

---

# The Effect of Working Capital Financing to the Corporate Performance and the Impact of Financial Constraints in Indonesia Manufacturing Industry

Hansel Winardi<sup>1</sup>, Yosman Bustaman<sup>2</sup>

Swiss German University, Tangerang, Indonesia<sup>1,2</sup>

[hansel.widjaja@student.sgu.ac.id](mailto:hansel.widjaja@student.sgu.ac.id)<sup>1</sup>, [yosman.bustaman@sgu.ac.id](mailto:yosman.bustaman@sgu.ac.id)<sup>2</sup>

**To cite this document :**

Winardi, H., & Bustaman, Y. (2021). The Effect of Working Capital Financing to The Corporate Performance and The Impact of Financial Constraints in Indonesia Manufacturing Industry. Conference Series, 3(1), 137-153. Retrieved from <https://adi-journal.org/index.php/conferenceseries/article/view/356>

**Abstract**

*The aim of this research is to gain empirical evidence about the effect of Working Capital Financing to the Corporate Performance of the firms in Jakarta Composite Index (JCI) during the years 2010 – 2018 directly and under the impact of the moderator variable. The moderator variable used Financial Constraints. The Corporate Performance as the dependent variable was calculated by using Return on Assets (ROA) and Tobin's Q (Q), the Working Capital Financing was calculated by using certain WCF formula, while the Financial Constraints was calculated by using dummy variable that involve some criterias which comprise Firm Size, Cash Flow, and Interest Coverage Ratio. The object of the study is the firms available in JCI in 9 consecutive years and then according to certain aspects. The number of samples should have reliable and qualified financial reports from year 2010 to 2018. Eventually, according to the data analysis and hypothesis testing, this research represented the following results : Working Capital Financing has no significant effect to the Corporate Performance, Working Capital Financing has no significant effect to the Corporate Performance under the Impact of Financial Constraints, Firm Size, Firm Leverage and Firm Growth has significant effect to the Corporate Performance, then Current Ratio has no significant effect to the Corporate Performance.*

---

*Keywords: Working Capital Financing, Financial Constraints, Firm Size, Firm Leverage, Firm Growth, Current Ratio, ROA, Tobin's Q.*

## I. INTRODUCTION

Denis (2019) describes that generally shareholder value maximization still remains the primary objective among business people and academic experts. The goal of corporations is to serve the interest of shareholders. The management challenges for business exist, in terms of to reorganize the production, diversification, and business activities adjustment. In an attempt to have a great unique selling point, managers should realize the key issues of corporate finance and working capital financing.

In recent times, Van et al (2019) states one of the most essential factors in financial settlement is working capital management. Every sector has a distinctive characteristic of working capital. In practical terms, the manufacturing sector has more complicated elements of working capital than the others. It is because the manufacturing industry experiences the workflow from producing raw materials into intermediary goods then converted into finished goods. The studies on Working Capital has been conducted by several researchers and academicians.

Gracia (2018) states that working capital management that has relation to cash flow is one of the objections especially in manufacturing companies. Normally, working capital explains recent circumstances, whereas cash flow is the method of measuring whether the firm is able to generate cash over a certain given time period. In the computation, working capital is derived from the differences between current assets and current liabilities, then also equals net working capital. In case of negative working capital (asset is lesser than debt), then the short term cash flow will be affected. Caballero et al (2016) states in regard to optimal level of working capital, it mostly depends on the firm financial situation. That financial situation is portrayed by financial constraints. The optimal level of working capital with no financial constraints is higher than the other one that has financial constraints.

Caballero et al (2016) also furtherly explain the factors involving the financial constraints are cash flow, size, leverage, and Z-score. It is clear that firms which are encountering financial constraints have dramatically scale down the frequency of adopting credit compared to growing firms. According to Altaf & Ahmad (2019), the differences of current assets and current liabilities is called Working Capital. The management of the company needs to compare the values and make the decision whether the firm needs to finance its working capital requirements in case the values of current assets are higher than

---

current liabilities. Generally there are 2 ways of generating working capital strategy. The first one is in regard to conservative working capital management strategy.

When the company allocates a bigger budget on current assets which are financed by using litter percentage of short term sources of funds. The benefit of using this strategy is to decrease both the financing and risk of interest while this approach might impose the company to bear the great level of expense of liquidity. On the other hand, the second one is about aggressive working capital management strategy by utilizing lower levels in current assets which are supported by using the big percentage of short term sources of funds. Therefore, the advantage of applying the second approach is lowering the financing cost and agency costs, whereas the strategy can force the company to bear the great expense of illiquidity.

Caballero et al (2016) examine the presence of the optimal level of working capital and confirm target behavior for more developed countries such as in ASEAN. According to our knowledge very small study has been conducted in this issue in the emerging market scenario for fairly enough data. Therefore, the author strives to fill the gap in this research. Altaf & Ahmad (2019) describes that the impact of Working Capital Financing to the Firm Performance can be interrupted by the Financial Constraints. However Altaf & Ahmad (2019) found the result that Working Capital Financing and Corporate Performance build inverted U-shape relationships. In addition, Caballero et al (2016) also conducted the research and the result has come out as relationships which form U-shape invertedly among financing activities of Working Capital and Firm Performance.

However, Laghari & Chengang (2019) conducted the study in Asian Region and the purpose is to explore the non linear relationship that occurred between Working Capital Management and Corporate Performance. The final result represents how can Working Capital affect the Corporate Performance in inverted U-Shape form. Kaushik & Chauhan (2019) implies how the role of financial constraints is able to interfere with the relationship between them. By conducting research for 9 years and using Net Trade Cycle, Accounts Payable Days, Accounts Receivable Days, and Inventory Days. The result is almost similar to the others which come up with inverted U-shape between Working Capital Management and Firm Performance. In Indonesia, very few studies have been conducted and available which evaluate the relationship between working capital management and firm profitability but none of the researchers analyze the impact of financial constraints on the working capital.

However, in short, this research reanalyze and resolve the association among investment in working capital and firm performance, then followed by the potential consequence of financial constraints on it.

---

## II. THEORETICAL BASIS

### A. Working Capital Financing and Corporate Performance

Altaf & Ahmad (2019) explains that it is clear about working capital which has to be financed. If the working capital requirement is higher, then means more capital needs to be financed. The companies are able to choose whether to support its working capital using short-term or long-term sources. There are some benefits and costs tradeoff on each. On the other hand, the finance manager has to know and decide about the level of investment involved, sometimes called working capital policy.

The aggressive working capital policy can be described as high risk and reward policy. In relation to that policy, it is suitable for companies in stable-generating income and operates in steady market conditions. The firms invest a tiny portion on current assets, but highly dependant on current liabilities. On the other side, if the firm utilizes a conservative one which is conservative working capital policy, or it can be called a low risk and reward profile.

Caballero et al (2016) declares about the trade off among the benefits and drawbacks of utilizing short-term credit. The proportion of working capital used in the short term. Then, Caballero et al (2016) informs that the impact of using short term credit might also carry some drawbacks to the corporate performance, the impact which is negative as the greater short term financing is the consequence of refinancing and interest risk. Logically, it has become hard for the companies to renew their short-term liabilities and might contribute greater interest rates payment on new credits. It is very essential for the managers to know the proportion given to the short-term credit in attempt to finance its working capital, in one side while a small proportion of working capital is supported by short term credit, the corporate performance might rise as the benefits dominate rather than costs, then bring a positive impact to the performance. Whereas, while a greater percentage of short-term loans is utilized to support working capital, the costs become dominant rather than benefits, then lead to negative impact to the performance.. Therefore, there should be an inverted U-Shape relationship between working capital financing and firm performance which is non-linear.

Panda & Nanda (2018) furtherly explains in case of firms using conservative strategy of working capital management by keeping more current assets might face large liquidity costs, besides, the conservative strategy of working capital management by keeping less current assets might take companies to meet great costs of illiquidity. These positive and negative impacts show tradeoff among costs and benefits of working capital investment. However, it is possible for the management to create working capital that reaches its optimum. Firms are able to rise profits with the support of efficient management of current assets and current liabilities with no liquidity issues.

B. Working Capital Financing to the Corporate Performance under the Impact of Financial Constraints

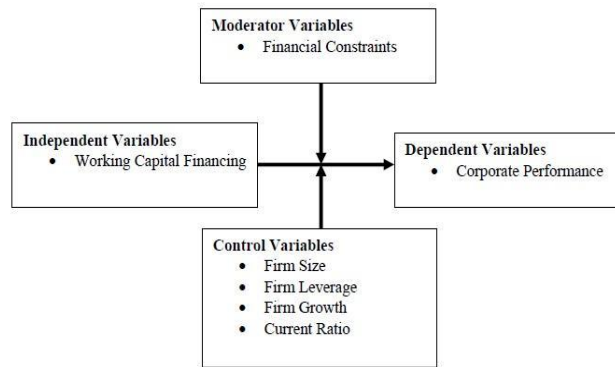


Fig. 1. Conceptual Framework.

Source : Author (2020)

As explained on Figure 1, Altaf & Ahmad (2019) also declares that the proportion of short term credit used will bring each cost and benefit and can be a determinant for the relationship among working capital management and corporate performance. In this case, it is necessary to know that the percentage of short term credit utilized to financially support working capital depends on the rate of financial constraints encountered by the company. Investment in working capital is more sensitive or susceptible to finance constraints rather than fixed capital investment. As explained by Caballero et al (2016) that companies that receive lesser financial constraints are in a good position to derive short term liabilities from bank or creditor on better terms, furthermore they can get smaller interest and risk of refinancing.

Cabarello et al (2016) agree about the existence of an optimal level of working capital investment, more or less likely firms will encounter financing constraints. That is the result of inverted U-shaped relation among working capital and firm performance. Even in recent times, businesses live in a frictionless world, obtaining external financing is still not easy as gain internal financial support, there are some factors that need to be considered. In relation to working capital financing, investment in working capital depends on the firm's financing situations. It also means that companies which have better internal financing capability and access to capital markets might get a greater level of working capital.

---

According to Cabarello et al (2016). There are some proxies in order to measure financial constraints which comprise:

1. Interest Coverage Ratio

Altaf & Ahmad (2019) states that Interest Coverage Ratio computes the degree of bankruptcy risk and also financial constraints. This kind of ratio is measured by dividing the ratio of earnings before interest and tax with financial costs (interest expenses). Literally, the greater the ratio will lead to lesser difficulty to repay its liabilities. In this case, less financially constrained companies are indicated by having interest coverage ratio over the sample medians and vice versa.

2. Cash Flow

Cabarello et al (2016) explains that the other aspect of financial constraints could help the managers to clearly analyze the role of cash flow to the relationship between working capital management and corporate performance. In this case, companies that come out with cash flow above the sample of median are categorized to be less likely to experience financial constraints.

Van et al (2019) also declares the utilization of cash flow to finance investment activities. Cash Flow Indicator (CFI) was established by the ratio of income before interest and tax plus depreciation, then divided by total assets. The firms which come with low levels of cash flow will tend to encounter financial constraints (DFC is indicated with 1) and vice versa.

3. Size

Based on Altaf & Ahmad (2019) size is used as an inverse approach of financial constraints. Smaller companies are indicated to be more financially constrained caused by information asymmetry and greater agency costs. Conversely, bigger companies will have greater access to capital markets, therefore they encounter smaller constraints of borrowing and smaller interest rates as external financing costs.

Less financially constrained firms are represented by the size above the sample median and vice versa.

Panda & Nanda (2018) explains that the firms with small financial constraints can use short-term funding sources to finance their working capital without affecting the profitability of the company and minimize the negative impact that can arise on working capital financing using short-term funding sources.

---

### III. DATA AND METHOD

#### A. Data and Data Sources

In order to examine the effect of working capital financing on corporate performance and to analyze whether the company financing of working capital with short-term debt according to the tendency of the firm being constrained. In this research, the author utilized a set of panel data of 134 Indonesia Manufacturing Firms. Then, the financial information of these companies have been gathered for a 9 years period (2010 – 2018). Moreover, the firms shaping the part of the sample are index participants of the JCI (Jakarta Composite Index) as a benchmark of Indonesia Capital Market. The Jakarta Composite Index (JCI) comprises a total of hundreds firms across different industries. It is clear that JCI is the whole index of Indonesian economy expressing full market capitalization. Therefore, contributing image to entire industries and sectors in Indonesian economy.

The authors utilize a sample selection method which is classified as a non-probability method, the technique is purposive sampling. The authors pursue systematic sorting in an attempt to obtain an effective final sample. There are some criterias which are used by the author to sort the data that consist of manufacturing sector firms listed on Indonesian Stock Exchange from 2010 until 2018, the firms which have sufficient financial statements issued on 31 December 2010 – 2018, then the firms which have sufficient data to compute the research variables. The final sample of the research has been selected by terminating some undercapitalized firms and incomplete financial data firms. Hence, this elimination left us with a final number of samples of 90 firms.

#### B. Research Models and Variables

In regard to analyzing the effect of working capital financing on corporate performance and to find whether the company's financing of working capital with short-term debt according to the possibility of the company being constrained. In this study, the authors utilize two proximities of performance, the first one is accounting based and the second one is market based. The first one which is accounting based performance is calculated by Return on Assets. In addition, market based performance is computed by Tobin's Q. Furthermore, Working Capital Financing (WCF) variable is used for measuring proportion of short term debt in order to finance working capital.

For measuring non linear relationship among WCF and corporate performance, the authors utilize WCF<sup>2</sup> as the variable on the models. As stated by Cabarello et al (2016), especially for those who show positive working capital, it is necessary to be funded. In addition, for diminishing the bias which could be occurred on account of eliminated variables,

the author controls for other company attributes by involving firm size, firm leverage, firm growth and current ratio as the control variables.

### C. Baseline Specification

According to the research literature, it is necessary to know the reasonable cause of the non monotonic relationship between working capital financing and corporate performance. The authors conduct the regression analysis for the corporate performance variables against the WCF variable accompanied by its square of WCF. The purpose of this action is to test positive and negative effects of WCF to the corporate performance. Moreover, the control variables are also employed in the model, therefore the model can be estimated as below :

$$ROA_{i,t} = \beta_0 + \beta_1 WCF_{i,t} + \beta_2 WCF^2_{i,t} + \beta_3 Size_{i,t} + \beta_4 Levi_{i,t} + \beta_5 Growth_{i,t} + \beta_6 CRI_{i,t} + \gamma_t + \delta_i + \epsilon_{i,t} \quad (1)$$

Then, the second model comprises similar kind of independent variables, in this case, the dependent variable use market based performance which is Q (Tobin's Q), therefore the model is estimated as below :

$$Q_{i,t} = \beta_0 + \beta_1 WCF_{i,t} + \beta_2 WCF^2_{i,t} + \beta_3 Size_{i,t} + \beta_4 Levi_{i,t} + \beta_5 Growth_{i,t} + \beta_6 CRI_{i,t} + \gamma_t + \delta_i + \epsilon_{i,t} \quad (2)$$

The measured variables in the model are expressed in Table 1 :

Table 1. Summary of Variables Measurement.

Variable	Acronym	Definition
<i>Dependent Variables :</i>		
Return on Assets	ROA	Net Income / Total Assets
Tobin's Q	Q	(Market Value + Total Liabilities) / Total Assets
<i>Independent Variables :</i>		
Working Capital Financing	WCF	Short Term Liabilities / (Current Assets – Current Liabilities)
Working Capital Financing Squared	WCF <sup>2</sup>	Square of WCF

<i>Control Variables :</i>		
Firm Size	Size	Ln (Total Assets)
Firm Leverage	Lev	Total Debt / Total Assets
Firm Growth	Growth	(Current Sales / Previous Sales) – 1
Current Ratio	CR	Total Current Assets / Total Current Liabilities

Source : Author (2020)

The equation 1 consists of variables which are the same as presented in Table 1. The variable  $\gamma_t$  can be explained as time dummy variable,  $\delta_i$  shows each company's unobservable individual effects, then  $\epsilon_{i,t}$  represents random disturbances.

As stated in the previous section, using the smaller proportion of short term debt to fund working capital, corporate performance might increase as a result of the benefits greater than expenses. Interestingly, outside a certain level, exploiting short term debt might bring damage as a result of expenses greater than benefits. In this study, the authors expect positive coefficient to the WCF and negative coefficient to WCF<sup>2</sup>. In addition, break even point (inflection point) outside where the short term loan financing contains the negative effect to the corporate performance is represented by this following formula :  $-\beta_1 / 2 \beta_2$ .

## IV. RESEARCH RESULTS AND DISCUSSION

### A. Descriptive Statistics and Correlation Analysis

The Figure 2 represents the descriptive statistics of the variables which are implemented in the research. The value of mean for ROA is 0.047, then followed by Q value by 0.839. In addition, the authors found the median of WCF is 0.711, meaning that Indonesian manufacturing firms finance 71.1 % of their working capital utilized from short-term debt in general. Interestingly, it is clear that working capital financing policy among firms are heterogeneous. Then, the size on average has a value of 28.341. The mean value of leverage is approximately 0.548. Furthermore, the mean liquidity ratio has a value of 2.412. These values are slightly different from previous studies which one of them has been conducted by Altaf & Ahmad (2019).

In this study, the authors also consider the possibility of multicollinearity occurrence. The common threshold is established at 0.80. According to Altaf & Ahmad (2019)

multicollinearity will not be the issue as long as correlation coefficients on the independent variables greater than 0.80 as threshold as expressed in Figure 3.

The descriptive statistics are provided as below :

	ROA	Q	WCF	Size	Lev	Growth	CR
Mean	0.047371	0.839035	6.004977	28.34138	0.548207	0.038359	2.411833
Median	0.035354	0.721901	0.711234	28.14286	0.500528	0.076873	1.536792
Maximum	0.920997	5.076499	573.9926	33.47373	4.350340	0.947864	85.40926
Minimum	-0.755766	0.128155	-74.84069	22.75774	0.039549	-3.703093	0.021358
Std. Dev.	0.114927	0.657285	40.90433	1.642094	0.424657	0.290831	3.628689
Skewness	0.286760	2.933490	8.680723	0.297047	3.720054	-5.038633	15.49641
Kurtosis	14.61666	13.55974	91.56036	3.210250	23.12587	52.96200	344.6984
Jarque-Bera	4503.557	4858.237	271139.2	13.22185	15327.67	86483.51	3919041
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	37.84950	670.3892	4797.977	22644.76	438.0171	30.64916	1927.055
Sum Sq. Dev.	10.54011	344.7553	1335185	2151.784	143.9060	67.49690	10507.57

Fig. 2. Descriptive Statistics.

Source : Author (2020)

Then, correlation coefficients among independent variables are provided as below :

	ROA	Q	WCF	Size	Lev	Growth	CR
ROA	1.000000	-0.422640	0.013247	0.207228	-0.284838	0.200872	0.101480
Q	-0.422640	1.000000	-0.021195	-0.310287	0.678584	-0.145089	-0.122339
WCF	0.013247	-0.021195	1.000000	0.007766	0.006336	0.025955	-0.050444
Size	0.207228	-0.310287	0.007766	1.000000	-0.137799	0.079329	-0.170036
Lev	-0.284838	0.678584	0.006336	-0.137799	1.000000	-0.078681	-0.218109
Growth	0.200872	-0.145089	0.025955	0.079329	-0.078681	1.000000	-0.011735
CR	0.101480	-0.122339	-0.050444	-0.170036	-0.218109	-0.011735	1.000000

Fig. 3. Correlation Matrix.

Source : Author (2020)

### B. Multiple Regression Analysis

The Table 2 shows the value of coefficient of determination (Adjusted R<sup>2</sup>). According to the table, the results derived that the Adjusted R<sup>2</sup> in this research model is 0.139000 or 13.90%, this shows that the Corporate Performance (ROA) is able to be explained by 13.90% by Working Capital Financing (WCF & WCF<sup>2</sup>). Furthermore, the rest which amounting to

86.10% (100% - 13.90%) is explained by other variables beyond this model. According to the results in Table 2, it is clear that the F value is 22.47 accompanied by its significance value of  $0.0000 < \alpha (0.10)$ . Hence, the independent variable in this model which is Working Capital Financing (WCF & WCF<sup>2</sup>) has a significant effect on the dependent variable (ROA as corporate performance). Table 2 represents that the variable Working Capital Financing (WCF) has a regression coefficient value of -0.000161 with significance level of  $0.487 > \alpha (0.10)$ . In addition, the variable Working Capital Financing Squared (WCF<sup>2</sup>) has a regression coefficient value of 5.40 with significance level of  $0.352 > \alpha (0.10)$ . According to the regression coefficient value and the significance value, hence Working Capital Financing (WCF) has no direct significant effect to the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Size has regression coefficient value of 0.012333 with significance level  $0.0000 < \alpha (0.10)$ . Based on the regression coefficient value and the significance value, hence Firm Size has a direct significant effect on the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Leverage has regression coefficient value of -0.062250 with significance level  $0.0000 < \alpha (0.10)$ . Based on the regression coefficient value and the significance value, hence Firm Leverage have a direct significant effect on the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Growth has regression coefficient value of 0.067135 with significance level  $0.0000 < \alpha (0.10)$ . Based on the regression coefficient value and the significance value, hence Firm Growth has a direct significant effect to the Corporate Performance in Indonesia Manufacturing Industry.

Table 2. The Effect of Working Capital Financing to the Corporate Performance.

	Dependent Variable : ROA	Dependent Variable : Q
	PLS	PLS
(1)	(2)	(3)
C	-0.276955 (0.0001)	2.827154 (0.0000)
W	-0.000161 (0.4872)	-0.001000 (0.3168)
CF		
W	5.40 (0.3516)	1.73 (0.4878)
CF		
z		
Siz	0.012333 (0.0000)	-0.088451 (0.0000)
e		

Lev	-0.062250 (0.0000)	0.981204 (0.0000)
Gr	0.067135 (0.0000)	-0.163217 (0.0027)
owt		
h		
CR	0.002644 (0.0156)	-0.004261 (0.3646)
Adj	0.139000	0.518281
ust		
ed		
R <sup>2</sup>		
F-s	22.47159	144.2736
tati		
stic		
Pro	0.000000	0.000000
b		
(F-		
stat		
)		

Source : Author (2020)

The Table 2 expresses the value of coefficient of determination (Adjusted R<sup>2</sup>). According to the table, the results derived that the Adjusted R<sup>2</sup> in this research model is 0.518281 or 51.83%, this shows that the Corporate Performance (ROA) is able to be explained by 51.83% by Working Capital Financing (WCF & WCF<sup>2</sup>). Furthermore, the rest which amounting to 48.17% (100% - 51.83%) is explained by other variables beyond this model. According to the results in Table 2, it is clear that the F value is 144.274 accompanied by its significance value of 0.0000 < alpha (0.10). Hence, the independent variable in this model which is Working Capital Financing (WCF & WCF<sup>2</sup>) has a significant effect on the dependent variable (Tobin's Q as corporate performance). Table 2 represents that the variable Working Capital Financing (WCF) has a regression coefficient value of -0.001000 with significance level of 0.317 > alpha (0.10). In addition, the variable Working Capital Financing Squared (WCF<sup>2</sup>) has a regression coefficient value of 1.73 with significance level of 0.488 > alpha (0.10). According to the regression coefficient value and the significance value, hence Working Capital Financing have a no direct significant effect to the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Size has regression coefficient value of -0.088451 with significance level 0.0000 < alpha (0.10). Based on the regression coefficient value and

the significance value, hence Firm Size has a direct significant effect on the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Leverage has regression coefficient value of 0.981204 with significance level  $0.0000 < \alpha (0.10)$ . Based on the regression coefficient value and the significance value, hence Firm Leverage have a direct significant effect on the Corporate Performance in Indonesia Manufacturing Industry. Table 2 shows that the variable Growth has regression coefficient value of -0.163217 with significance level  $0.0027 < \alpha (0.10)$ . Based on the regression coefficient value and the significance value, hence Firm Growth has a direct significant effect on the Corporate Performance in Indonesia Manufacturing Industry.

### C. The Impact of Financial Constraints on the Relationship between Working Capital Financing and Firm Performance

The authors furtherly analyze the possible impacts of financial constraints on the relationship between working capital financing to the corporate performance. The working capital investment activity is more sensitive compared to fixed capital. Obviously, getting approval of short term debt for financing and its better terms are beneficial for the companies who have lower financial constraints.

In an attempt to test whether the inflection point alters when the significance of financial constraints encountered by the firm, the authors categorize companies based on three measurements which are the firm size, cash flow indicator, and interest coverage ratio. In the previous section, equations at part 1 and 2 are elaborated by inserting the dummy variable which could be able to differ among more likely and less likely to experience financial constraints. In addition, DFC is the acronym for the degree of financial constraints, also means as a dummy variable that represents 1 for less financially constrained companies, whereas indicates 0 for more financially constrained companies. Therefore, the previous equations could be restructured as below :

$$ROA_{i,t} = \beta_0 + (\beta_1 + \varphi_1 DFC_{i,t}) WCF_{i,t} + (\beta_2 + \varphi_2 DFC_{i,t}) WCF^2_{i,t} + \beta_3 Size_{i,t} + \beta_4 Levi_{i,t} + \beta_5 Growth_{i,t} + \beta_6 CRI_{i,t} + \gamma_t + \delta_i + \epsilon_{i,t} \quad (3)$$

$$Q_{i,t} = \beta_0 + (\beta_1 + \varphi_1 DFC_{i,t}) WCF_{i,t} + (\beta_2 + \varphi_2 DFC_{i,t}) WCF^2_{i,t} + \beta_3 Size_{i,t} + \beta_4 Levi_{i,t} + \beta_5 Growth_{i,t} + \beta_6 CRI_{i,t} + \gamma_t + \delta_i + \epsilon_{i,t}$$

(4) The results are expressed on Table 3 below, where the controlling variables are also combined into the models in an attempt to support the relationship in each of the models, but

---

they are not the main purpose of this research. In regard to the regression analysis, there are nonlinear regressions that stand by itself and also nonlinear regressions that are affected by financial constraints. From all of the specifications, the author found that the WCF coefficient is not significant, then the  $WCF^2$  is not significant. All of the models generally describe that inverted U-shape Relationship appears among WCF and corporate performance. In addition, the author also found that the Firm Size, Firm Leverage, and Firm Growth is significant. The results tend to be different especially when the regression analysis is affected by financial constraints. It should be admitted that certain levels of qualified firms obtain massive advantages, the managers are able to implement both conservative and aggressive working capital policy, including the usage of proportions in regard to short term loans from creditors.

## V. CONCLUSIONS

Generally the relationship among working capital financing and firm performance is not too clear, then in Indonesia, this research is useful for improvement of understanding of working capital management by some of following ways. First, strengthen the knowledge of the effect of working capital financing on the corporate performance. Secondly, conducting a test of the impact of financial constraints to the relationship. Thirdly, utilizing the Panel Least Square to ensure the quality of data analysis. The authors expect reliable results in regard to the relationship of working capital financing and corporate performance.

In relation to the empirical evidence to estimate approach, the author concludes that working capital financing and firm performance is involved in inverted U-shape. Financing the working capital by a small proportion of short term debt leads to an increase of corporate performance, whereas financing the working capital by a huge proportion of short term debt leads to decrease of corporate performance.

However, according to the research, the author can state the conclusions as follows, working capital financing has no significant effect to the corporate performance, working capital financing has no significant effect to the corporate performance under the impact of financial constraints, firm size accompanied by firm leverage and firm growth has significant effect to the corporate performance, then current ratio has no significant effect to the corporate performance.

Table 3. The Effect of Working Capital Financing to the Corporate Performance under the Impact of Financial Constraints.

	Dependent Variable : ROA			Dependent Variable : Q		
	Firm Size Group	Cash Flow Indicator Group	Interest Coverage Group	Firm Size Group	Cash Flow Indicator Group	Interest Coverage Group
(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	-0.28461 3 (0.0000)	-0.27548 8 (0.0001)	-0.27581 0 (0.0001)	2.866867 (0.0000)	2.823260 (0.0000)	2.825523 (0.0000)
WCF	-0.00045 1 (0.1591)	0.000133 (0.7474)	0.000713 (0.3271)	0.000266 (0.8467)	-0.00175 3 (0.3261)	-0.001555 (0.6196)
WCF x DFC	0.000749 (0.1295)	-0.00042 4 (0.3975)	-0.00098 1 (0.2012)	-0.00275 2 (0.1959)	0.001076 (0.6178)	0.000345 (0.9169)
WCF <sup>2</sup>	1.19 (0.0996)	-3.05 (0.7994)	-2.55 (0.3717)	-6.49 (0.8340)	3.94 (0.4460)	7.84 (0.5232)
WCF <sup>2</sup> x DFC	-2.00 (0.1304)	1.15 (0.4040)	3.33 (0.2535)	6.00 (0.2903)	-2.98 (0.6150)	-5.82 (0.6432)
Size	0.012592 (0.0000)	0.012270 (0.0000)	0.012272 (0.0000)	-0.08982 1 (0.0000)	-0.08828 5 (0.0000)	-0.088391 (0.0000)
Lev	-0.06160 8 (0.0000)	-0.06184 5 (0.0000)	-0.06209 5 (0.0000)	0.979262 (0.0000)	0.980177 (0.0000)	0.981335 (0.0000)
Growt h	0.067078 (0.0000)	0.067237 (0.0000)	0.066527 (0.0000)	-0.16326 8 (0.0027)	-0.16350 1 (0.0027)	-0.162262 (0.0029)

CR	0.002665 (0.0148)	0.002652 (0.0154)	0.002666 (0.0148)	-0.00436 2 (0.3535)	-0.00428 0 (0.3631)	-0.004247 (0.3666)
Adjusted R <sup>2</sup>	0.139426	0.137630	0.138608	0.518157	0.517223	0.517553
F-statistic	17.16099	16.91958	17.05094	108.4020	108.0012	108.1426
Prob (F-stat)	0.000000	0.000000	0.0000	0.000000	0.000000	0.000000

Source : Author (2020)

There is no research without limitation including this study. In addition, a great amount of effort and attention has been made during the research, but some limitations occurred. This research has utilized the sample from Indonesian economy, where Indonesia is still part of a developing economy. To some extent, this concept can be applied to the markets with similar characteristics. It is essential for further study to dig deeper in regard to the relationship among working capital financing and corporate performance which might be different across various industries, measurement, financial system, countries, and time coverage.

## REFERENCES

- [1] Altaf, N. and Ahmad, F. (2019) 'Working Capital Financing, Firm Performance and Financial Constraints : Empirical Evidence from India', International Journal of Managerial Finance, Available at : <http://www.emeraldinsight.com/1743-9132.htm>.
- [2] Cabarello, S., Teruel, P. and Solano, P. (2016) 'Financing of Working Capital Requirement, Financial Flexibility and SME Performance', Journal of Business Economics and Management, pp. 1189-1204.
- [3] Denis, D. (2019) 'Corporate Governance Counter-Narratives : On Corporate Purpose on Shareholder Value(s)', Journal of Applied Corporate Finance, pp. 81-82.

- 
- [4] Gracia, E. (2018) 'Working Capital, Financial Constraints and Firm Value : Evidence of Indonesia Manufacturing Firms', *Journal of Economics and Business*, pp. 171-176.
- [5] Kaushik, N. and Chauhan, S. (2019) 'The Role of Financial Constraints in the Relationship between Working Capital Management and Firm Performance', *The IUP Journal of Applied Finance*, Available at : <https://www.researchgate.net/publication/332269079>.
- [7] Laghari, F. and Chengang, Y. (2019) 'Investment in Working Capital and Financial Constraints : Empirical Evidence on Corporate Performance', *International Journal of Managerial Finance*, Available at : <https://doi.org/10.1108/IJMF-10-2017-0236>.
- [9] Panda, A. and Nanda, S. (2018) 'Working Capital Financing and Corporate Profitability of Indian Manufacturing Firms', *Management Decision*, vol. 56 issue: 2, pp. 441-457.
- [10] Van, Ha Thi Thuy., et al. (2019) 'Managing Optimal Working Capital and Corporate Performance : Evidence from Vietnam', *Asian Economic and Financial Review*.