Has there been a Change in the Need for Additional Funds due to Covid 19? Influencing Factors

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Keywords:
Capital Intensity;
The need for
Additional Fund;
Globalization

Abstract

The need for additional funds is very much needed in situations of increased sales and macroeconomic conditions. Covid-19 Outbreak affects the firm's financial condition. The need for additional funds can be influenced by internal financial factors such as the amount of capital intensity, spontaneous and current liabilities and retained earnings. This study aims to empirically examine the factors that influence the need for funds on the 2018-2020. Observation of the data using the 2018-2020 quarterly data study. The method used to calculate the formula for additional funding needed during crisis and non-crisis and use the SPSS IBM 20 statistical tool for multiple linear regression that examines the causal relationship of variables for additional funds. The results obtained are that there is effect of the capital intensity factor, current liabilities and retained earnings on the need for additional funds, while partially the capital intensity and retained earnings have a positive effect on the need for additional funds, but the current liability factor cannot significantly affect the need for additional funds. The results of this study contribute that quarterly data provide more detailed results in developing literature related to the need for additional funds and capital intensity and the factors that influence them more so that changes can be analyzed periodically, not annually.

Kata kunci:
*Intensitas modal;
Kebutuhan Dana
Tambahan;
Globalisasi*

Abstrak

Kebutuhan tambahan dana sangat diperlukan pada situasi peningkatan penjualan dan kondisi makro ekonomi. Wabah Covid-19 yang terjadi telah mempengaruhi kondisi keuangan perusahaan oleh karenanya dampak Covid-19 dapat mempengaruhi kebutuhan dana tambahan bagi perusahaan. Kebutuhan dana tambahan dapat dipengaruhi oleh faktor keuangan internal seperti jumlah intensitas modal, kewajiban spontan dan lancar serta laba ditahan. Penelitian bertujuan menguji empiris faktor-faktor yang mempengaruhi kebutuhan dana tahun 2018-2020. Pengamatan data menggunakan studi data triwulan Tahun 2018-2020. Metode yang digunakan adalah menghitung formula kebutuhan dana tambahan saat krisis dan non krisis serta menggunakan alat statistic SPSS IBM 20 untuk regresi linier berganda yang menguji hubungan sebab akibat variabel-variabel terhadap kebutuhan dana tambahan. Hasil yang didapatkan adalah terdapat pengaruh faktor intensitas modal, kewajiban lancar dan laba ditahan terhadap kebutuhan dana tambahan, sedangkan secara parsial intensitas modal dan laba ditahan berpengaruh positif terhadap kebutuhan dana tambahan namun faktor kewajiban lancar tidak dapat mempengaruhi secara signifikan kebutuhan dana tambahan. Hasil dari penelitian ini memberikan kontribusi bahwa data triwulan memberikan hasil yang lebih detail dalam mengembangkan literatur terkait dengan kebutuhan dana tambahan dan intensitas modal serta faktor yang mempengaruhinya dengan lebih sehingga perubahan dapat dianalisis secara berkala, bukan secara tahunan.

1. Introduction

Covid-19 pandemic in Indonesia during 2018-2020 has affected firm sales due to changes in purchasing power and productivity that spread to the macroeconomic setting and have a broad impact on people's lives on business. Based on these events, it certainly encourages firm to be aware of changes in financial conditions including the amount of additional funds needed for the continuation of business operations. Analysis of additional

funds is needed to find out the symptoms firm requires at a certain time. The need for additional funds is often projected in response to an increase in firm growth through factors of capital intensity, current and spontaneous liabilities and retained earnings.

Additional Funds Needed (AFN) conducted by the need of asset minus source of special funds (Bandi, 2007). The sources of financing needed to support asset requirement. We have assumption that the funds needed requires the need on asset and special sources funds. AFN impacts the higher sales so that increasing the need on asset and additional funds needed. AFN Formula used as financial statement especially forecasting in funds needed. For forecasting need on capital, we need forecasting on balance sheet and pro forma income statement but if the financial ratio is constant so that we use formula of AFN to forecasting the need on funds. Moreover, AFN has several assumptions such as every asset grow proportionally to sales, debt and accrual grow proportionally to sales, profit margin and devidend payout ratio. All are defended and become the last sales ratio expected to increase (Bandi, 2007).

Literature study for additional funds needed has varieties of model and method that have been developed by researchers, but the number is still limited. The formula of Additional funds needed used by previous studies on Small Business Entreprise (SME), Industry, and Indonesia Stock Exchange (IDX). Previous study found that Investment influence AFN but Devidend do not influence on AFN. There were growth of sales on prediction for additional funds needed (Rahmawati, 2016). AFN can be influenced by sales growth, revenue and additional wealth. SMEs in Celeles Banten did not use AFN Method (Aziz & Ermawati, 2020). The well-known additional funding requirement analysis formula from AFN model   states that factors influence the need for funds include increased capital intensity on sales, increased current liabilities for changes in sales and the amount of retained earnings on sales margin (Brigham & Daves, 2014). The empirical studies of capital intensity such as using competitive advantage theory from Heckscher-Ohlin-Mundell stated that there is the relation of trade and capital (Setyari et al., 2017). Nation that has high capital intensity will receive higher cash flow. Moreover, debt ratio increase on high levels can be affected to accounting performance and market competition moderates capital structure and performance (Mathur & Tiwari, 2021). The similar studies found new funds needed to cover access costs (Sonne et al., 2019) then the additional fund needed was increased during the study period so the firms have to reduce the additional fund needed, dividend payout ratio, plant capacity and in order to increase the retained earnings and profit margin (Sivakumar, 2015) and other evidence from the influence additional funds on disadvantaged people in school evidence on a regression discontinuity (Witte et al., 2017). AFN commonly used for financial planning or forecasting finance. The method of sales approach for financial forecasting actually is significant different in fact. The new model for forecasting additional funds using contingency planning approach and develop different estimates for current assets such as accounts receivable, and for current liabilities such as accounts payable, using probability distributions under different scenarios (Dondeti et al., 2021). Financial planning based on financial accounting evidence on household during social dictancing of covid-19 pandemic (Prasetyo, 2020). Covid-19 pandemic made economic shock for perception on

financial planning for household. The other studies estimate the cost of research and development for new product on medicine using sensitivity analysis and cost of capital (Wouters et al., 2020).

These factors have different empirical support so that an empirical study is carried out to obtain mutually reinforcing models in the scientific analysis of additional funding needs. The focus of the empirical study is whether the factors of capital intensity, current and spontaneous liabilities and retained earnings can affect the need for additional funds and condition of the need for additional funds in 2018-2020.

Intensity theory is often associated with asset intensity where the amount of assets is able to meet needs due to increased sales. Capital intensity is based on the concept that capital intensity is measured by fixed assets from total assets or sales, in other words it is the operating leverage of a company. If the capital intensity is greater, it tends to increase the company's risk because companies with higher levels of fixed assets will experience fixed costs that do not vary according to the company's sales level (Pradipta, 2013).

1.1. Capital Intensity and Additional Funds Needs

A formula to calculate AFN consists of asset growth namely capital intensity (Brigham & Daves, 2014). The higher capital intenstity is the higher the need for Additional funds. It means that the firms need funds on cashflow. The higher capital intensity creates increasing the need on asset and additional funds needed (Bandi, 2007).
Hyphotesis 1: Capital Intensity have significant influence to AFN.

1.2. Current Liabilities and Additional Funds Needs

Current liabilities or Spontaneus Liabilities can influence to Additional Funds Needs (Brigham & Daves, 2014). The higher current liabilities or spontaneous liabilities is the lower the need for Additional funds. It means that spontaneous liabilities are shorterm funds which has no ability to inflow on cashflow than longterm liabilities. AFN influenced by spontaneous liabilities on supplier cost. The higher supplier cost creates increasing spontaneous liabilities and increasing AFN (Bandi, 2007).
Hyphotesis 2: Current Liabilities have significant influence to AFN.

1.3. Sales Margin and Additional Funds Needs

Sales margin can influence to Additional Funds Needs (Brigham & Daves, 2014). The higher sales margin the lower additional funds needs (Bandi, 2007). It means that firms decrease inflow of cash flow on external funding.
Hyphotesis 3: Sales Margin have significant influence to the need for Additional funds.

1.4. Retained Earning and Additional Funds Needs

Growth of Retained Earning can influence to Additional Funds Needs (Brigham & Daves, 2014). The higher retained earning, the higher additional funds need. It means that the higher retained earning is the lower payout ratio and the higher additional funds needed.
Hyphotesis 4: Retained Earning have significant influence to AFN.

1.5. Compare Test of Additional Fund Needed

AFN will be examined by comparing test for examining the covid-19 pandemic outbreak in December 2018 - December 2020. AFN has an effect on current liabilities, retained earning and sales margin on Covid-19 Pandemic especially December 2018 to December 2020. Additional funds were performed higher in December 2020 than December 2018. Covid-19 makes stress on firms financial (Harvey, 2020). Covid-19 pandemic made economic shock for perception on financial planning for household (Prasetyo, 2020). Hypothesis 5: There is Differences Between December 2018 and December 2020.

1.6. Conceptual Framework

From the hypotheses that have been built, a conceptual framework can be described as shown in Figure 1.
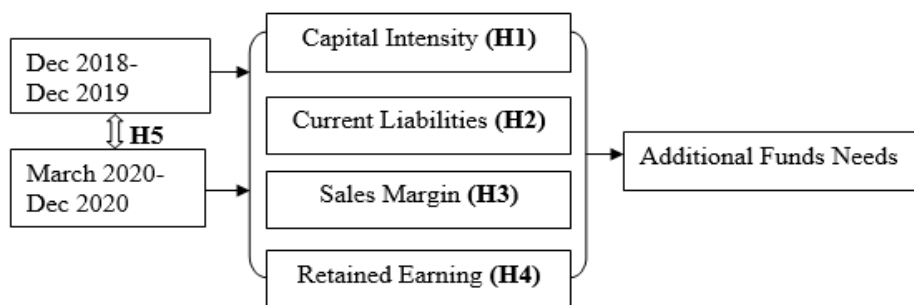

Figure 1. Conceptual Framework

2. Method

This study uses quantitative method to execute data by SPSS IBM 20 Statistics. Quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, quantitative or statistical data analysis, with the aim of testing predetermined hypotheses (Sugiyono, 2015).

The data are from Quartedly financial statement in IDX on December 2018 until December 2020. Samples consist of Waskita Karya Tbk (WSKT) and Lippo Cikarang Tbk (LPCK).

The definition of variables consist of Dependent variable uses Additional of funds needs that means additional funds for firms that measured by AFN Formula (Brigham & Daves, 2014) and Independent Variables consist of capital intensity, liabilities, sales margin and retained earning. Capital intensity measured by fixed assets from total assets or sales, liabilities measured by current liabilities to asset, sales margin measured by sales minus cost of goods sold and retained earning measured by net income minus devidend.

Data analysis uses multiple regression analysis and calculate formula of AFN (Brigham & Daves, 2014). This study uses classic assumption to make certainly that the model of regression is Best Linier Unbiased Estimator (BLUE). The test of classic assumption consists of Normality, Heteroskedastisity, Multikolonieroty and Autocorrelation. The hypothesis can be accepted with a significance level of (α) 5% (Ghozali, 2013).

3. Result and Discussion
3.1. Descriptive statistics
Several variables used to influence the need for funds include Capital Intensity, Current Liabilities, retained earnings, sales margin. A number of these variables were calculated 9 times from December 2018 to December 2020 so that the total obtained was 18 observations. Explanation of descriptive statistics for each variable can be found in Table 1.

Table 1. Statistic Descriptive

Variable	N	Minimum	Maximum
Capital Intensity	18	5.269	33.256
Current Liabilities	18	.00383	4.590
Retained Earning	18	.0164	.735
Margin	18	-1.954	2.886
Additional Funds Needs (AFN)	18	-594170.246	361530.125
Total	18		

3.2. The Results of Classic Assumption
Classic assumption consists of Normality, Heteroskedastisity, Multikolonierity, and Autocorrelation (Sudiro, 2012). The results of this study meet the classical assumption test so that it can be forwarded to the next test.

3.3. The Formula Results for AFN
The funding requirement factors were observed on December 2018 to December 2019. Funding requirements used the formula for increasing assets, increasing current liabilities and increasing retained earnings from total sales growth. If AFN positif so we need funds needed, thus If AFN negatif we have several funds than their need such as to buy back stock, buy shorterm investment and debt payment (Bandi, 2007).

Table 2 explain that WSKT needs additional funds on March 2019- December 2020. It shows that the value of Additional funds needed is positive on December 2018-December 2019 and the value of Additional funds needed is negative on March 2020-December 2020.

Table 2. Fund Need Added

Time	Asset Growth Needs (Hl/PJ*sso)	Liabilities (ta/pj*sso)	Retained earning From Growth (MSRR)	AFN
WSKTdec18	0.000881	1.93021	122276.4	-122274
2019-March	-0.00196	-4.4505	58451.28	-58455.7
2019-June	0.002694	6.30892	176461.9	-176456
2019-Sep	1.305107	3.042112	71031.55	-71029.8
2019-Des	-0.20436	-0.55643	77024.46	-77024.8
2020-March	-0.82666	-2.39823	68391.95	-68393.5
2020-June	-1.98657	-6.14165	-63987.8	63983.63
2020-Sep	1.521983	4.536693	-115715	115718.3
2020-Dec	1.129361	2.472087	-71183.6	71184.98
LPCKDec18	0.101674	0.888923	53405.88	-53405.1
2019-March	0.068057	0.527432	83377.56	-83377.1
2019-June	-0.32633	-2.97675	86830.73	-86833.4
2019-Sep	0.026102	0.313515	106419.8	-106420
2019-Dec	-0.02048	-0.26327	448797.1	-448797
2020-March	0.219668	1.200981	319628.7	-319628
2020-June	-0.15151	-0.91172	195701.3	-195702
2020-Sep	0.148271	0.940962	594171	-594170
2020-Dec	-0.95271	-4.29078	-361533	361530.1

3.4. Compare Test

Table 3 shows the results of compare test between AFN on December 2018-2019 and December 2020. Based on the analysis findings the value of Significance is 0,634 that means it higher than 0.05 so that there is no difference between Additional funds needed on December 2018-2019 and December 2020.

Table 3. Paired Samples Test

| | | Paired Differences | | | | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
					Lower	Upper			
Pair 1	Before-After	-67864.66	385468.73	136283.776	-390124.59	254395.259	-.498	7	.634

3.5. The Results of Multiple Regression Analysis

Table 4 shows coefficient determination of variable independent to dependent varable. It shows that adjusted R Square 0.943 that means independent variable such as capital intensity of asset growth, current liabilities or spontaneous liabilities, sales margin and retined earning can influence to AFN funds at 94,3% and 5,7% the dependent variable of additional funds need influenced by other variables.

Table 4. Coeficient Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.978ª	.956	.943	50283.558277	1.733

a. Predictors: (Constant), re, hlpj, margin, tapj
b. Dependent Variable: AFN

Table 5 shows the result of F test. F test examine the influence of variable independent to dependent variable simultaneously. It shows that F test significance 0.000 be lower than 0,05 that means independent variables consist of capital intensity of asset growth, current liabilities, sales margin, and retained earning have significance influence to the need for additional funds simultaneously. F test 71.10 means that the increase of independent at 1 point will increase dependent variable at 71.10 point. Table 6 shows the effect of the t-test results which describe the effect between variables.

Table 5. ANOVAª

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	719087998806.163	4	179771999701.54	71.100	.000b
	Residual	32869671028.512	13	2528436232.962		
	Total	751957669834.675	17			

a. Dependent Variable: AFN
b. Predictors: (Constant), re, hlpj, margin, tapj

Table 6. t-test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-147757.09	35219.818		-4.195	.001
	CI	9395.357	3384.498	.363	2.776	.016
	CL	14484.533	9355.019	.097	1.548	.146
	margin	-234716.53	18735.279	-1.184	-12.528	.000
	retained	-160866.58	79101.852	-.186	-2.034	.063

Dependent Variable: AFN

Table 6 shows the result of t test that means t test examine independent variable have influence parsially on Dependent variable. The findings as the following:

a. Capital Intensity (CI) have significance positive 0.016 that means Current Liabilities have influence to the needs for Additional funds.

b. Current Liabilities (CL) have significance 0.146 that means capital intensity do not influence to the needs for Additional funds.

c. Sales Margin have significance negative 0.000 that means Sales Margin have influence to the needs for Additional funds.

d. Retained Earning have significance 0.063 that means Retained Earning do not influence to the needs for Additional funds.

3.6. Discussion

Based on the results, this study provides several discussions as:

a. Capital intensity of Asset growth have significance influence to AFN. The higher capital intensity, the higher AFN. Capital intensity encourage funds on cashflow. The assumption on forecasting financial with AFN are the increasing sales will increase active or asset in balance sheet (Renaldy, 2011). Purwanto et al., (2007) found that negative AFN shows firms can fund operational expenses using internal funds and excess funds evidence in Indonesia. This study is similar with previous study (Renaldy, 2011; Purwanto et al., 2007). Moverover, If AFN positif so we require funds needed, thus If AFN negatif we have several funds than their need such as to buy back on stock, buy shorterm investment and debt payment (Bandi, 2007). AFN was increased during the study period so the firms have to reduce the AFN, dividend payout ratio, plant capacity and in order to increase the retained earnings and profit margin (Sivakumar, 2015). The higher the planned growth rate in sales, the larger is the amount of investment needed in the fixed and current assets for firms (Dondeti et al., 2021) but the additional investment in the buildings and equipment or inventories that namely by capital intensity is not necessarily increases spontaneous accounts receivable or accounts payable (Dondeti et al., 2021) and different evidence found that the additional funds give impact on disadvantaged people in Schools (Witte et al., 2017). Thus, H1 Capital Intensity is accepted.

b. Current Liabilities does not have influence to AFN. Therefore, the variable that is not significant to the need for funds is an increase in a number of spontaneous or current liabilities. The increasing sales will increase spontaneous liabilities (Renaldy, 2011). This result is in line with the previous research which states a high debt ratio can harm accounting performance and the intensity of market competition which moderates capital structure and performance (Mathur & Tiwari, 2021). Based on this analysis, it means that the need for additional funds is not caused by an increase in the number of spontaneous liabilities named by current liabilities. This study is not similar with previous study (Renaldy, 2011). The new funds needed to reduce access costs (Sonne et al., 2019) then the additional fund needed was increased so the firms have to reduce the additional fund needed and plant capacity so profit margin will increase (Sivakumar, 2015). But it is

similar with the additional or AFN based on the percentage of sales approach by using assumption on proportion to the planned growth rate in sales. The previous finding on planned growth rate in sales is significantly different in fact. Thus, the additional investment in the buildings and equipment or inventories namely by capital intensity is not necessarily to increases spontaneous accounts receivable or accounts payable (Dondeti et al., 2021). Thus, H2 Current Liabilities are rejected.

c. Sales Margin have significance influence to AFN. Higher Sales margin encourages volume of production that means firms need additional fund for additional production. The result found that profit margin from sales margin influences additional funds so it means that profit margin is primary factors on additional funds. This study is consistent with theory of AFN Formula from previous study (Brigham & Daves, 2014). The additional fund needed increased during the study period so the firms have to reduce the AFN in order to increase profit margin (Sivakumar, 2015). Thus, Hypothesis 3 Sales Growth is accepted.

d. Retained earning do not influence on additional funds needed. It means that retained earning do not significant on the higher additional funds needed. The fluctuative of retained earning and small numbers on retained earning encourage insignificant on additional funds needed. The lower retained earning the higher devident payout ratio. The higher devident payout ratio create decreasing internal funds and increasing AFN (Bandi, 2007). This result is not similar with previous study from (Bandi, 2007). The similar studies found that the additional fund needed was increased so the firms have to reduce the additional fund needed, dividend payout ratio, plant capacity and in order to increase the retained earnings and profit margin (Sivakumar, 2015). Thus, H4 retained earning is rejected.

e. This study also found that there are no significant differences on AFN on December 2018 to December 2020. The reason that AFN is influenced by the sales growth of the firms in stability. The firms' samples use Government Firms channel from WSKT and LPCK. The Samples firms have good financial performance in Sales Growth. AFN provides every asset grow proportionally to sales, debt and accrual grow proportionally to sales, profit margin and devident payout ratio is defended and sales ratio expected to increase (Bandi, 2007). This result is not similar with previous study that found financial distress in 2019 especially in covid-19 pandemic (Harvey, 2020). In 2019 financial performance is different than before 2019. Thus, H5 the results of differences Additional funds needed on 2018-2020 is rejected.

4. Conclusion

The increase in required assets or known as capital intensity, sales margin and increase in retained earnings are able to support the amount of funding needed. Meanwhile, the increase in spontaneous liabilities does not significantly affect the need for funds. Hence, firm should maintain asset liquidity to anticipate increased funding requirements due to sales growth and increased payment of company expenses. The limitations of this empirical study include requirement of control variables using the sales forecasting method with trend

analysis so that it can be seen the proximity of forecasting sales increases with the AFN model of additional funding requirements. Further researchers should add variables that are closer to forecasting the need for additional funds such as the amount of investment and maturing bonds, macro economics or micro economics. The Contribution of this study are for developing empirical studies especially in capital Intensity, spontaneous liabilities or current liabilities, retained earning and additional funds needed during 2018-2020 on firms listed in Indonesia Stock Exchange, for finding the results of previous studies on additional funds needed and for re-examining the formula of additional funds Needed from (Brigham & Daves, 2014). Also, that quarterly data provide more detailed results in developing literature related to the need for additional funds and capital intensity and the factors that influence them more so that changes can be analyzed periodically, not annually.

Authors' Declaration

Authors' contributions and responsibilities

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

Funding

No funding information from the authors.

Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

Additional information

No additional information from the authors.

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