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INTEREST RATES AS THE MODERATOR OF THE EFFECTS OF WORKING CAPITAL TURNOVER, INVESTMENT STRUCTURE AND FINANCING STRUCTURE ON COMPANY PERFORMANCE

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ABSTRACT

The purpose of the present study was to determine the partial effects of working capital turnover, investment structure and financing structure on company performance, and whether interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance. Population was 10 textile companies listed on the Indonesia Stock Exchange (ISX). Samples were taken by the use of the purposive sampling technique with 3 criteria. A total of 10 companies met the criteria over the study period of 10 years from 2006 to 2015. The multiple regression was the statistical technique used for data analysis. The first to third hypotheses were tested using the t-test, while the fourth hypothesis was tested using the residual test. Results showed that working capital turnover had no significant positive effect on company performance, investment structure had a significant positive effect on company performance, financing structure had no significant negative effect on company performance and interest rates moderated the effects of working capital turnover, investment structure and financing structure on company performance.

Key words: Interest Rates, working capital turnover, investment structure, financing structure, company performance

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1. INDRODUCTION

Working capital management represents an important issue with regard to maintaining a company's liquidity in order for well-running operations, while on the other hand the company is capable of meeting its short term obligations (Zariyawati *et al*., 2009). Smit (1973: 51) argues that a large number of business failures are due to financial managers' inability to plan and control current assets and current liabilities. A dilemma in working capital management is that, to achieve an optimal working capital, corporate managers must control the trade-offs between profitability and liquidity (Raheman and Nasr, 2007). An optimal working capital is expected to contribute positively to company performance (Deloof, 2003).

Overly small current assets can have difficulty in maintaining a smooth operation. An efficient working capital involves planning, controlling current assets and current liabilities in order for balance and to reduce the risk of inability to meet short-term liabilities and avoid excessive investment (Eljelly, 2004).

One measure to see a healthy company is by looking at financial performance, it is very important that the financial ratios of the company must be healthy (Fatihudin et al., 2018). The company's financial performance is a description of the financial condition of a company that is analyzed with financial analysis tools, so that it can be known about the good and bad financial condition of a company that reflects work performance in a certain period (Mochklas and Setiawan, 2018:32).

A study on working capital management, especially on working capital turnover, investment structure and financing structure and company performance, represents an empirical research aimed at addressing the developing business phenomena in order for the business activities undertaken to be a useful policy implementation to maintain the existence of the company. However, studies on the effects of working capital, investment structure and financing structure on company performance showed conflicting or inconsistent results.

A study by Roheman *et al*. (2010) showed that working capital turnover had a significant positive effect on company performance. This result was consistent with those of Kaddumi and Ramadan (2012), Mashady and Ahmad (2014) and Widyastuti *et al*. (2017). However, these results were contrary to those of Azam and Heider (2011) indicating that working capital turnover had no significant effect on company performance at the Karachi Stock Exchange.

A study by Mohamad and Saad (2010) showed that investment structure had a significant positive effect on company performance. This result is consistent with that of Widyastuti *et al*. (2017). On the contrary, it was inconsistent with that of Azam and Heider (2011) which demonstrated that investment structure had no significant effect on company performance.

Financing structure was investigated by Nazir and Afna (2009), Qayyum *et al*. (2010) and Widyastuti *et al*. (2017), which demonstrated that the financing structure had a significant negative effect on company performance. On the contrary, Mashady and Husaini (2014) showed that financing structure had no significant effect on company performance. Vatavu (2015) demonstrated that financing structure had a significant positive effect on company performance in Romania.

In addition to internal factors, macroeconomic conditions can affect company performance. Various researchers believe that macroeconomic variables, such as interest rates (Charitou *et al*., 2004; Gallardo *et al.*, 2001; Demir, 2007; Kanwal and Nadeem,

2013), will affect the purchasing power of both individuals and companies. Thus, interest rates are addressed as a moderating variable.

Based on the foregoing, the present study would be titled "Interest Rates as the Moderator of the Effects of Working Capital Turnover, Investment Structure and Financing Structure on Company Performance".

The present study would address the following questions:

- Does working capital turnover has an effect on company performance?
- Does investment structure has an effect on company performance?
- Does financing structure has an effect on company performance?
- Do interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance?

2. LITERATURE REVIEW

2.1. Capital Structure

According Modigliani and Miller (1963), after relaxing the assumption of income tax the financing decision becomes relevant. Myers' (1984) trade-off theory predicts that in finding the relationship between capital structure and company performance there is an optimal level of leverage (debt ratio). The use of debts will improve company performance up to a certain limit of leverage and, thereafter, the use of debts will decrease company performance, since the use of debts after the optimal leverage will cause the cost of bankruptcy.

For a profit-oriented company the decision to seek financing sources in order to strengthen the capital structure becomes an important decision that should be examined carefully for the various impacts that may occur in the future. According to Dong and Su (2010), among the important financial decisions for a company is working capital management, whose goal is to provide adequate support to the business. Qayyum *et al*. (2010) showed that companies could have a low working capital with the aim of increasing profits. This means that there is a negative relationship between working capital and company probability. According to Appuhami (2008) and Dash and Ravipati (2009), efficiency of working capital can be achieved by continuous monitoring of working capital components, such as cash or cash equivalents, accounts receivable, inventory and debts.

2.2. Working Capital Turnover

Working capital turnover is the working capital's ability to turn over one period the company's cash cycle and to be a measure of the effectiveness of the use of current assets to generate sales. According to Emery *et al*. (1999), working capital turnover is measured by the working capital turnover ratio, that is the ratio of sales to current assets. The higher the working capital turnover ratio the more efficient is the use of working capital.

2.3. Investment Structure

According to Weston and Copeland (2008), the structure of working capital investment is the determination of the extent of allocation to each component of current assets. The greater of this ratio is the better since it indicates the availability of cash, accounts receivable and inventory which are the most liquid current assets relative to the total assets owned by the company. The liquid assets available can be used at any time to finance the company's operational needs to generate profits. Mohammad and Saad (2010) found that working capital structure had a positive effect on company performance. This shows that manufacturing

companies rely on current assets to generate profits. This finding was confirmed by that of Ogundipe *et al*., (2012), Azam and Heider (2011) and Kaddumi and Ramadan (2012).

2.4. Financing Structure

According to Brigham and Houston (2010) and Nazir and Afza (2009), working capital financing shows the ratio of short-term debts to total assets of a company. The debt structure describes the composition of debt used by the company, either short-, medium-, or long-term debts, and is influenced by the size of the debts. Short-term debts will mature in less than one year and long-term debts will mature in more than one year.

Long-term debts are more flexible than short-term debts, but the consequence is that the costs of long-term debts are greater than the those of short-term debts (Brigham and Houston, 2010).

2.5. Interest Rates

According to Dornbusch *et al.*, (2008: 43), interest rates are the rates of payments on a loan or other investment, which is expressed as an annual percentage. Reilly and Brown (1997) argue that interest rates are the price of borrowed funds. An increase in interest rates leads to an increase in the level of profits required on investment on a stock. In addition, an increase in interest rates leads investors to withdraw investment in stocks and move it to savings or deposits.

The interest rates of the financial sector often used by investors as a guide or reference for assessing the ability of the money market to generate optimal profits the interest rates of Bank Indonesia Certificates (SBI). The SBI interest rates are the rates of return on a number of investments in securities issued by the BI as a form of returns given to investors. A high SBI interest rate represents a negative signal for company performance. An investor will seek a more profitable place to invest, when the interest rate rises company performance will fall and vice versa.

2.6. Company Performance

Company performance is measured by, among others, profitability. According to Weston and Copeland (2008: 240) and Palepu *et al*., (1990, 9.3-9.4), profitability is a company's ability to earn profits in relation to sales, total assets and equity. Long-term investors are interested in profitability since it can reflect the profits to be actually received in the form of dividends. According to Brigham and Houston (2010: 107), profitability ratio is a group of ratios showing the combined effects of liquidity, asset management, and debts on operating results. Several types of ratios can be used to measure the level of company's profitability or performance: gross profit margin, operating profit margin, net profit margin, total asset turnover, return on assets, and return on equity. Company performance has been investigated by Raheman *et al*. (2010), Sadiamajeed *et al*. (2013), Akoto *et al*. (2013) Abuzayed (2011), Kaddumi and Ramadan (2012), Mumtaz *et al*. (2011), Karadagli (2012), Attari and kashif (2012), and Charitou and Santoso (2012);

2.7. Effects of Working Capital Turnover on Company Performance

Working capital turnover demonstrates the ability of working capital to turn over one period a company's cash cycle. Working capital turnover measures the effective use of current assets in generating sales. A high level of sales increases a company's profitability; on the contrary, a low level of turnover indicates an excess working capital. Ineffective use of working capital decreases the profitability of a company. Thus, it can be said that the ffects of working capital turnover is in the same direction as that of profitability. A study by Raheman and Nasr (2007)

showed that working capital turnover ratio had a significant positive effect on the profitability of companies in Pakistan. Similar results were found by Falope and Ajilore (2009) in Negeria.

2.8. Effects of Investment Structure on Company Performance

Investment structure is the classification of assets into such various ones as current assets, fixed assets, and other assets (Weston and Copeland, 2008: 304). Investment structure as measured by current assets to total assets ratio is the ratio of total current assets to total assets. The greater of this ratio is the better since it shows the availability of cash, receivables and inventories used at any time for the smooth operation of the company to generate profits. Basically, companies use cash to meet their needs and to generate profit. According to Haris M. and A. Raviv (1990), cash is the most liquid form of assets, which is immediately used to meet obligations.

Account receivables are a company's invoices to other parties as a result of sales on credit. Basically, the greater the accounts receivable the greater is the risk, but at the same time it will increase profitability. Account receivables has an effect on profitability since it is the process of selling goods on credit. Sales on credit are efforts to increase sales. An increase in sales is expected to increase profits. That is, an increase in a company's account receivables will have an impact on the company's performance.

Inventories are required by a company to support operations to run continuously. A company's inventories are critical since an mistake in inventory investment will disrupt the smooth operation of the company. With sufficient inventory the company will fulfill orders quickly, so as to increase the company's performance.

Lazaridis and Tryfonidis (2006), Filbeck (2005), Gill *et al*., (2010), and Anand and Gupta (2002) found a significant positive effect of investment structure on profitability.

2.9. Effects of Financing Structure on Company Performance

According to Haris M. and A. Haviv (1990), working capital financing indicates the amount of short-term debts to finance total assets. The greater of this ratio indicates that there are fixed assets financed by short-term debts, which is certainly at risk to the company's finances. Fixed assets will be invested in a long term, while short-term debts have to be repaid in the short term. Financing sources for current assets may derive from short-term capital of current liabilities and long-term capital of long-term loans or equity. This ratio emphasizes the importance of debt financing for companies to increase profitability. The greater the percentage of financing derived from shareholder's equity the greater is the protection for the creditors from their standpoint. The higher this ratio the greater is the financial risk, capable of disrupting company profitability and vice versa.

Danuletiu (2010), Mathuva (2009), Anuchitworawong (2004), Aivazian *et al*. (2005), Raheman *et al*. (2010), and Kaddumi and Ramadan (2012) found that financing structure had a significant negative effect on profitability.

2.10. Conceptual Framework

The conceptual framework of the present study is shown in Figure 1.

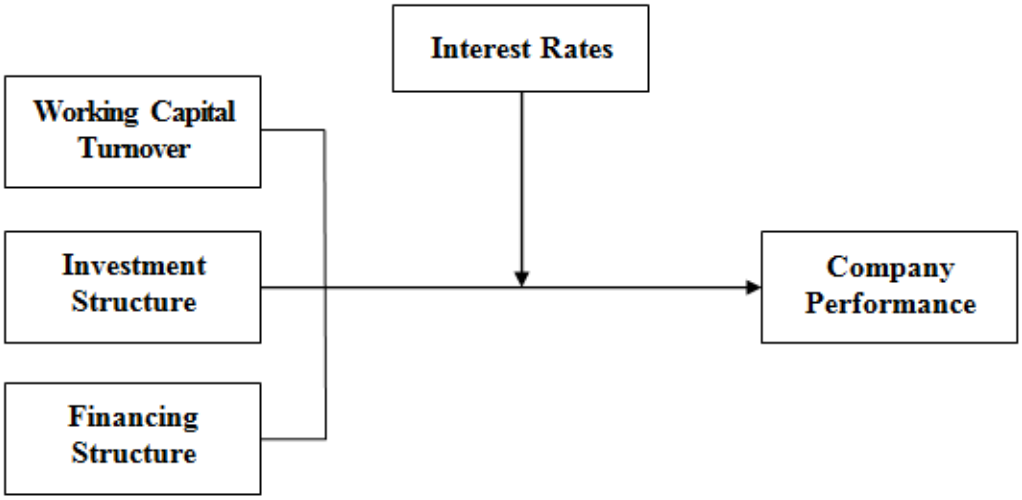


Figure 1 Conceptual framework of the study

Hypotheses

The hypotheses of the present study are as follows:

- Working capital turnover has a significant positive effect on company performance.
- Investment structure has a significant positive effect on company performance.
- Financing structure has a significant negative effect on company performance.
- Interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance.

3. METHODS

3.1. Population

The population of the present study was ten textile companies, which were a group of manufacturing companies and listed on the Indonesia Stock Exchange and met the following criteria:

- Textile companies listed on the Indonesia Stock Exchange and not delisted during the 2006–2015 period.
- Textile companies successively issuing their audited financial statements for fiscal year ended on December 31, 2006 to December 31, 2015.
- Textile companies with a positive equity during the 2006–2015 period.

3.2. Sampling Technique

The whole population of the present study was taken as samples, often referred to as saturation sampling. Saturation sampling is a sampling technique which uses all members of the population as samples.

3.3. Sample Size

The number of samples was 10 companies, corresponding to the total population since the present study used the saturation sampling technique. The sample companies were as follows:

- PT Polychem Indonesia Tbk (ADMG)

- PT Argo Pantes Tbk (ARGO)
- PT Century Textile Industry Tbk (CNTX)
- PT Eratex Djaya Tbk (ERTX)
- PT Indo Rama Synthetics Tbk (INDR)
- PT Apac Citra Centertex Tbk (MYTX)
- PT Pan Brothers Tbk (PBRX)
- PT Ricky Putra Globalindo Tbk (RICY)
- PT Sunson Textile Manufacturer Tbk (SSTM)
- PT Nusantara Inti Corpora Tbk (UNIT)

3.4. Goodness-of-Fit Test of the Model

Goodness-of-fit test is to assess the fit of the regression function (Ghozali, 2013: 97). Statistically, goodness of fit can be measured by coefficient of determination and *F*-statistic values.

3.5. Partial Test (*t*-test)

The effects of an individual independent variable in explaining the variance in the dependent variables is tested using the partial test (*t*-test). When the significance is <0.05, the hypothesis is accepted (Ghozali, 2013: 88).

4. RESULTS AND DISCUSSION

4.1. Goodness-of-Fit Test of the Model

Coefficient of Determination (R^2)

Results showed a R^2 of 0.315 (31.5%), meaning that there was a weak effect of the independent variable on company performance since the R^2 was less than 50%. Furthermore, the adjusted *R*-squared (R^2) was 0.071 (7.1%), meaning that 7.1% of company performance can be explained by the variance in working capital turnover, investment structure, and financing structure, while the remaining 92.9 % are explained by other variables not included in the model.

F-Test

Results of the *F*-test showed a F_{hit} of 3.533 with a significance level of 0.018 < 0.05; thus, the regression model can be used to predict company performance.

t-Test

Table 1 shows the effects of each independent variable on the dependent variable. The *t*-value of working capital turnover is –0.727 with a significance value of 0.372 > α = 5%, meaning that working capital turnover has no significant effect on company performance.

The *t*-value of investment structure is 0.119 with a significance value of 0.011 < α = 5%; thus, investment structure has a significant positive effect on company performance.

The *t*-value of financing structure is –0.054 with a significance value of 0.335 > α = 5%, meaning that financing structure has no significant positive effect on company performance.

Table 1 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	–1.010	2.759		–0.366	0.715
	Working capital turnover	–0.727	0.811	–0.098	–0.897	0.372
	Investment structure	0.119	0.046	–0.284	2.583	0.011
	Financing structure	–0.054	0.056	–0.110	–0.969	0.335

[a]Dependent Variable: Company performance

4.2. Effects of Working Capital Turnover on Company Performance

In theory, the larger the working capital turnover the higher is the company performance as proxied by ROA. The greater of working capital turnover demonstrates that the invested working capital results in an increase in sales, indicating that a company is capable of managing working capital components consisting of cash, accounts receivables and inventories in an efficient manner. Certainly, this success has a positive effect on company performance.

Working capital turnover as measured by the ratio of sales to gross working capital from the descriptive statistics calculation showed a mean of 2.1503. Table 4 shows a coefficient of –0.727 with a significance of 0.372, which is greater than $\alpha = 5\%$. This demonstrates that working capital turnover has no significant positive effect on company performance. Thus, working capital turnover does not support the increase in company performance. The descriptive statistics shows a maximum of working capital turnover of 5.19, meaning that sales occurred after 69.36 days or 70 days. Sales should occur every month or every 30 days. This position results in working capital turnover having no significant positive effect on company performance.

Results of the present study indicated that the textile companies had an mean working capital turnover of 2.1503 for one year. This study indicates that the mean working capital turnover is as slow as 169.74 days, meaning that the invested capital produces sales only after 169.74 days. Thus, the working capital components invested in the companies do not have a significant effect on the increase in sales. This insignificant result was due to the fact that the working capital turnover starting from the moment the cash invested in working capital components to the moment it returns into cash is quite slow. Results of the present study support those of Azam and Haider (2011) in their study of manufacturing companies in Pakistan, demonstrating that working capital turnover had no significant effect on company performance.

4.3. Effects of Investment Structure on Company Performance

In theory, the larger the investment structure is the better since it shows the availability of cash, accounts receivables and inventories which are liquid current assets relative to total assets of a company. Available liquid assets can be used at any time to finance the company's operational needs to generate profits. Investment structure is the ratio of total current assets to total assets of a company expressed in percent. The ratio of current assets to total assets is a ratio indicating the percentage of the total assets invested in current accounts. A high ratio of current assets to total assets shows that both profitability and risks will decrease.

Results of the present study showed that investment structure had a mean of 41.6763, a coefficient of 0.119 and significance of 0.011 or smaller than α = 5%. This demonstrates that investment structure has a significant positive effect on company performance. This means that the larger the ratio of current assets to total assets the greater is the company performance. An improved company performance is based on an investment structure of over 40%. Of the 100 observations, 65 had an investment structure of over 40%. This indicates that the companies are capable of financing all their operational needs and taking advantage of the available opportunities in order to increase profits. This could result in a significant positive effect of investment structure on company performance.

Results of the present study indicated a mean investment structure of 41.6763. This result is consistent with that of Brealey *et al*. (2007) and Weston and Copeland (2008), which showed that the composition of working capital of manufacturing companies is approximately 40% of total assets. The present study shows that an investment structure of above 40% contributes to the improved company performance.

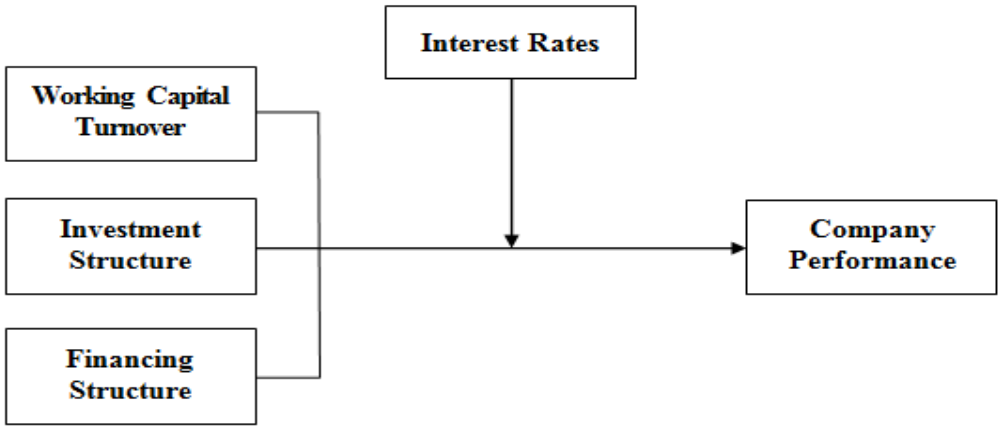
Results of the present study support those of the studies conducted in Pakistan by Raheman *et al*. (2010) and in Malaysia by Mohammad and Saad (2010) that investment structure had a significant positive effect on company performance.

4.4. Effects of Financing Structure on Company Performance

Financing structure is the ratio of current liabilities to total assets of a company and expressed as a percentage. This ratio emphasizes the importance of arranging debt financing to a company by demonstrating the size of the company's assets financed by short-term debts. Actually, the greater the percentage of financing derived from shareholder's equity the greater is the protection for the creditors from their standpoint. The higher the financing structure the greater is the financial risk, capable of disrupting company profitability. The smaller of this ratio is the better since it will increase the profits or decrease the financial risks.

Results of the present study indicated that financing structure as measured by the ratio of current liabilities to total assets had a mean of 39.6591, a coefficient of –0.054, a significance of 0.335 or larger than α = 5%. This demonstrates that financing structure has no significant negative effect on company performance. This results were due to the fact that, of 100 observations, 63% or more than 50% were below the mean. These results support those of Ogundipe *et al.* (2012) in Nigeria and those of Mohammad and Saad (2010) in Malaysia that financing structure had no significant effect on company performance.

4.5. Interest Rates Moderate the Effects of Working Capital Turnover, Investment Structure and Financing Structure on Company Performance



Results of the moderation test using the residual test are shown in Table 2.

Table 2 Absolute residual regression as a function of company performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.526	0.097		15.714	0.000
	Company performance	–0.050	0.013	–0.369	–3.927	0.000

[a]Dependent Variable: abs_res

Based on Table 2, the regression equation is as follows:

Abs_res = 1.526 – 0.05 company performance

The *t*-value of company performance was –0.050 with a significance of 0.00 < α = 5%, meaning that the company performance parameter is negative and significant. Thus, interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Based on the hypothesis testing, the conclusions of the present study are as follows:

- The first hypothesis stating that working capital turnover has a significant positive effect on company performance is rejected.
- The second hypothesis stating that investment structure has a significant positive effect on company performance is accepted.
- The third hypothesis stating that financing structure has a significant negative effect on company performance is rejected.
- The fourth hypothesis stating that interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance is accepted.

5.2. Recommendations

The recommendations of the present study are as follows:

- Investment structure is so crucial that investments to optimize the portfolio are of paramount importance to the company.
- Since interest rates moderate the effects of working capital turnover, investment structure and financing structure on company performance, it is necessary to take interest rate fluctuations into account in any decision making.

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