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The influence of working capital on the profitability of food and beverage sector companies listed on the Indonesian stock exchange

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ABSTRACT
The processing industry sector, represented by the food and beverage subsector, is the driving sector of the Indonesian economy. Competition in Indonesia's food and beverage sector shows consistent performance, involving both small and large companies that dominate market activity and maintain a high sustainability index. This research aims to analyze how much-working capital influences profitability with a high sustainability index in 2022. The working capital variable is the difference between the company's current assets and liabilities. In contrast, the profitability variable is calculated through the ratio of net profit to sales the company obtains. From the population of 18 food and beverage companies with a high sustainability index on the Indonesia Stock Exchange, a sample of 3 consistently performing companies was obtained for the study period. The sample selection technique employed was purposive sampling. Following data testing and selecting the preferred model, the data received will be subjected to panel data regression. The results of this research analysis provide empirical evidence that the working capital policies implemented by companies can significantly influence the profitability (ROA, ROE, EAT, and GOP) of companies in the food and beverage sector. The research substantially contributes to food and beverage industry companies by optimizing liquidity and managing working capital to improve profitability. These results can also serve as guidance for upcoming researchers investigating the factors that influence the financial performance of companies in the food and beverage sector to enhance overall profitability.

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INTRODUCTION

The food and beverage industry is considered a key player in enhancing economic growth in Indonesia, as stated by the Ministry of Industry of the Republic of Indonesia. This sector has consistently shown positive development and performance. The changing lifestyle of urban communities in Indonesia, following market trends related to the consumption of

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convenient and health-improving food and beverages, contributes to the increased consumption in the industry (Lesnussa *et al.*, 2022). The growth of the food and beverage industry is primarily driven by new investments, increased purchasing power, and population growth in Indonesia, averaging 1.49% per year over the last decade, according to the Central Statistics Agency in 2018 (Ragimun and Widodo, 2019). Indonesia's growing demand for food and beverage supplies creates promising opportunities for this sector (Lesnussa *et al.*, 2022).

The manufacturing sector of the food and beverage industry in Indonesia processes raw materials from plantations, agriculture, and fisheries into value-added products. The food and beverage industry has contributed nearly 20% to the Gross Domestic Product (GDP) annually since 2010. This makes the sector a significant contributor to economic activities in Indonesia (Setiawan *et al.*, 2022), in recent years, the growth and investment value of this sector have continued to increase (Ragimun and Widodo, 2019).

Data from the Ministry of Finance of the Republic of Indonesia indicates that the Indonesia Indonesia's foodie industry experienced a 2experiencedrease from 2020 to 2021, reaching IDR 775.1 trillion. Food and beverage processing competes among small and large companies dominating the market, and many have high sustainability indexes. Based on the Katadata Corporate Sustainability Index report, several food and beverage companies listed on the Indonesia Stock Exchange (IDX) achieved high sustainability index scores in 2022. These companies include PT Diamond Food Indonesia Tbk (DMND) with a score of 63.29%, PT Indofood CBP Sukses Makmur Tbk (ICBP) with a score of 51.31%, and PT Mayora Indah Tbk (MYOR) with a score of 47%. The increasing and sustainable market trends in Indonesia's food and beverage industry encourage industry players to enhance their production.

Based on the annual financial reports of three food and beverage companies from 2020 to 2022, Table 1 reveals that, on average, total assets increased by 14.6%, total short-term liabilities increased by 14.5%, and working capital increased by 10.4%. The calculated averages indicate that these companies have been expanding. The increase can also be measured through operating capital, which is related to the company's profitability through net sales and net profit (Wardojo, Anggraeni and Sasongko, 2015).

The condition and policies of a company in production activities and sustainability can be illustrated through financial ratio analysis, aiming to analyze whether a company has allocated or used its resources effectively and efficiently (Wardojo, Anggraeni and Sasongko, 2015). An indicator that can assess how well a business manages its financial resources is through working capital analysis (Windaus, 2014). Managers must carefully consider operating capital when running a company (Thuvarakan, 2013).

In essence, a company's objective is to maximize profit. Achieving maximum profit can be pursued by increasing production volume or operational aspects. One crucial aspect of company operations and sustainability is the provision of working capital. Prudent management of operating capital is essential to avoid financing and managerial errors that may lead to disruptions in operations, both internally and commercially (Morshed, 2020).

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The management of a business's working capital is related to the management of current assets and current liabilities. Poor working capital management can undermine business growth and lead to company bankruptcy. Therefore, working capital must be effectively and efficiently managed to help a business achieve success and prosperity (C.R., Mapharing and Selinkie, 2018). Working capital management, along with investment and financing decisions, is highly significant, especially for financial managers aiming to optimize their company's value (Setianto and Pratiwi, 2019). According to Eldomiaty *et al.* (2023), there is an interrelation between the components of working capital and asset returns to ensure the effective and efficient structuring of working capital utilization. These components of operating capital are also closely related to the company's financial performance.

Research conducted by Temptime (2016) explains a positive relationship between working capital management and company profitability. Other research findings indicate that a significant impact on the profitability and liquidity of a company is demonstrated by the presence of operating capital (Nazir and Afza, 2009, as cited in Addae and Nyarko-Baasi, 2013). Balancing liquidity and business profitability can be achieved by optimizing working capital. Working capital needs to be optimized and balanced in terms of both its sources and amounts. If working capital is insufficient, it increases the risk of financial liquidity loss and disruptions to the business or company. Conversely, if the level of working capital is excessive, it raises liquidity costs, negatively impacting company profitability. Decisions regarding operating capital will affect the company's risk, profit, and stock prices (Horne and Wachowicz, 2008).

Table 1. Current assets, short-term liabilities, and net working capital of food and beverage sector companies listed on the IDX 2020–2022 (in millions of IDR)

Food and Beverage Sector Companies	2022				2021				2020			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
DMND												
Total Current Assets	3,964,288	4,107,531	3,770,397	4,275,936	3,504,216	3,604,768	3,615,433	3,965,274	3,678,371	3,667,477	3,854,747	3,584,233
Total Short-Term Liabilities	1,080,497	1,191,446	828,353	1,312,391	760,723	799,092	766,72	1,106,492	843,004	822,983	923,056	822,493
Working capital	2,883,791	2,916,085	2,942,044	2,963,545	2,743,493	2,805,676	1,848,713	2,858,782	2,835,367	2,844,494	2,931,691	2,761,740
ICBP												
Total Current Assets	37,489,495	29,413,77	29,355,259	31,070,36	23,424,352	24,094,438	23,323,69	33,997,63	19,751,04	21,195,939	19,405,22	20,716,22
Total Short TeShort-Termites	20,180,885	10,567,93	10,568,478	10,033,93	9,840,877	18,958,346	19,102,49	18,896,13	7,332,801	7,416,605	8,592,269	9,176,164
Working capital	17,308,610	18,845,84	18,786,781	21,036,43	13,583,475	5,136,092	4,221,192	15,101,50	12,418,24	13,779,334	10,812,95	11,540,05
MYOR												
Total Current Assets	15,068,901	15,043,39	15,338,064	14,772,62	14,154,455	13,289,614	13,260,98	12,969,78	12,933,08	11,784,720	12,297,34	12,838,72
Total Short-Term Liabilities	6,051,042	6,268,622	6,815,127	5,636,627	4,083,857	3,231,160	5,106,164	5,570,773	3,506,496	2,737,530	3,147,854	3,475,323
Working capital	9,017,859	8,774,772	8,522,937	9,135,996	10,070,598	10,058,454	8,154,824	7,399,010	9,426,591	9,047,190	9,149,494	

Source: Annual Company Financial Report 2020 - 2022 (reprocessed)

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Table 2. Percentage increase in current assets, short-term liabilities, and net working capital of food and beverage sector companies listed on the IDX 2020–2022

Sector Companies Food and Drink	2021-2022	2020-2021
DMND		
Total Current Assets	7%	10%
Total Short-Term Liabilities	18%	3%
Working capital	3%	3%
ICBP		
Total Current Assets	-8%	64%
Total Short-Term Liabilities	-46.8%	105.9%
Working capital	23.4%	30.8%
MYOR		
Total Current Assets	13.9%	1%
Total Short-Term Liabilities	1.1%	6%
Working capital	23.4%	-20.9%

Table 3. Net sales and net profit of food and beverage sector companies listed on the IDX 2020–2022 (in millions of IDR)

Food and Beverage Sector Companies	Net sales			Net profit		
	2022	2021	2020	2022	2021	2020
DMND	8,461,768	6,973,718	6,110,155	391,814	363,731	268,694
ICBP	64,797,516	56,803,733	46,641,048	6,065,286	8,530,199	7,421,643
MYOR	30,669,405	27,904,558	24,476,953	2,007,764	1,295,324	2,044,604

Table 4. ROA (return of assets), ROE (return of equity), EAT (earnings after tax), GOP (gross operating profit) of food and beverage sector companies listed on the IDX 2020–2022 IDX 2020–2022

Food and Beverage	2022				2021				2020			
Sector Companies	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
DMND												
ROA	1.40%	3.00%	4.37%	5.70%	0.66%	2.21%	3.61%	6.23%	1.23%	1.68%	2.91%	4.73%
ROE	1.75%	3.79%	5.21%	7.24%	0.79%	2.68%	4.33%	7.25%	1.51%	2.06%	3.62%	5.77%
EAT	89,179	197,987	276,159	391,814	37,071	128.110	210,923	363,731	67,983	92,397	165,027	268,694
GOP	411,528	867,877	1,302,069	1,780,350	321,159	749,487	1,060,926	1,476,592	357.193	598,481	859,617	1,319,205
ICBP												
ROA	2.11%	36.76%	70.03%	5.26%	2.45%	3.93%	5.82%	7.22%	5.01%	8.35%	4.47%	7.16%
ROE	4.50%	4.27%	7.90%	112.09%	5.02%	7.92%	11.81%	15.59%	7.33%	12.03%	9.57%	14.75%
EAT	2,576,300	2,424,037	4,420,740	6,065,286	2,620,772	4,244,767	6,241,138	8,530,199	2,111,080	3,629,078	4,564,782	7,421,643
GOP	5,876,171	10,402,051	15,986,181	21,792,286	5,871,869	10,432,836	15,531,913	20,277,240	4,182,728	8,330,876	12,329,392	17,224,375
MYOR												
ROA	1.42%	3.01%	4.94%	9.01%	4.03%	4.77%	4.98%	6.50%	4.86%	5.24%	8.35%	10.34%
ROE	2.68%	5.56%	9.32%	15.64%	7.01%	7.87%	9.06%	11.40%	8.73%	8.85%	14.67%	18.14%
EAT	312,667	666,196	1,112,198	2,007,764	849,491	963.116	1,002,691	1,295,324	946.912	961,687	1,586,234	2,044,604
GOP	1,652,188	2,983,057	4,746,739	6,839,423	2,174,750	3,592,809	5,086,304	6,922,983	1,656,951	3,379,290	5,290,800	7,299,122

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METHODS

This research utilizes secondary data, namely quarterly financial reports from three companies in the food and beverage sector listed on the Indonesia Stock Exchange (IDX) from 2020 to 2022. The research data can be accessed through the IDX website at https://www.idx.co.id/id. The data type in this study is panel data, consisting of three companies with financial reports spanning from 2020 to 2022.

The research methodology utilized in this study is purposive sampling, a deliberate approach to participant selection known as judgment sampling. Purposive sampling involves intentionally selecting participants based on specific qualities each individual possesses. This method is considered non-random and does not depend on a particular theoretical foundation or a predetermined participant count (Etikan, Musa, & Alkasim, 2016). This research is limited to three companies in the food and beverage sector (Food & Beverages or F&B) listed on the Indonesia Stock Exchange (IDX) with high sustainability index scores in 2022. The three companies analyzed in this study are PT Diamond Food Indonesia Tbk (DMND), PT Indofood CBP Sukses Makmur Tbk (ICBP), and PT Mayora Indah Tbk (MYOR).

Data analysis in this study employs the panel data regression model, which combines time series and cross-sectional data. Data analysis through the panel data regression model uses the EViews v12 program. The regression model selection approach includes the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The method for finding the best-fitting model according to criteria is conducted using the Chow test, Hausman test, and LM test. The selected model, in line with the criteria, is then used for classic assumption testing. Feasibility testing of the model, panel data regression analysis with the selected model, coefficient of determination (*Adj.* R^2), individual significance test, and and simultaneous impact significance test are performed ($t_{statistic}$ dan $F_{statistic}$, $\alpha = p = 0{,}05$).

The financial reports from 2020 to 2022 for companies in the food and beverage sector indicate an increasing trend in their working capital and profitability. However, the profitability of these companies demonstrates a fluctuating trend. Based on the explanation of the panel regression analysis model, the hypothesis for this study is as follows:
H1: Working Capital Management significantly influences the Profitability of Companies in the Food and Beverage Sector Listed on the Indonesia Stock Exchange.

RESULTS AND DISCUSSION

This research analyzes working capital related to the profitability of food and beverages (F&B) companies in Indonesia, which are listed on the IDX in 2020 - 2022 and have a high sustainability index score in 2022. The companies analyzed in this research are PT Diamond Food Indonesia Tbk (DMND), PT Indofood CBP Sukses Makmur Tbk (ICBP), and PT Mayora Indah Tbk (MYOR). These three companies represent high sustainability index scores in the upper, middle, and lower ranges. PT Diamond Food Indonesia Tbk (DMND) represents the upper range with a score of 63.29%, PT Indofood CBP Sukses Makmur Tbk

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(ICBP) represents the middle range with a score of 51.31%, and PT Mayora Indah Tbk (MYOR) represents the lower range with a score of 47%. The research framework can be described as follows:

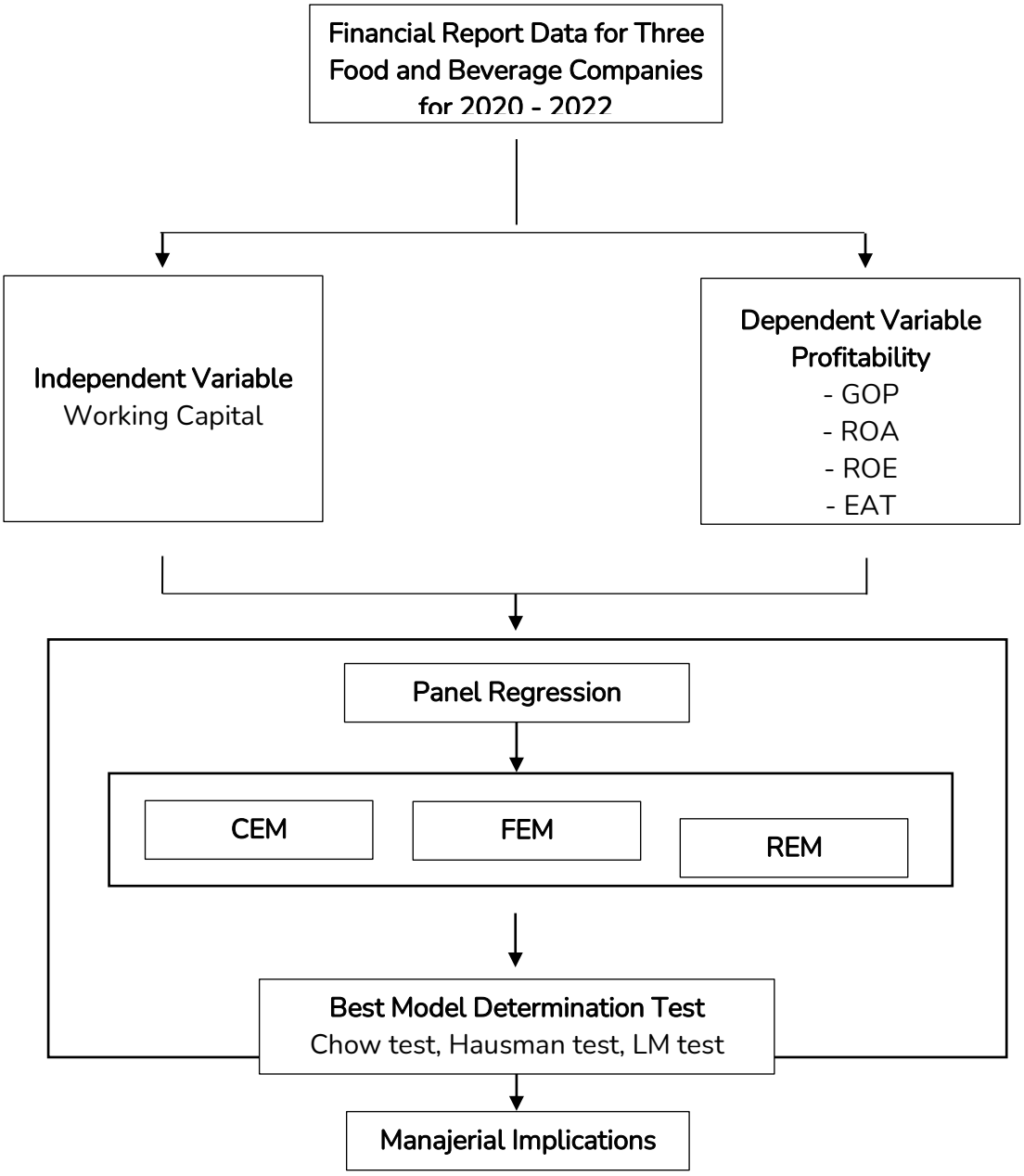

Figure 1. Research Thinking Framework

Working Capital Analysis Results

In general, companies will face challenges in working capital management that can facilitate the level of business sustainability and maximize profitability (Aldubhani *et al.*, 2022). Operating capital policies must be managed prudently, as this is crucial to enable

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companies to enhance profitability and create value for investors (Nguyen et al., 2020 as cited in Aldubhani *et al.*, 2022).

The results of the working capital analysis for food and beverage sector companies listed on the Indonesia Stock Exchange (BEI) from 2020 to 2022 are presented in Table 2. In Table 2, PT Diamond Food Indonesia Tbk (DMND) shows consistent % percentage figures of 3% from 2020 to 2021 and 2021 to 2022. This indicates the company's ability to manage its working capital steadily and strive to maintain optimal performance. On the other hand, the analysis of PT Indofood CBP Sukses Makmur Tbk (ICBP) reveals a decline in working capital management from 30.8% in 2020-2021 to 23.4% in 2021-2022. This suggests the company's limited capacity to optimize overall working capital management and a tendency towards insufficient working capital evaluation.

Meanwhile, PT Mayora Indah Tbk (MYOR) shows a significant increase from -20.9% in 2020-2021 to 23.4% in 2021-2022, indicating the company's ability to enhance its working capital for optimal utilization. The company also evaluates its working capital over previous years, contributing to a significant improvement in management. Based on the analysis of working capital for the three food and beverage sector companies, it is evident that operating capital must be managed wisely due to its crucial role in the operational performance of a company's resources, liquidity, profitability, and overall corporate value (Aldubhani *et al.*, 2022).

Profitability Analysis Results

The results of the analysis of Return on Assets (ROA), Return on Equity (ROE), Earnings After Tax (EAT), and Gross Operating Profit (GOP) can be seen in Table 4. Table 4 presents data illustrating the measurements of the three food and beverage sector companies listed on the Indonesia Stock Exchange (BEI) from 2020 to 2022. Data analysis to measure profitability (ROA, ROE, EAT, and GOP) has been conducted, and the results indicate that, on average, PT Diamond Food Indonesia Tbk (DMND), PT Indofood CBP Sukses Makmur Tbk (ICBP), and PT Mayora Indah Tbk (MYOR) show increasing figures each year. In general, this suggests that the food and beverage sector companies in Indonesia have expanded and increased their market activities, contributing to the overall economy in Indonesia.

Panel Regression Analysis Results

Data processing using panel regression was conducted through three model approaches: the CEM model, the FEM model, and the REM model. The results of the Chow test run in the data analysis of this research can be seen in Table 5:

Table 5. Chow-test result

Effects Test	Statistics	df	Prob.	Conclusion
ROA	3.203162	2	0.2016	CEM Model
ROE	1.309110	2	0.5197	CEM Model
EAT	32.977460	2	0.0000	FEM model
GOP	24.155808	2	0.0000	FEM model

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The panel regression analysis in this study reveals that Working Capital simultaneously affects Profitability (ROA, ROE, EAT, and GOP). Based on the analysis results of the working capital variable and each profitability variable, it is found that the operating capital variable has a partial effect on ROA by 13.41% and a partial impact on ROE by 11.99%. However, different results are indicated by the working capital variable, which has no partial effect on EAT by 84.51% and has no partial impact on GOP by 79.01%.

The analysis related to the working capital and profitability variables guides that the evaluation of a company's effectiveness in managing its working capital can be approached by minimizing working capital, with the condition that the working capital must be sufficient to finance its operational activities. Minimizing working capital can be achieved by accelerating the collection of sales receivables, enhancing inventory turnover, and curtailing expenditures with cash (Wardojo, Anggraeni and Sasongko, 2015).

CONCLUSION

The results of this research analysis provide empirical evidence that the working capital policies implemented by companies can significantly influence the profitability (ROA, ROE, EAT, and GOP) of food and beverage sector companies. Therefore, effective and optimal working capital management is essential for company management to maximize profits for company owners and enhance overall company values.

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