pengaruh Struktur Modal Dan Ukuran Perusahaan Terhadap Nilai Perusahaan. *Jurnal AKTUAL*, *17*(1), 66–81. https://doi.org/10.47232/aktual.v17i1.34

Kusumaputra, H. R., & Astuty, P. (2020). Pengaruh Good Corporate Governance Terhadap Discretionary Accrual dengan Moderasi Kualitas Laba (Studi pada Perusahaan Manufaktur di BEI Periode 2013-2017). *Jurnal Ekonomi*, *22*(2), 147–164. https://doi.org/10.37721/je.v22i2.647

Linh, N. T. P., & Mohanlingam, S. (2018). The Effects of Cash Conversion Cycle on Profitability: An Insight into the Agriculture and Food Industries in Thailand. *Asian Journal of Business and Accounting*, *11*(1), 97–120. https://doi.org/10.22452/ajba.vol11no1.4

Ningrum, D. A. W., Faidah, F., & Rusdianto, H. (2023). Analisis Pengaruh Ukuran Perusahaan Dan Likuiditas Terhadap Nilai Perusahaan Melalui Struktur Modal Sebagai Variabel Intervening (Studi Pada Perusahaan Sektor Property & Real Estate Yang Terdaftar Di Bursa Efek Indonesia (Bei) Tahun 2018-2022). *Journal of Social and Economics Research*, *5*(2), 1914–1925. https://doi.org/10.54783/jser.v5i2.245

OECD. (2020). *Guidance on the transfer pricing implications of the COVID-19 pandemic* (OECD Policy Responses to Coronavirus (COVID-19)) [OECD Policy Responses to Coronavirus (COVID-19)]. https://doi.org/10.1787/731a59b0-en

Pasaribu, U. R., Nuryartono, N., & Andati, T. (2019). Pengaruh Faktor Internal Dan Eksternal Perusahaan Terhadap Nilai Perusahaan. *Jurnal Aplikasi Bisnis Dan Manajemen*. https://doi.org/10.17358/jabm.5.3.441

Prasetia, T. E., Tommy, P., & Saerang, I. S. (2014). Struktur Modal, Ukuran Perusahaan Dan Risiko Perusahaan Terhadap Nilai Perusahaan Otomotif Yang Terdaftar Di Bei.

Jurnal EMBA, *2*(2), 879–889. https://ejournal.unsrat.ac.id/index.php/emba/article/view/4443

Pratiwi, W. D., Sebrina, N., & Halmawati, H. (2020). Manajemen Aliran Kas Dan Dampaknya Terhadap Nilai Perusahaan. *Jurnal Eksplorasi Akuntansi*, *2*(1), 2142–2161. https://doi.org/10.24036/jea.v2i1.204

Puspita, E. A., & Siswanti, I. (2021). Effect Of Capital Structure And Liquidation On Firms Value With Profitability As Intervening Variables (Case Study On Property And Real Estate Companies Registered In Indonesia Stock Exchange 2014-2019). *Management Research Studies Journal*, *2*(1), 11–27. https://doi.org/10.56174/mrsj.v2i1.366

Putra, R. P., & Ugut, G. S. (2021). Pengaruh Siklus Konversi Kas Dan Kondisi Makroekonomi Terhadap Profitabilitas Dan Nilai Perusahaan Pada Industri Jasa Konstruksi Yang Terdaftar Di Bursa Efek Indonesia Periode 2015-2020. *Jmbi Unsrat (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi).*, *8*(2). https://doi.org/10.35794/jmbi.v8i3.35673

Rahmantika, E., & Juliarto, A. (2020). Siklus Konversi Kas, Profitabilitas Dan Nilai Perusahaan Pada Perusahaan Manufaktur Di Bei. *Diponegoro Journal of Accounting*, *9*(4), Article 4. https://ejournal3.undip.ac.id/index.php/accounting/article/view/29064

Romadhani, A., Saifi, M., & Firdausi Nuzula, N. (2020). Pengaruh Profitabilitas, Ukuran Perusahaan Dan Kebijakan Dividen Terhadap Nilai Perusahaan. *Profit*, *14*(2), 71–81. https://doi.org/10.21776/ub.profit.2020.014.02.9

Roza, F. D., & Mashuri, A. A. S. (2023). Pengaruh cash holding, foreign ownership, struktur modal, dan perputaran modal kerja terhadap nilai perusahaan. *Jurnal STEI Ekonomi*, *32*(2), 95–110. https://doi.org/10.36406/jemi.v32i02.1097

Rutin, R., Triyonowati, T., & Djawoto, D. (2019). Pengaruh Kinerja Keuangan Terhadap Nilai Perusahaan Dengan Kebijakan Dividen Sebagai Variabel Moderating. *Jurnal Riset Akuntansi & Perpajakan (JRAP)*, *6*(01). https://doi.org/10.35838/jrap.2019.006.01.10

Santosa, N. P., Atahau, A. D. R., & Martono, S. (2022). Pengaruh Struktur Modal Terhadap Nilai Perusahaan Dengan Profitabilitas Sebagai Variabel Mediasi. *Jurnal Riset Akuntansi Dan Keuangan*, *10*(2), 315–328. https://ejournal.upi.edu/index.php/JRAK/article/view/37971

Saputra, D. I., & Kuntadi, C. (2024). Faktor-Faktor Yang Mempengaruhi Nilai Perusahaan: Kualitas Audit, Pengungkapan Sukarela, Dan Profitabilitas. *Jurnal Nuansa : Publikasi Ilmu Manajemen dan Ekonomi Syariah*, *2*(2), 77–91. https://doi.org/10.61132/nuansa.v2i2.888

Saputri, C. K., & Giovanni, A. (2021). Pengaruh Profitabilitas, Pertumbuhan Perusahaan Dan Likuiditas Terhadap Nilai Perusahaan. *Competence : Journal of Management Studies*, *15*(1), 90–108. https://doi.org/10.21107/kompetensi.v15i1.10563

Sembiring, S., & Trisnawati, I. (2019). Faktor – Faktor Yang Mempengaruhi Nilai Perusahaan. *Jurnal Ilmiah Akuntansi dan Bisnis*, *21*(1), 173–184. https://doi.org/10.24843/jiab.2019.v14.i02.p06

Setyawan, B. (2021). Pengaruh Modal Kerja Dan Profitabilitas Terhadap Nilai Perusahaan. *Jurnal Bisnis Terapan*, *5*(1), 73–88. Https://Doi.Org/10.24123/jbt.v5i1.4093

Sugathadasa, D. (2018). The Relationship between Cash Conversion Cycle and Firm Profitability: Special Reference to theManufacturing Companies in Colombo Stock Exchange. *Journal of Economics and Finance*, *9*(6), 38–47. https://doi.org/10.9790/5933-0906023847

Sukmalana, S. (2008). *Manajemen Keuangan Kebijakan dan Keputusan untuk Pengendalian Keuangan Organisasi atau Bisnis* (1st ed.). Intermedia Personalia Utama.

Sutama, D. R., & Lisa, E. (2018). Pengaruh Leverage dan Profitabilitas Terhadap Nilai Perusahaan. *Jurnal Sains Manajemen & Akuntansi*, *X*(1), 21–39. https://ojs.stan-im.ac.id/index.php/JSMA/article/view/26

Talundima, C. A., & Kelen, L. H. S. (2022). Analisis Perbedaan Struktur Modal Perusahaaan Manufaktur Sebelum dan Selama Pandemi COVID-19. *Journal of Global Business and Management Review*, *4*(1), 15. https://doi.org/10.37253/jgbmr.v4i1.6690

Umdiana, N., & Nurjanah, C. (2020). Analisis Jalur Struktur Modal Dan Nilai Perusahaan Dengan Metode Trade Off Theory. *Jurnal Riset Akuntansi Terpadu*, *13*(1), 132. https://doi.org/10.35448/jrat.v13i1.7564

Utomo, N. A., & Christy, N. N. A. (2017). Pengaruh struktur modal, profotabilitas, ukuran perusahaan terhadap nilai perusahaan pada perusahaan LQ45 di BEI. *Strategi Pengembangan Sumber Daya Manusia Melalui Publikasi Jurnal Ilmiah Dalam Menyikapi Permenristekdikti RI No.20 Tahun 2017*. Seminar Nasional dan Call for Paper 2017, Hotel Grasia.

Veny, V., Angelene, D., & Junita, E. (2022). Analisis Faktor Fundamental Terhadap Harga Saham Perusahaan Sektor Ritel

Sebelum Dan Selama Pandemi Covid-19. *Akurasi : Jurnal Studi Akuntansi Dan Keuangan*, *5*(2), 180–192. https://doi.org/10.29303/akurasi.v5i2.236

Winata, L. A., Angeline, P., Putri, V., & Meiden, C. (2023). Pengaruh Manajemen Modal Kerja Terhadap Profitabilitas Pada Perusahaan Manufaktur. *Makro, Jurnal Manajemen & Kewirausahaan*, *8*(1), 20–35. https://garuda.kemdikbud.go.id/documents/detail/3469079

World Bank. (2021). *Global Economy to Expand by 4% in 2021; Vaccine Deployment and Investment Key to Sustaining the Recovery*. https://www.worldbank.org/en/news/press-release/2021/01/05/global-economy-to-expand-by-4-percent-in-2021-vaccine-deployment-and-investment-key-to-sustaining-the-recovery

Wulandari, T., Pratiwi, L. N., Ruhana, N., & Pakpahan, R. (2023). Pengaruh Profitabilitas, Struktur Modal, dan Ukuran Perusahaan terhadap Nilai Perusahaan: Komparasi Sebelum dan Selama Pandemi Covid-19. *Journal of Applied Islamic Economics and Finance*, *3*(2), 425–435. https://doi.org/10.35313/jaief.v3i2.3851

Yulandreano, E., Atahau, A. D. R., & Sakti, I. M. (2020). Apakah Profitabilitas Memediasi Pengaruh Manajemen Modal Kerja terhadap Nilai Perusahaan? *AFRE (Accounting and Financial Review)*, *3*(2), 103–114. https://doi.org/10.26905/afr.v3i2.5452