

Working Capital Turnover and Profitability Performance: Empirical Evidence from Indonesia's Tobacco Industry

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ABSTRACT: This study aims to analyze the influence of the turnover of working capital elements on profitability in cigarette companies listed on the Indonesia Stock Exchange (IDX) during the period 2017–2024. The independent variables used include receivables turnover, inventory turnover, and operating debt turnover, while profitability is measured by the Return on Assets (ROA) ratio. Secondary data was obtained from the annual financial statements through the IDX's official website and analyzed using the multiple linear regression method with the help of SPSS software. The results of the study show that inventory turnover has a positive and significant effect on profitability, while the turnover of receivables and accounts payable has a insignificant effect. Simultaneously, the three independent variables had a significant effect on profitability with a determination coefficient (R^2) of 0.543, which means that 54.3% of the variation in profitability could be explained by the three variables. These findings indicate that the efficiency of inventory management is a key factor in increasing the profitability of the cigarette industry in Indonesia. This research is expected to make a practical contribution for financial managers in optimizing working capital policies and enriching the empirical literature related to the relationship between working capital efficiency and financial performance in the manufacturing sector.

KEYWORDS: working capital, receivables turnover, inventory turnover, profitability, cigarette industry.

INTRODUCTION

The manufacturing industry plays a strategic role in the national economy because of its contribution to production, exports, employment, and the added value of the industrial sector. Among the manufacturing subsectors, the cigarette industry has a special position in Indonesia despite facing controversy over its health impacts, from an economic point of view this industry makes a significant contribution through excise revenue, tax revenue, and labor absorption along its supply chain. This condition confirms that the financial and operational health of cigarette companies has an impact not only on the company itself, but also on the macroeconomy.

In the face of increasingly fierce competition and high regulatory pressure, manufacturing companies are required to optimize the management of their financial resources, including working capital. Working capital that includes current assets such as cash, receivables, and inventories must be managed in such a way that there is no excess that causes funds to "settle" in, or shortages that interfere with smooth operations. Working capital efficiency (working capital efficiency) is very important to maintain liquidity while maximizing profitability.

Theoretically, the more efficiently the working capital is managed (meaning the turnover of assets runs smoothly, the time receivables are managed, the inventory is not excessive), the greater the potential for the company to generate profits because there is not much "idle" capital. However, being too aggressive in efficiency can also be risky, for example in the event of minimum stock that interferes with production continuity or a sales credit policy that is too strict so as to reduce sales volume. Thus, the relationship between working capital efficiency and profitability is often dynamic and depends on the industry context and macroeconomic conditions.

The cigarette industry in Indonesia has characteristics that distinguish it from the manufacturing industry in general. First, the characteristics of cigarette production and distribution require intensive logistics and distribution turnover, especially to reach local markets in many regions. Second, large cigarette companies often have extensive trading networks, so receivables and inventory management is a critical aspect. Third, regulations regarding tobacco excise that are constantly changing and government policies on advertising/promotion add to the variability of operational and financial risks.

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Several studies have examined the relationship between working capital and profitability in the Indonesian cigarette industry. For example, Supriyadi (2022) examined the efficiency of working capital (Net Working Capital Turnover) in cigarette companies listed on the Indonesia Stock Exchange for the period 2003–2006 and found that working capital efficiency had a significant effect on profitability (Return on Assets). There is also a study with a coverage of the period 2003–2007 that explores the efficiency of working capital in IDX cigarette companies and shows the positive influence of working capital efficiency on the profitability of cigarette companies.

In addition to these studies, research in the general manufacturing sector also often shows a relationship between working capital management (e.g. cash turnover, receivables, inventory) and profitability. Working capital management research shows that variables such as cash turnover, receivables turnover, and inventory turnover are often used as indicators of working capital management. However, the results are not always consistent: there are studies that have found that working capital management has a significant positive effect on profitability, but there are also those that have found insignificant or even negative effects.

As one of the relevant previous studies, Rahma (2011) analyzed the influence of working capital turnover, cash turnover, inventory turnover, and receivables turnover on ROI in Indonesian manufacturing companies in the period 2004–2008 and found that these variables had a significant influence on profitability. In addition, recent research in the IDX consumer goods industry sector shows that the turnover of working capital has a positive effect although not significant in the 2018–2022 period. However, although there is little literature specific to the Indonesian cigarette industry, most of these studies are still limited in terms of observation periods, measurement variables, and sample coverage.

The novelty of this research lies in a comprehensive analytical approach to working capital elements using the latest data (2017–2024) and a focus on the cigarette industry sub-sector that has unique operational and regulatory characteristics in Indonesia. Unlike previous studies that only reviewed working capital ratios in aggregate, this study separated the partial influence of three main components—accounts receivable, inventory, and accounts payable—on profitability (ROA). This approach results in a deeper understanding of the most dominant working capital elements in creating profitability, where the findings show that the efficiency of inventory turnover has a significant and positive influence, while the turnover of accounts receivable and accounts payable is insignificant. Thus, this study enriches the financial management literature by emphasizing the importance of supply chain efficiency as the main determinant of profitability in highly regulated industries such as tobacco.

From the above literature review, it can be identified several knowledge gaps (knowledge gaps) that can be filled through this study:

- a. Limitations of research specific to the cigarette industry
Most studies of working capital and profitability are still common in manufacturing companies or the consumption industry. Research that does focus on cigarette companies in the Indonesian context is relatively few, and often uses data that is old (2000s).
- b. Variability of research results (inconsistency)
Some studies show a positive and significant relationship between working capital efficiency and profitability, while others find a positive but not significant, or even negative relationship. This indicates that the effect of working capital on profitability can vary depending on the period, cost structure, regulations, and industry characteristics.
- c. Measurement of different working capital efficiency
Previous studies have used various working capital management indicators (cash turnover, receivable turnover, inventory turnover, net working capital turnover, cash conversion cycle, etc.). This difference makes it difficult to compare results, especially in the context of the cigarette industry that demands its own turnover characteristics.
- d. Lack of up-to-date analysis with up-to-date data and adequate sample coverage
With the development of regulatory pressures (excise, advertising policies) and the dynamics of the cigarette market in Indonesia in the last 10–20 years, it is important to use more up-to-date data to make the findings more relevant to the current industry context.

Here We Show (Research Contributions)

In this study, we point out (here we show) some important things:

- a. Current empirical relationship between working capital efficiency and profitability
This study will present up-to-date empirical evidence on the extent to which working capital efficiency affects profitability in the Indonesian cigarette industry, using classical indicators (cash turnover, receivables turnover, inventory turnover, and possibly composite metrics such as net working capital turnover or cash conversion cycles).
- b. Differentiation of working capital efficiency variables
- c. This study will partially analyze each element of working capital (cash, receivables, inventory) and simultaneously, to see which aspects dominate affect profitability in the context of the cigarette industry.
- b. Contribution of findings to the literature and managerial practice
The results of this study will enrich the literature on financial management, especially working capital in the Indonesian cigarette industry. In addition, the management of cigarette companies can use these findings to formulate optimal working capital management strategies: for example, credit and receivables policies, ideal inventory levels, and cash control.

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c. Policy and investment implications

Investors and capital market analysts can use the results of research as one of the considerations in assessing the performance of cigarette companies. Regulators (especially those who set excise and tobacco industry policies) can also look at the financial implications behind regulatory policies on the working capital structure.

RESEARCH METHODS

This research was conducted on cigarette companies listed on the Indonesia Stock Exchange (IDX) with the aim of analyzing the effect of the turnover of working capital elements on the level of profitability. The research was not carried out directly on the company, but through analysis of secondary data obtained from the IDX's official website, namely www.idx.co.id. The data collection process was carried out for approximately two months after the proposal seminar, including the identification, verification, and tabulation of annual financial statement data.

The population in this study includes all manufacturing companies that are included in the cigarette industry subsector and are listed on the IDX during the 2017–2024 period. Based on these criteria, four companies that meet the requirements were obtained, namely PT. Gudang Garam Tbk, PT. Hanjaya Mandala Sampoerna Tbk, PT. Indonesian Tobacco Tbk, and PT. Wismilak Inti Makmur Tbk. The sampling technique used is **purposive sampling**, which is the selection of samples based on certain criteria that are in accordance with the purpose of the research. These criteria include companies that are included in the cigarette subsector, have been listed on the IDX during the research period, and have complete annual financial statements that are accessible to the public.

The variables used in this study consist of dependent variables and independent variables. The dependent variable that is the main focus is **profitability (Y)**, which is measured using the **Return on Assets (ROA)** indicator. ROA was chosen because it is a measure of management's effectiveness in utilizing the company's assets to generate profits. According to Kasmir (2019) and Hakim (2021), the profitability ratio indicates the ability of an entity to generate profits from its operational activities, where the higher the ratio indicates the more efficient the use of the company's assets in generating profits.

The independent variables in this study consist of three main components of working capital, namely: (1) **Receivables Turnover (X_1)**, which describes the level of effectiveness of the company in managing receivables from the sale of loans to cash; (2) **Inventory Turnover (X_2)**, which reflects the speed at which the stock turnover of goods from purchase to sale over a period is real; and (3) **Accounts Payable Turnover (X_3)**, which shows how quickly a company pays off its short-term obligations to suppliers. The three variables were chosen because they theoretically have a significant influence on the company's ability to maintain its liquidity and short-term profitability.

The type of data used is **secondary quantitative data**, in the form of figures taken from the company's financial statements and annual reports. The data source was obtained from the official publication of the Indonesia Stock Exchange as well as the annual report documents of each company during the observation period. Data collection is carried out through a documentation method by tracing and copying financial statement data from the IDX website, then verification of the conformity of the data with the independent auditor's report published annually is carried out.

Data analysis was carried out using the **Multiple Linear Regression Analysis** method, which aims to test the extent to which receivables turnover (X_1), inventory turnover (X_2), and accounts payable turnover (X_3) affect profitability (Y).

This regression method was chosen because it is able to describe the simultaneous and partial relationship between several independent variables to one bound variable. The analysis was carried out using **SPSS software**, so that the calculation results can produce statistical tests in the form of *t-test*, *F-test*, and R^2 to measure the level of influence of each variable. This approach is expected to provide an empirical understanding of the extent to which the efficiency of working capital management can increase the profitability of cigarette companies operating in the Indonesian capital market.

Overall, the methodology of this research is systematically designed to ensure the validity of the data and the reliability of the analysis results. A quantitative approach based on secondary data allows researchers to objectively assess the relationship between working capital efficiency and profitability, as well as make a scientific contribution to the development of the financial literature in the manufacturing sector, especially the cigarette industry in developing countries such as Indonesia.

RESULTS OF RESEARCH AND DISCUSSION

The results of multiple regression analysis showed that the model used in this study had a good feasibility level with a correlation coefficient (R) of **0.737**, which indicates a fairly strong positive relationship between the independent variables of receivables turnover (X_1), inventory turnover (X_2), and accounts payable turnover (X_3) with profitability (Y) measured using Return on Assets (ROA). A determination coefficient value (R^2) of **0.543** indicates that 54.3% of the variation in profitability change can be explained by the three working capital components, while the remaining 45.7% is influenced by other factors outside the model, such as cost efficiency, capital structure, or macroeconomic conditions of the cigarette industry in Indonesia. The **F-calculated value of 11.094** with a significance of **0.000 (<0.05)** reinforces that the regression model is simultaneously significant and feasible to be used in explaining the relationship between the study variables.

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Partially, *the results of the t-test* showed that **inventory turnover (X_2)** was the most dominant and significant factor for profitability with a regression coefficient value of **0.708** and a significance level of **0.000**. This means that any one unit increase in inventory turnover efficiency can increase profitability by 70.8%, assuming other variables are constant. These findings indicate that fast and efficient stock management of goods allows cigarette companies to optimize the cash cycle, reduce storage costs, and accelerate the realization of sales to profits. In the context of the cigarette industry, the efficiency of inventory management is also related to the company's ability to adjust production to fluctuating market demand and anticipate fiscal policies such as an increase in cigarette excise.

In contrast, the **receivables turnover (X_1)** has a negative regression coefficient of **-0.269** with a significance of **0.094**, which suggests that although the relationship between receivables turnover and profitability is negative, the effect is not statistically significant. This interpretation suggests that the faster receivables are converted into cash does not necessarily increase profits; Most likely because credit policies that are too strict can actually reduce sales volume or show inefficiencies in billing management. Thus, cigarette companies need to balance credit policies and sales strategies so that cash turnover continues to support optimal profitability.

The **turnover of accounts payable (X_3)** shows a positive regression coefficient of **0.148** with a significance value of **0.349**, which is also not significant. This means that while more efficient management of accounts payable can help liquidity and reduce working capital requirements, its impact on profitability is not strong enough. This can be caused by debt repayment policies that are highly dependent on business relationships with suppliers and capital-intensive production cycles in the cigarette industry.

The partial correlation analysis in Table 5.10 reinforces the regression results, where **the inventory turnover variable (X_2)** shows a correlation value of **0.703** with a determination of **0.494**, indicating a strong and significant relationship between inventory management efficiency and increased profitability. Meanwhile, the **turnover of receivables (X_1)** and **accounts payable (X_3)** showed negative and insignificant relationships, with a correlation of **-0.208** and **-0.068**, respectively. Overall, the results of this study confirm that in the context of the cigarette industry in Indonesia, **the efficiency of inventory management is the main determinant of profitability**, while the effectiveness of the management of accounts receivable and accounts payable has not been a significant determining factor.

Thus, it can be concluded that the strategy to increase the profitability of cigarette companies should be focused on optimizing stock and supply chain *management*, because this aspect has been proven to have a direct impact on the company's financial performance. On the other hand, receivables and debt management policies need to be adjusted to industry structures that have strict regulations, stable demand, and short-term production cycles, in order to contribute more effectively to increasing profitability in the future.

DISCUSSION

1. Theoretical Interpretation

Empirical findings show that the turnover of the working capital component has a varied effect on the profitability of companies among Indonesian tobacco companies listed on the stock exchange. The dominant influence of **inventory turnover (X_2)** on profitability reinforces the theoretical foundation of *the working capital management efficiency model* (Shin & Soenen, 1998), which posits that optimization of asset circulation—especially inventory—can substantially improve company performance. Efficient inventory management minimizes storage costs, reduces inventory obsolescence, and speeds up cash conversion, all of which directly strengthen profitability (Deloof, 2003; Lazaridis & Tryfonidis, 2006).

Conversely, an insignificant but negative **receivables turnover coefficient (X_1)** indicates that accelerating receivables collection may not necessarily result in higher profits. This is in line with the findings of García-Teruel and Martínez-Solano (2007), who argue that overly aggressive billing policies can deter customers and reduce sales volumes, especially in markets where trade credit is the main competitive instrument. For the tobacco sector—characterized by a large distribution network and extensive retailer relationships—such dynamics are critical. Thus, the rapid turnover of receivables may reflect limited market credit, indirectly limiting revenue generation.

Meanwhile, **the payload turnover (X_3)** shows a positive but statistically insignificant influence on profitability. These results are consistent with the *power sequence theory* and previous evidence from Sharma and Kumar (2011), which suggests that companies that use trade debt strategically to finance operations can benefit from increased liquidity, although short-term gains may not translate into measurable profitability gains unless supported by stable cash flow management. The capital-intensive nature of the tobacco industry and dependence on excise tax time further moderate the role of debt in driving profitability results.

2. Comparison with Previous Studies

These results are partly consistent with previous studies on working capital dynamics. Studies in emerging markets (e.g., Samiloglu & Demirgunes, 2008; Afeef, 2011; Wajahat & Khan, 2020) found that inventory turnover significantly and positively affects profitability, while receivables and debts often display insignificant or even negative associations. However, compared to the manufacturing or consumer goods sector, the tobacco industry shows a stronger reliance on inventory efficiency due to the

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nature of the raw material (tobacco leaves) and the perishability of the product related to the duration of storage and quality maintenance.

In addition, the finding that inventory management dominates profitability contrasts with evidence from the retail and automotive industries, where accounts receivable turnover typically plays a larger role. This divergence underscores the **peculiarities of the tobacco manufacturing sector**, where operational cash cycles are shorter, and profitability is more sensitive to supply chain timing and inventory storage efficiency than credit policies.

3. Managerial Implications

From a managerial perspective, the results underscore the need for tobacco companies to **prioritize inventory optimization** as a cornerstone for increasing profitability. Companies must adopt a *lean inventory system* and integrate predictive analytics for demand forecasting, allowing them to efficiently align production schedules with fluctuations in market demand. Additionally, enhanced collaboration with suppliers through a *vendor-managed inventory system (VMI)* can shorten lead times and reduce working capital pressures.

For accounts receivable management, companies are advised to balance between liquidity and customer retention by implementing a *credit risk assessment model* that optimizes trade credit decisions without undermining sales performance. As for payable, the managerial focus should shift towards strategic negotiations with suppliers for favorable credit terms and synchronized payment cycles that maintain operational liquidity without sacrificing long-term relationships.

4. Policy and Theoretical Implications

On a broader level, this study broadens the understanding of **working capital efficiency in regulated industries**, particularly in emerging markets. The tobacco sector in Indonesia operates under strict excise taxes and public health regulations, which directly affect the cash flow cycle and profitability. Therefore, the findings of this study emphasize the relevance of a **regulatory-sensitive working capital model**, suggesting that optimizing profitability requires not only operational efficiency but also adaptability to the fiscal and regulatory environment.

Theoretically, this research contributes to the literature on *the work-performance capital linkage* by contextualizing it in regulated and high-liquidity industries. It reinforces that the relationship between working capital and profitability is **non-linear and sector-specific**, highlighting inventory management as a key mediator in cash-to-profit transformation. Future studies may expand on this model by incorporating *moderation variables* such as company size, tax regulations, and ESG practices to deepen understanding of how institutional context shapes financial efficiency.

Key Insights Summary

In summary, this study confirms that among the three elements of working capital, **inventory turnover** plays a decisive and statistically significant role in increasing profitability for Indonesian tobacco companies. Efficient stock management—not aggressive receivables collection or short-term debt control—emerged as the most effective lever for maintaining profitability in the context of this capital-intensive, regulation-driven industry.

CONCLUSION

Based on the results of regression analysis and theoretical discussions, it can be concluded that the relationship between working capital elements and profitability in cigarette companies listed on the Indonesia Stock Exchange is partial and non-uniform. The inventory turnover variable has been proven to have a positive and significant effect on profitability, showing that efficient inventory management is able to improve the company's financial performance. Conversely, receivables turnover has a negative and insignificant effect, indicating that overly tight credit policies can hinder sales growth. The turnover of accounts has a positive but also insignificant effect on profitability. Simultaneously, these three variables had a significant effect on profitability with a determination contribution of 54.3%. Thus, increasing profitability in the Indonesian cigarette industry can be achieved through inventory efficiency strategies and working capital management that are responsive to market dynamics and government policies.

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