



The Effect of Working Capital and Effectiveness of Working Capital on Profitability in Metal and Cement Manufacturing Companies Listed on Indonesia Stock Exchange

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ABSTRACT

The objective of this research is to know the influence of working capital and working capital turn over either partially or simultaneously have an effect significantly on profitability of metal and cement manufacturing registered in Indonesia Stock Exchange. The hypothesis of research was that work capital and its circulation have positive and significant effect on profitability of metal and cement manufacturing registered in the Stock Exchange of Indonesia. This research is classified as causal research with 18 companies from 19 metal and cement manufacturing companies registered in Indonesia Stock Exchange and they maintained complete financial statements that have been audited since 2007-2011 gained from the sites www.idx.co.id and www.icmd.com. Sample was selected by using purposive sampling method. The process of data analyzes used was classic assumption test and hypothetical test. The result of research indicated that work capital and working capital turn over simultaneously have significant effect. Partially working capital has a significant effect on profitability of metal and cement manufacturing registered in the Indonesia Stock Exchange.

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1. INTRODUCTION

Working capital is the value of assets / assets that can be immediately used as cash, which is used by the company for daily needs, for example to pay employee salaries, buy raw materials / goods, pay transportation costs, pay debts and so on (Riyanto, 2001). Working capital management is the responsibility of every manager or company leader. Managers must supervise working capital so that working capital sources can be used effectively in the future. Managers also need to know the level of working capital turnover in order to better plan for the coming period. In addition to managers, short-term creditors also need to know the level of working capital turnover of a company. That way, short-term creditors will get certainty when the company's debt will be paid immediately.

In terms of business to gain profit, working capital in the company must be managed effectively and efficiently. MThe problem of financial policy that is often faced by a company is the problem of effectiveness and efficiency of working capital. Good working capital management is

very necessary in the management of the financial sector because errors in managing working capital can result in losses and even business activities are hampered or stopped altogether. The working capital in the company must be sufficient in number in the sense that it must be able to finance expenses for the company's daily operations. Having sufficient working capital will be profitable for the company because the company can operate economically and the company does not experience financial difficulties. Good working capital management can be seen from the accuracy of its use, while the use of working capital is usually used for: (1) Purchase of fixed assets; (2) Payment of debt or purchase of shares; (3) Payment of dividends; (4) Payment of expenses or fees.

Effective use of working capital is an important factor that must be considered to support the growth and sustainability of the company in the long term. If the company lacks working capital in increasing its sales and production, the company will lose revenue and profits. Companies that do not have sufficient working capital will not be able to pay their obligations on time because the company will face liquidity problems, and vice versa companies that have excessive working capital can be the better condition of the company because it has many resources, namely large current assets to finance the company's daily operations. However, this situation is inversely proportional to working capital turnover, excessive working capital will indicate low working capital turnover. Low working capital turnover means low inventory turnover, receivables or a cash balance that is too large which means there are unproductive funds. Therefore, working capital must be managed as effectively as possible so that the company's profitability can be increased.

Cash is one of the elements of working capital with the highest level of liquidity. The greater the amount of cash owned by the company, the higher the level of liquidity. This means that the company has a smaller risk of not being able to meet its financial obligations. But that does not mean the company must maintain a very large amount of cash inventory, because the greater the cash will result in a lot of idle money so that it will reduce profitability. According to HG Guthman in Riyanto (2001), namely that the amount of cash that should be maintained by the company is not less than 5% to 10% of the total current assets. In addition to cash, receivables are also an element of working capital that is always in a state of rotation. Where receivables are obtained from bills from other parties as a result of selling goods on credit. Accounts receivable turnover shows the period when working capital is tied up in receivables where the higher the receivables turnover period indicates the faster the company will benefit from the credit sales. A high receivables turnover rate means that the funds embedded in the receivables return quickly. Thus, the risk of non-payment of receivables is reduced. The return of cash due to repayment of receivables is very beneficial for the company because cash will always be available and can be reused. Thus, a high level of receivables turnover will affect the increase in profit (Riyanto, 2001: 90).

2. RESEARCH METHOD

2.1 Method of collecting data

In this study, non-participant observation methods were used. In the non-participant observation method, data collection is done through independent observation (Sugiyono, 2007: 139). So the observation method is carried out by observing, recording and studying records related to research obtained from the Indonesian Stock Exchange (IDX), namely reports from the Indonesian Capital Market Directory (ICMD) in 2007-2011.

2.2 Technical Data Analysis

Data analysis is a way of processing the collected data and then providing interpretation. The results of this data processing are used to address the problems that have been formulated. Analysis of the data used in this study are:

- 1) Multiple Linear Regression Analysis Techniques. The data analysis technique used in solving the problem and to achieve the objectives of this research is to use multiple/compound linear regression analysis with an instrument in the form of the SPSS (statistical package for social science) program. This analysis is used to determine the effect of the amount of working capital and the effectiveness of the use of working capital

- (measured by the level of working capital turnover) on profitability (measured by ROI).
- 2) Normality test. The data normality test aims to test whether in the regression model the dependent variable and the independent variable both have a normal distribution or not. A good regression model is one that has a normal data distribution or one that is close to normal. The normality test can be seen and the profitability plots line on the calculation results using SPSS. The normal distribution is reflected in the data scattered around the diagonal line.
 - 3) Multicollinearity Test. This multicollinearity test was conducted to test whether the regression model found a correlation between the independent variables (Ghozali, 2002:57). If there is a correlation, it is called a multicollinearity problem. A good regression model should not have a correlation between the independent variables. The guideline for a regression model that is free from multicollinearity problems is if it has a VIF (Variance Inflation Factor) value of less than 10 and a tolerance value of more than 10%.
 - 4) Autocorrelation Test. Autocorrelation is a correlation or relationship that occurs between members of a series of observations arranged in a time series. If there is a correlation, it is called an autocorrelation problem. A good regression model is a regression that is independent and autocorrelation.
 - 5) Heteroscedasticity Test. This test aims to determine whether in the regression model there is an inequality of variance and residuals from one observation to another (Ghozali, 2002:69). If the residual from one observation to another is constant, it is called homoscedasticity. And if the variance from one observation to another is different, it is called heteroscedasticity. A good regression model is one that does not occur heteroscedasticity. To detect whether heteroscedasticity occurs in the model, it can be seen in scatterplots where if the points are randomly distributed and do not form a certain pattern, it can be said that there is no heteroscedasticity.

3. RESULTS AND DISCUSSIONS

3.1 Classic assumption test

Each linear regression equation model must go through the classical assumption test before being analyzed further. The classical assumption tests performed on the multiple linear regression equation model in this study are: Normality Test, Multicollinearity Test, Autocorrelation Test, and Heteroscedasticity Test. The results of the classical assumption test obtained with the help of a computer with the SPSS program are presented as follows:

a. Normality test

The results of the normality test in the study are shown in Figure 1 below:

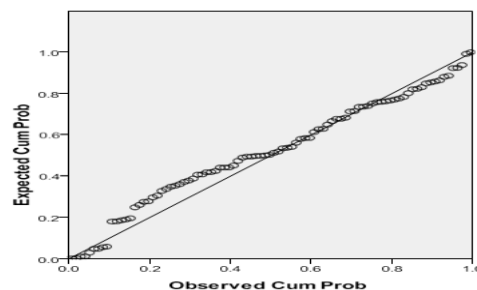


Figure 1. Normality Test Results

Figure 1 above shows that the plots have a pattern that is still within the scope of the diagonal line of the PP Plot graph, so it can be said that the data is normally distributed. In addition, to test the level of normality can be done with a histogram image approach. This is shown in Figure 2 below:

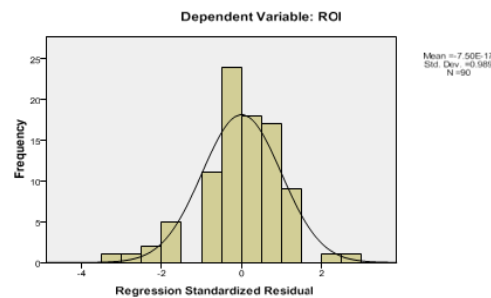


Figure 2. Normality Test Results

Based on the picture, it can be concluded that the data used is normal. It is known that polygons tend not to deviate to the left or to the right.

b. Multicollinearity Test

The results of the multicollinearity test in the study are shown in table 1 below.

Table 1. Multicollinearity Test Results

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Total working capital	.997	1.003
	Working capital turnover	.997	1.003

Dependent Variable: ROI

From the results processed with SPSS, the tolerance coefficient of the two independent variables is greater than 0.10 and the VIF value is less than 10. This proves that in this regression model there is no symptom of multicollinearity.

c. Autocorrelation Test Results

The results of the autocorrelation test in the study are shown in table 2 below.

Table 2. Autocorrelation Test Results

Model Summary ^b	
Model	Durbin-Watson
1	1,699

From the results of the SPSS data processing, it can be seen that the Durbin Watson test results are 1,699. This value will be compared with the table value, using a significant value of 5 percent (0.05). The number of data (n) = 90 and the independent variable (k) = 2 then $d_l = 1.61$, $d_u = 1.70$. So $(4 - d_u) = (4 - 1.70) = 2.3$. Because the DW value of 1,699 is greater than the d_u limit of 1.70 and less than $(4 - d_u)$ which is 2.3 this means that there is no negative autocorrelation or it can be concluded that this regression model can still be used for testing. Heteroscedasticity Test. The heteroscedasticity test aims to test whether from the regression model there is an inequality of variance from the residuals of one observation to another observation. A good regression model is one with homoscedasticity or no heteroscedasticity. One way to detect the presence or absence of heteroscedasticity is to look at the graph plot between the predicted value of the dependent variable and the residual. If there is a certain pattern, such as the dots spread above and below the number 0 on the Y axis, then there is no heteroscedasticity. The test results are shown in Figure 3 below.

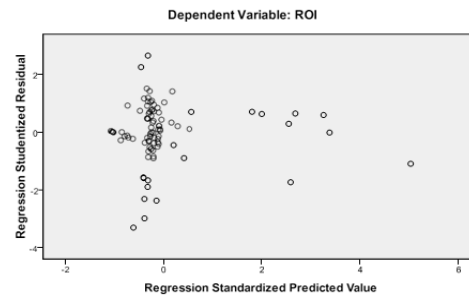


Figure 3. Heteroscedasticity Test Results

3.2 Multiple Linear Regression Analysis

This study uses multiple linear regression analysis model, which aims to determine whether the amount of working capital and working capital turnover affect the profitability of Metal and Cement Manufacturing companies listed on the Indonesia Stock Exchange in 2007-2011 either simultaneously or partially. For data management used SPSS 17.0 program assistance. The summary of the results of data processing can be seen in Table 3.

Table 3. Multiple Linear Regression Test Results Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	5.005	1.042		4,805	.000	2,935	7.075		
Total working capital	2.612E-6	.000	.414	4.258	.000	.000	.000	.997	1.003
Working capital turnover	.037	.043	.082	.847	.399	-.049	.123	.997	1.003

Dependent Variable: ROI

Based on Table 4.6, the linear regression equation can be formulated as follows: $Y = 5.005 + 2.612E-6 X_1 + 0.037 X_2 + e$.

- The constant of 5,005 states that if the independent variables, namely the amount of working capital and working capital turnover are considered constant or zero, then the average level of company profitability is 5,005 percent.
- The regression coefficient of the amount of working capital of $2.612E-6 = 0.006248$ states that if the amount of working capital increases by 1 time and the independent variable of working capital turnover is considered constant, then the level of profitability will increase by 0.6248 percent.
- The working capital turnover regression coefficient of 0.037 states that if the use of working capital turnover increases by 1 time and the independent variable of the amount of working capital is considered constant, then profitability will increase by 3.7 percent.

a. F Statistic Test

The results of data processing carried out to prove hypothesis 1 which states that there is a significant effect of working capital and working capital turnover on the return on investment (ROI) of Metal and Cement Manufacturing companies on the Indonesia Stock Exchange, are shown in table 4 below:

Table 4. F Statistical Test Results ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1636,990	2	818,495	9,665	.000a
Residual	7367,363	87	84,682		
Total	9004,353	89			

Predictors: (Constant), Working capital turnover, Total working capital
Dependent Variable: ROI

From the results of the F test, it is found that Fcount of 9,665 with a significance level of 0.000. Ftable is 3.10 obtained from $V1 = (k-1) = 3-1 = 2$ and $V2 = (nk) = 90 -3 = 87$, so the magnitude of $df = (V1;V2) = (2.87)$ then the ftable value is $F(0.05 ; 2 ; 87) = 3.10$. Because the fcount value is greater than ftable and the significance level is less than 0.05, H_0 is rejected and H_1 is accepted. This means that the amount of working capital and working capital turnover simultaneously have a significant positive effect on profitability in Metal and Cement Manufacturing companies.

In addition to knowing the effect of the independent variable on the dependent variable, the results of the analysis also show the magnitude of R square which is essentially used to measure how far the model's ability to explain the variation of the dependent variable is. In Appendix VIII, the R square value of 0.182 means that about 18.2 percent of the profitability variable is influenced by the independent variable the amount of working capital and working capital turnover, while the remaining 81.8 percent is influenced by other variables from outside the model.

b. Test Statistics t

To interpret the coefficient of the independent variable (independent), namely the amount of working capital and working capital turnover on the dependent variable, namely profitability (measured from ROI), it can be explained in Table 5 as follows:

Table 5. Statistical Test Results t Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	5.005	1.042		4.805	.000	2.935	7.075		
Total working capital	2.612E-6	.000	.414	4.258	.000	.000	.000	.997	1.003
Working capital turnover	.037	.043	.082	.847	.399	-.049	.123	.997	1.003

Dependent Variable: ROI

Table 5 above shows that the value of t calculate working capital of 4.258 while the value of t table $df(nk)$ or t table df 87 with 5% is 1.988 so $t \text{ count} > t \text{ table}$. For the calculated t value of working capital turnover of .847 while the value of t table $df(nk)$ or t table df 87 with 5 % is 1.988 so $t \text{ count} < t \text{ table}$. Thus, it can be concluded that working capital has a significant effect on return on investment (ROI) while working capital turnover does not have a positive effect on working capital turnover of Metal and Cement Manufacturing companies on the Indonesia Stock Exchange (IDX).

4. CONCLUSION

The amount of working capital and the effectiveness of working capital (working capital turnover) simultaneously have a positive effect on profitability in Metal and Cement Manufacturing companies, where 18.2 percent of profitability is influenced by the variable amount of working capital and working capital turnover, while the remaining 81.8 percent is influenced by variables other outside the model.

The amount of working capital partially has a positive effect on profitability in Metal and Cement Manufacturing companies listed on the Indonesia Stock Exchange (IDX).

The effectiveness of working capital (working capital turnover) partially has a positive effect on profitability in Metal and Cement Manufacturing companies listed on the Indonesia Stock Exchange.

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