

Firm life cycle and financial distress: Working capital strategy as moderation

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ABSTRACT

This study empirically examines the working capital strategy (WCF) as moderation on the probability of companies experiencing financial distress when viewed from the firm life cycle (FLC). This study uses logistic regression and moderated regression analysis (MRA) to analyze the data and SPSS 24 software to process the data. The study used the sample taken from non-financial sector companies listed on the Indonesia Stock Exchange (IDX) for the period of 2010-2020. The results indicate that the working capital strategy does not moderate the probability of companies experiencing financial distress when viewed from the firm life cycle (FLC). The probability of experiencing financial distress tends to be low in companies that are in the growth and mature phases. Thus, the results of this study confirm the firm life cycle theory.

ABSTRAK

Penelitian ini menguji secara empiris moderasi working capital strategy (WCF) pada probabilitas perusahaan dalam mengalami financial distress jika ditinjau dari firm life cycle (FLC). Penelitian ini menggunakan regresi logistic dan moderated regression analysis (MRA) untuk menganalisis data dan software SPSS 24 untuk mengolah data. Penelitian ini menggunakan sampel perusahaan di sector non keuangan yang terdaftar di Bursa Efek Indonesia (BEI) selama periode 2010-2020. Hasil penelitian menunjukkan bahwa working capital strategy tidak memoderasi probabilitas perusahaan dalam mengalami financial distress jika ditinjau dari firm life cycle (FLC). Probabilitas perusahaan dalam mengalami financial distress ditemukan cenderung rendah pada perusahaan yang berada di fase growth dan mature. Dengan demikian, hasil penelitian ini telah mengkonfirmasi teori company life cycle.

1. INTRODUCTION

Financial distress is a condition when a company has difficulty in meeting its financial obligations. However, their existence in the market is on generating the value for its shareholders. Financial distress is one of the obstacles for companies in creating value for their shareholders. Financial distress can appear in every company life cycle and affect the company's performance in the future (Avramov et al., 2013). Prolonged financial distress can cause business entities to go bankrupt (Fan, Huang, and Zhu, 2013). When a company experiences financial distress, managers will be under pressure, which in turn, affects the process and behavior in

decision making (Iatridis and Kadorinis, 2009). In addition, the income generated by the company may not meet the expectations of investors. This condition can affect the decreasing stock prices and firm value (Li et al., 2020). Value creation will occur if the company is able to generate more profits for its shareholders (Ndicu Ndua, 2018). Value is a reflection of the company's ability to generate wealth for its shareholders (Sumaryati and Tristiarini, 2018).

Firm value is important for the investors to assess their investment potential in a particular company. This is because firm value is a price that investors are willing to pay when the company is deemed worthy of

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investment. Therefore, to create good value, companies need to know strategies related to the introduction, selection, and grouping of potential markets (Pandey and Saluja, 2014). In addition, companies can also use other strategies, such as selecting their working capital needs. The selection of the right working capital strategy will increase efficiency in the management of the company's current assets and current liabilities. Thus, there will be an increase in the company's profitability without causing problems related to company liquidity (Panda and Nanda, 2018). Profitability and liquidity are common problems faced by companies in each of their life cycles, especially for companies that have a high probability of experiencing financial distress (Habib et al., 2020).

The firm life cycle is the phases of company growth that arise due to changes in certain factors. These factors generally arise from the strategic activities carried out by the company (Dickinson, 2011). The firm life cycle consists of 4 phases; birth, growth, maturity, and decline (Koh et al., 2015). The firm life cycle can have a negative impact on the company. This negative impact arises when the company ignores it. The company will be able to benefit from the decisions it makes, if the company knows the characteristics of each phase of its life cycle (Graciosa et al., 2020).

In the birth phase, the company requires a high investment in its fixed assets. However, the company's cash flow in this period tends to produce low profits. For that reason, when the company is in the birth phase, the risk of experiencing financial distress is quite high (Akbar et al., 2019). This is different from the companies that are in the growth phase. In the growth phase, the companies tend to experience high sales growth rates and competition arises for the diversification of products offered. Therefore, the risk of experiencing financial distress will be lower when compared to the risk in the birth phase.

In the mature phase, the sales growth rate tends to be slow and stable. Therefore, in this phase, the company tends to be conservative because it already has sufficient funding sources. In the decline phase, the company tends to have a shortage of funding sources. This is because in this phase the company tends to experience a decrease in its sales volume. Therefore, in the decline phase, the company tends to increase its R&D investment and use external funding sources to increase its market

share. However, this can affect the company's vulnerability to experiencing financial distress. Where, the high external funding, especially through debt, can affect the company's ability to generate profits.

Companies that are in the birth, growth, and decline phases tend to have limited resources, so they will choose a more aggressive working capital strategy. When companies adopt an aggressive working capital strategy, investment in current asset accounts, such as inventories and receivables, will be less (Panda and Nanda, 2018), while investment in current liabilities accounts will be higher (Nazir and Afza, 2009; Wang et al., 2020). This strategy is taken to make the cost of inventory storage, inventory insurance, and the possibility of theft or loss of inventory lower. In addition, the company can also increase its profitability on the availability of net cash through the implementation of a shorter receivable collection period. The increase in investment in current liabilities will also be higher because current liabilities can be used to fund the company's current assets.

This is different from the companies that are in the mature phase. Companies that are in the mature phase tend to have adequate resources to fund their new projects. Therefore, the working capital strategy that is carried out will tend to be more conservative than that of companies that are in the birth, growth, and decline phases. When companies adopt a conservative working capital strategy, the companies will tend to choose to invest in current assets such as inventories and receivables (Panda and Nanda, 2018). The increase in inventory volume is intended to reduce the risk of stock-outs and costs of inventory due to price variations. In addition, the increase in the value of receivables is intended to give customers more opportunities to pay off their debts on time.

Based on the reasons above, it is known that the phases of the firm life cycle can affect the company's investment decisions, operating performance, and financing decisions (Hasan, Hossain, and Habib, 2015). Therefore, it is important for the companies to choose the right working capital strategy based on the phase of the firm life cycle. This study will provide empirical evidence of the probability of companies experiencing financial distress when viewed from the firm life cycle. In this study, financial distress is estimated using 3 main variables: profitability, financial

expenses, and retained earnings referring to Keasey et al. (2015). In addition, a moderation test will be conducted by adding a working capital strategy.

2. THEORITICAL FRAMEWORK AND HYPOTHESIS

This study uses a working capital strategy (WCS) as a moderating variable. This is supported by the life cycle theory which holds the perspective that every company has a consideration of its business strategy based on the phases of the firm life cycle (Anthony dan Ramesh, 1992). The dependent variable is the firm life cycle, consisting of 5 phases: birth, grow, mature, decline, and shake-out, which refers to the life cycle theory and research conducted by Dickinson (2011). In addition, this study also use control variables, which include leverage, return on equity, sales, capital expenditure, asset turnover ratio, and R&D expenses, referring to the research conducted by Hasan (2018). Based on the theory and the results of previous research, the conceptual framework can be proposed as follows:

The company is a business entity that tends to evolve (Dickinson, 2011). The evolution of an entity is determined by internal factors and external factors of the company. Internal factors include choosing the right strategy for the company, using financial resources effectively and efficiently, and optimizing managerial ability in managing adequate non-financial resources. Meanwhile, external factors include the competitive environment and macroeconomic factors. The firm life cycle is a phase created by the existence of these two factors. Thus, companies can use these two factors as considerations in making decisions.

Life cycle theory states that there are fundamental differences in the firm life cycle. These differences can be observed through systematic changes in operating activities, investment, funding, resource endowment, organizational capability, risk appetite, and company strategy (Al Hadi et al., 2019; Helfat and Peteraf, 2003). Companies that are in the birth phase do not yet have a customer base. They have less knowledge regarding potential revenue sources, costs, and industry dynamics (Jovanovic, 1982). In addition, some companies also face the emergence of a high cost of capital. This is because investors tend to demand companies to provide higher returns due to uncertainty over the company's cash flows and earnings in the future (Jenkins, Kane, and Velury, 2004). Therefore, companies are required to have a strategy so that they can invest more in their resources as a step for sustainable development. Sustainable development is useful for anticipating the emergence of potential competitors (Hasan, 2018; Spence, 1977). Investments made by the company must have a positive NPV value because investment can also cause new problems, such as the high ratio of debt that will be borne by the company to finance its investment. When a company in the birth phase bears a higher level of debt than its profit margin, the company can lead to financial distress (Akbar et al., 2019; Iotti and Bonazzi, 2018).

Companies that are in the growth phase have a higher customer base and sales growth rate than those that are in the birth phase. They also tend to develop a more formal business structure and innovate and diversify their products. However, they also have potential

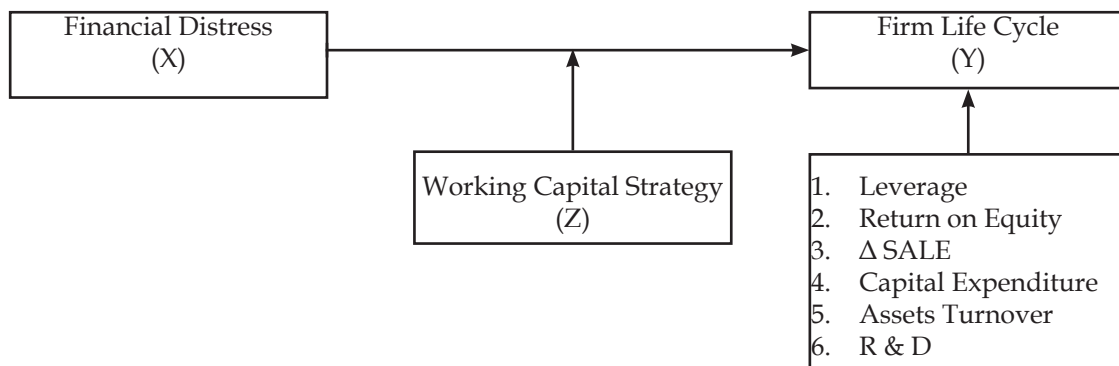


Figure 1
Conceptual Framework

challenges that include the ability to produce, distribute, and sell their products in large quantities in order to avoid market shocks (Akbar et al., 2019). Moreover, the related market shock factor can cause the loss of customers and market share, resulting in the probability of financial distress for companies that are in the growth phase.

During the mature phase, companies have the potential for greater competitive leverage through the use of resources, managerial capabilities, and the ability to maintain resources (Gray and Ariss, 1985). Companies that are in the mature phase can also focus more on improving their reputation and investment (Habib and Hasan, 2017). Companies that are in the mature phase usually have higher earnings per share, retained earnings/total assets, and return on net operating assets (Al-Hadi et al., 2019). Thus, companies that are in the mature stage tend to have better resilience in the face of financial distress.

Investors usually evaluate the company's ability to overcome financial distress through the value of their cash flows and potential sources of income (Black, 2000). Dickinson (2011) states that companies that are in the birth and decline phases are generally less profitable and more risky. This applies when the company is compared to other similar companies and is in the growth and mature phase (Habib and Hasan, 2017).

H1a: The probability of experiencing financial distress is higher when the companies are in the birth, growth, and decline phases of life cycle.

H1b: The probability of experiencing financial distress is lower when the companies are in the mature phase of life cycle.

Financial distress, default, and bankruptcy are fundamental in every phase of the firm life cycle (Koh et al., 2015; Wruck, 1990). According to Koh et al. (2015) companies will tend to try to develop certain strategies in order to rise from financial distress. The phases of the firm life cycle are closely related to the selection of strategies that will be used by the company. This is in accordance with the perspective of life cycle theory (Anthony and Ramesh, 1992). Each phase has significant differences related to conditions, organizational strategy, structure, and decision-making models (Miller and Friesen, 1984).

Working capital strategy (WCS) is a strategy that plays a role in increasing company

profitability. The company's profitability will increase because WCS is useful for helping companies achieve optimal sales growth rates and expand the company's market share (Nazir and Afza, 2009). The determination of WCS tends to be different in each company's life cycle because each company has different capital requirements in each phase of its life cycle as a support to increase its profitability (Wang, Z. et al., 2020). Companies that are in the birth, growth, and decline phases tend to have limited resources. Therefore, they will tend to adopt WCS aggressively as a step to increase their profitability. In contrast to companies in the mature phase, these companies tend to have sufficient funds to finance their new projects. Companies that are in the mature phase tend to have an leverage. over available capital in the form of retained earnings (Bulan and Yan, 2009). According to, Habib and Hasan (2019) According to Habib and Hasan (2019), the phases of the firm life cycle have an effect on investment and funding activities. WCF is directly related to the financing capability of a company. This capability is certainly not static at every phase of the firm life cycle.

H2a: Aggressive adoption of WCF can weaken the probability of companies experiencing financial distress in the birth, growth, and decline phases of life cycle.

H2a: Conservative adoption of WCF can weaken the probability of companies experiencing financial distress in the mature phase of life cycle.

3. RESEARCH METHOD

Financial Distress (FDL)

Financial distress is a risk that arises due to the company's poor financial structure (Inekwe, Jin, and Valenzuela, 2018). Financial distress is identified as a condition that begins with failure those results in bankruptcy. Traditionally, financial distress is a sign of the end of the firm life cycle (Altman, 1968). When a crisis occurs, the company will be more vulnerable to experiencing financial distress (Agostini, 2018).

Although the Z-Score model by Altman (1968) is the most commonly used model in research related to financial distress (Keasey et al., 2015), this study does not use this model because Pindado, Rodrigues and de la Torre (2008) have found a model which can consistently be used in determining the value of financial distress in non-US countries.

This study uses 3 variables to estimate the probability of a company experiencing financial distress, such as profitability (EBIT/TA), financial expenses (FE/TA), and retained earnings (RE/TA), with reference to research conducted by Keasey et al. (2015). Profitability is interpreted as a ratio that explains the company's ability to fund its operational activities through its assets. In addition, profitability is also a trigger for the company's liquidity condition, which is based on the company's ability to extend debt contracts and renegotiate payments on its debts. Financial expense refers to the ratio that explains the company's ability to pay off its financial obligations. When a company experiences financial distress, an increase in the value of financial expense can increase the probability of the company's inability to meet its financial obligations. Retained earnings are a ratio that represents the company's cumulative profitability. This can be used to predict the company's capacity to fund internally, for now, either in the future, or historically.

The probability of a company experiencing financial distress is not only based on the condition of bankruptcy, but also when the company meets two certain conditions. First, when the value of earnings before interest and taxes, depreciation, and amortization (EBITDA) is lower than financial expenses for two consecutive years; Second, when the company is experiencing a decline in market value for two consecutive years. Based on the method used by Pindado et al. (2008), a logistic regression test will be carried out on model 3.1. The test is carried out to obtain the value of the FDL variable. The value obtained will have a range between 0-1. This value is later being expected as the probability of the company experiencing financial distress. Therefore, this study proposes the following formula:

$$\log(\text{Prob}(\text{Insolvency})/\text{Prob}(\text{Noinsolvency})) = \beta_0 + \beta_1 \text{EBIT}_{it} / \text{TA}_{it-1} + \beta_2 \text{FE}_{it} / \text{TA}_{it-1} + (\beta_3 \text{RE}_{it-1}) / \text{TA}_{it-1} + d_t + \eta_i + u_{it} \dots \dots \dots (1)$$

Prob (Insolvency) = Company i that meets two certain conditions for 2 consecutive years and gets a score of 1.

Prob (Noinsolvency) = Company i that does not or only meets 1 certain condition and gets a score of 0.

EBIT_{it} = Earnings before interest and taxes in year t.

FE_{it} = Financial expenses in year t.

RE_{it-1} = Retained earnings in year t-1.

TA_{it-1} = Value of total assets in year t-1.

Working Capital Strategy (WCS)

Working capital strategy (WCS) is a strategy carried out by companies to create sustainable performance (Wang, Z. et al., 2020). WCS is measured by net working capital (company inventory + receivables - trade creditors) divided by the total sales value for 1 year. After that, the net working capital ratio of each company operating in the same industrial sector is compared. Companies that have a net working capital ratio lower than the average of similar industrial sectors are designated as companies that adopt an aggressive working capital strategy. Meanwhile, companies that have a net working capital ratio higher than the average of similar industrial sectors are designated as companies that adopt a conservative working capital strategy.

Firm Life Cycle (FLC)

The firm life cycle is a phase that arises due to changes in certain factors. These factors usually arise because of the strategic activities carried out by the company (Dickinson, 2011). The firm life cycle in this study is proxied by 5 phases used in the research conducted by Dickinson (2011); Koh et al. (2015): birth, growth, maturity, decline, and shake out. The classification of the phases of the company's life cycle is carried out to distinguish the product behavior, learning/experience, investment, market share, and entry/exit patterns of the company (Hasan, 2018). Thus, results related to the performance and allocation of company resources will be obtained. The classification can be formulated as follows:

1. *Birth*: if operating cash flow (OANCF) < 0, investment cash flow (IVNCF) < 0, and funding cash flow (FINCF) > 0;
2. *Growth*: if operating cash flow (OANCF) > 0, investment cash flow (IVNCF) < 0, and funding cash flow (FINCF) > 0;
3. *Maturity*: if operating cash flow (OANCF) > 0, investment cash flow (IVNCF) < 0, and funding cash flow (FINCF) < 0;
4. *Decline*: if operating cash flow (OANCF) < 0, investment cash flow (IVNCF) > 0, and funding cash flow (FINCF) ≤ or ≥ 0.
5. *Shake out*: companies that are in a certain year will be classified as shake out.

The birth phase has a score of 1, the growth phase has a score of 2, the maturity phase has a score of 3, the decline phase has a score of 4,

and the shake-out phase has a score of 0. This is in accordance with Hasan (2018).

The results of previous research conducted by Habib et al. (2020), Akbar et al. (2019), and Hasan (2018) show that the probability of a company experiencing financial distress is influenced by many factors. Therefore, to avoid the heterogeneity factor, a control variable is proposed, which includes leverage. to control the company's capital structure if it is reviewed based on its life cycle, ROE to control the company's profitability level, $\Delta\Delta Sale$, *capex*, *ATO* to control the level of influence of the company on *FDL*, and *R&D* to control the level of company investment. The submission of control variables refers to the research conducted by Hasan (2018).

Leverage (LEV)

Leverage is total short-term debt (DLC) plus total long-term debt (DLTT) and divided by total assets t-1 (AT) (Hasan, 2018). Thus, leverage can be formulated as follows:

$$\text{Leverage}_{it} = (\text{DLC}_{it} + \text{DLTT}_{it}) / \text{AT}_{it-1} \dots \dots \dots (2)$$

Return on Equity (ROE)

Return on equity is operating profit (PI - XI) divided by equity t-1 (CEQ) (Hasan, 2018). Thus, the return on equity can be formulated as follows:

$$\text{ROE}_{it} = (\text{PI}_{it} - \text{XI}_{it}) / \text{CEQ}_{it} \dots \dots \dots (3)$$

ΔSALE

ΔSALE is the difference in sales in year t divided by sales in year t-1 (Hasan, 2018).

Capital Expenditure (CAPEX)

Capital expenditure is the funds used by the company to acquire, increase, and extend the economic life of the assets used. In this study, capital expenditure is formulated based on research conducted Hasan (2018) as follows:

$$\text{Capital Expenditure}_{it} = \text{CAPEX}_{it} / \text{Total Assets}_{it-1} \dots \dots \dots (4)$$

Asset Turnover Ratio (ATO)

Asset turnover ratio is the total value of net sales (SALE) divided by total assets t-1 (Hasan, 2018).

R&D Expenses (R&D)

R&D expenses are the value of R&D expenses divided by the value of PPE (Property, Plant, Equipment) t-1. For companies that do not present R&D expenses the value will be 0 (Hasan, 2018).

The population of this study is all companies listed on the Indonesia Stock Exchange (IDX) during the period 2010-2020.

This research uses purposive sampling technique based on certain characteristics. The characteristics are such as the company is engaged in the non-financial sector based on industry classification according to the Global Industry Classification Standard (GICS). Based on the GICS classification, there are 11 industrial sectors: energy, materials, industrials, consumer discretionary, consumer staples, health care, financials, information technology, communication services, utilities, and real estate. However, companies in the financial industry sector are excluded from the sample of this study because high levels of debt in financial sector companies have a different meaning when applied to non-financial sector companies (Fama and French, 1992; Foerster and Sapp, 2005). The high level of debt in financial sector companies is an indication of good company profitability because most of the assets of financial sector companies are in the form of debt. This is different from non-financial sector companies where high debt levels are an indication of financial distress. Based on the characteristics of the research sample, the total sample companies obtained are as follows:

This study uses secondary data collected directly through the OSIRIS website and related company websites and/or the https://

Table 1
Criteria and Number of Samples

No	Criteria	Number of Samples
1	Companies listed on the IDX 2010-2020	7740
2	Companies in the financial industry sector listed on the IDX in 2010-2020	2790
2	Companies with missing values for the variables used in the regression model	840
3	According to criteria	4110

Source: Processed Data, 2022

www.idx.co.id website. The data collected relates to the company's cash flow statement, financial distress, and firm value.

The data were analyzed using logistic regression and moderated regression analysis to analyze the data with SPSS 24 software to process the data. The purpose of using logistic regression and moderated regression analysis in this study is to confirm theories and concepts that already exist in previous studies. This study uses a combination of quantitative data in categorical form (company life cycle) (Hair et al., 2010). Thus, there are 3 equations proposed in this study, which consist of:

$$FLCit = a + \beta_1 FDL_{it} + \beta_2 LEV_{it} + \beta_3 ROE_{it} + \beta_4 \Delta SALES_{it} + \beta_5 CAPEX_{it} + \beta_6 ATO_{it} + \beta_7 R\&D_{it} + \epsilon \dots \dots \dots (5)$$

$$FLCit = a + \beta_1 FDL_{it} + \beta_2 WCS_{it} + \beta_3 LEV_{it} + \beta_4 ROE_{it} + \beta_5 \Delta SALES_{it} + \beta_6 CAPEX_{it} + \beta_7 ATO_{it} + \beta_8 R\&D_{it} + \epsilon \dots \dots \dots (6)$$

$$FLCit = a + \beta_1 FDL_{it} + \beta_2 WCS_{it} + \beta_3 FDL_{it} * WCS_{it} + \beta_4 LEV_{it} + \beta_5 ROE_{it} + \beta_6 \Delta SALES_{it} + \beta_7 CAPEX_{it} + \beta_8 ATO_{it} + \beta_9 R\&D_{it} + \epsilon \dots \dots \dots (7)$$

Moderation is proposed to anticipate the existence of conditions that support the effect of the phase of the firm life cycle on the tendency for financial distress to occur. Working capital strategy is a moderating variable that weakens the effect of the firm life cycle phases on the tendency of financial distress. Therefore, testing working capital strategy as a moderating variable can be done through 4 steps according to research conducted by Sharma, Durand and Gur-Arie (1981):

- a. Determining if there is a significant interaction between the working capital strategy and the probability of financial distress. If there is a significant interaction between the working capital strategy and

the probability of financial distress, it can be continued to step 2. But, if there is no significant interaction between the working capital strategy and the probability of financial distress, it can be continued to step 3.

- b. Determining if there is a relationship between working capital strategy and the firm life cycle. If there is a relationship between the working capital strategy and the firm life cycle, the working capital strategy is a quasi moderator. However, if there is no relationship between the two, the working capital strategy is a pure moderator.
- c. Determining if there is a relationship between the working capital strategy and the phase of the firm life cycle or the probability of financial distress. If there is a relationship between the working capital strategy and the phase of the firm life cycle or the probability of financial distress, the working capital strategy is not a moderator variable but an exogenous, predictor, mediator, antecedent, or suppressor variable. However, if there is no relationship between the two, it can be continued to step 4.
- d. Conducting significance test to determine whether the working capital strategy is a homologizer variable. If there is no difference in the level of significance, the working capital strategy is not a moderator variable.

4. DATA ANALYSIS AND DISCUSSION

The results show that the majority of the sample companies in the non-financial sector for the period of 2010-2020 are in the mature phase of life cycle (42.9%), while the decline phase is the smallest phase of company life cycle in this research sample.

Table 1
Classification of Sample Companies by Life Cycle Phases

Kategori <i>FLC</i>	N	Percentage
<i>Shake-out</i>	377	9.2%
<i>Birth</i>	666	16.2%
<i>Growth</i>	1106	26.9%
<i>Mature</i>	1764	42.9%
<i>Decline</i>	197	4.8%
Total sample	4110	100%

Source: Processed Data, 2022

Tabel 2
Pearson Correlation

	FLC	WCS	FDL	LEV	ROE	SALES	CAPEX	ATO	RnD
FLC		0,003	-0,058***	-0,018	0,029*	-0,017	0,21	-0,021	-0,041***
WCS	0,003		0,24	-0,001	-0,002	0,000	0,002	-0,002	0,003
FDL	-0,058***	0,024		-0,009	0,046***	-0,011	0,016	-0,023	0,046***
LEV	-0,018	-0,001	-0,009		-0,001	0,991***	-0,975***	0,0956***	0,001
ROE	0,029*	-0,002	0,046***	-0,001		0,53***	0,000	0,138***	-0,010
SALES	-0,017	0,000	-0,011	0,991***	0,053***		-0,970***	0,969***	0,002
CAPEX	0,021	0,002	0,016	-0,975***	0,000	-0,970***		-0,958***	-0,001
ATO	-0,021	-0,002	-0,023	0,956***	0,138***	0,969***	-0,958***		-0,001
RnD	-0,041***	0,003	0,046***	0,001	-0,010	0,002	-0,001	-0,001	

Source: Processed Data, 2022

***p<0.01.

**p<0.05.

*p<0.10.

Based on the results of the Pearson correlation test in Table 2, it can be seen that the probability of a company experiencing financial distress (FDL) is negatively correlated with the firm life cycle (FLC) which is indicated by a Beta value of -0.058 and a p value of 0.000.

Table 3 shows that the probability of a company experiencing financial distress when it is in the birth phase is not significant (Beta = 0.394, p value = 0.484) and the probability of a company experiencing financial distress in the growth phase tends to be significantly negative (Beta=-3,146, p value=0.000). So, hypothesis H1a is rejected even though the probability of a company experiencing financial distress during the decline phase tends to be significantly positive (Beta = 1.666, p value = 0.004). Hypothesis H1b states that the probability of a company experiencing financial distress in the mature phase tends to be lower. The test results support the hypothesis H1b (Beta=-5.939, p value=0.003). So, hypothesis H1b is accepted.

The results of the hypothesis H1a contradicts the result of research conducted by Hasan et al. (2015) that companies that are in the birth phase of life cycle have a higher probability of experiencing financial distress. Therefore, it is necessary to know that companies tend to experience changes over a certain period. These changes can be short term and are usually influenced by feedback arising from the performance of the companies. The companies can choose which strategy to be repeated because it has a positive impact on improving company performance and which strategy to be avoided because it has a negative

effect on company performance. In certain cases, the changes are uncertain. Thus, the companies can respond to these changes with risk-taking behavior. This is in accordance with the perspective of dynamic capabilities theory. Based on empirical evidence from the results of research conducted by Jirásek and Ueno (2019), companies that are in the birth phase tend to respond positively to feedback arising from their performance. Therefore, if there is an unfavorable company performance, companies in the birth phase can quickly respond to this. Thus, the probability of the company experiencing financial distress will tend to decrease.

Companies that are in the growth phase are believed to be more profitable and low risk. This is supported by the results of research conducted by Ahmed et al. (2020) that during the growth phase, companies tend to start expanding their sales and production levels. This will certainly affect the increase in cash inflows to the company. In addition, during the growth phase, companies tend to have high levels of profitability and face low uncertainty over their operating cash flows (Dickinson, 2011). Thus, investors consider that companies that are in the growth phase have great potential. Consideration of this potential will make it easier for companies in the growth phase to gain access to external funding. Through increased cash inflows, increased profitability, and increased access to funding, companies in the growth phase are believed to have a low probability of experiencing financial distress.

Table 3
Results of Analysis of Equation 3.5

FLC		B	Std. Error	Wald	Df
birth	Intercept	-.823	.149	30.494	1
	FDL	.394	.564	.489	1
	LEV	.715***	.179	15.990	1
	ROE	-.121**	.061	3.996	1
	SALES	.047	.056	.698	1
	CAPEX	-23.180***	2.234	107.681	1
	ATO	.075	.065	1.318	1
	RnD	-2.807	9.907	.080	1
growth	Intercept	-.034	.149	.053	1
	FDL	-3.146***	.689	20.865	1
	LEV	.704***	.179	15.500	1
	ROE	.002	.053	.002	1
	SALES	.046	.056	.683	1
	CAPEX	-23.839***	2.232	114.092	1
	ATO	.026	.065	.159	1
	RnD	8.994	11.455	.617	1
mature	Intercept	1.030	.150	47.349	1
	FDL	-5.939***	.758	61.309	1
	LEV	.677***	.179	14.335	1
	ROE	-.072	.075	.936	1
	SALES	.047	.056	.698	1
	CAPEX	-17.016***	2.232	58.141	1
	ATO	.009	.065	.017	1
	RnD	-9.862	9.127	1.168	1
decline	Intercept	-1.052	.175	35.959	1
	FDL	1.666***	.584	8.130	1
	LEV	.678***	.182	13.820	1
	ROE	.033	.042	.638	1
	SALES	.039	.058	.459	1
	CAPEX	16.579***	4.710	12.388	1
	ATO	.048	.075	.412	1
	RnD	198.862***	67.640	8.644	1

Source: Processed Data, 2022

***p<0.01.

**p<0.05.

*p<0.10.

Companies that are in the mature phase have a lower risk of cash flow than those that are in the birth, growth, and decline phases. Therefore, the probability of companies in the mature phase in experiencing financial distress will also be lower. Companies in the mature phase generally have higher levels of income and asset returns. Therefore, there is less

uncertainty over risks related to the company's operational activities, both internally and externally. This, in the end, will make it easier for companies in the mature phase to gain access to funding because investors perceive that the risk of uncertainty in the company is low (Ahmed et al., 2020).

Table 4
Results of Analysis of Equation 3.6

FLC		B	Std. Error	Wald	df
Birth	Intercept	-.834	.152	30.069	1
	FDL	.401	.564	.505	1
	LEV	.714***	.180	15.632	1
	ROE	-.121**	.061	4.001	1
	SALES	.048	.057	.703	1
	CAPEX	-23.284***	2.246	107.510	1
	ATO	.078	.066	1.413	1
	RnD	-2.798	9.911	.080	1
	WCS	.009	.020	.213	1
	Growth	Intercept	-.046	.152	.090
FDL		-3.147***	.689	20.837	1
LEV		.702***	.180	15.148	1
ROE		.002	.053	.002	1
SALES		.047	.057	.688	1
CAPEX		-23.943***	2.244	113.887	1
ATO		.030	.066	.200	1
RnD		9.002	11.458	.617	1
WCS		.010	.020	.227	1
Mature		Intercept	1.019	.153	44.494
	FDL	-5.946***	.759	61.350	1
	LEV	.675***	.180	13.979	1
	ROE	-.073	.075	.947	1
	SALES	.048	.057	.703	1
	CAPEX	-17.122***	2.243	58.253	1
	ATO	.012	.066	.034	1
	RnD	-9.849	9.131	1.164	1
	WCS	.010	.020	.244	1
	Decline	Intercept	-1.058	.178	35.225
FDL		1.671***	.584	8.190	1
LEV		.677***	.184	13.573	1
ROE		.033	.042	.640	1
SALES		.040	.058	.470	1
CAPEX		16.582***	4.723	12.328	1
ATO		.051	.076	.453	1
RnD		199.144***	67.645	8.667	1
WCS		.006	.021	.081	1

Sumber : data olahan

***p<0.01.

**p<0.05.

*p<0.10.

Table 5
Results of Analysis of Equation 3.7

FLC		B	Std. Error	Wald	df
Birth	Intercept	.204	.111	3.396	1
	FDL	.554	.517	1.148	1
	LEV	-.056	.046	1.439	1
	ROE	.011	.089	.015	1
	SALES	.015	.034	.202	1
	CAPEX***	-5.632	1.134	24.684	1
	ATO	.050	.048	1.094	1
	RnD	-2.164	8.148	.071	1
	WCS	.002	.010	.035	1
	FDL*WCS	-.001	.071	.000	1
Growth	Intercept	1.050	.113	86.682	1
	FDL	-3.783***	.712	28.235	1
	LEV	-.055	.046	1.436	1
	ROE	.002	.090	.001	1
	SALES	.020	.033	.362	1
	CAPEX	-5.816***	1.130	26.516	1
	ATO	.027	.048	.319	1
	RnD	3.266	8.471	.149	1
	WCS	-.003	.011	.079	1
	FDL*WCS	.037	.068	.287	1
Mature	Intercept	1.782	.113	248.720	1
	FDL	-5.644***	.733	59.248	1
	LEV	-.036	.044	.680	1
	ROE	.014	.092	.023	1
	SALES	.015	.033	.213	1
	CAPEX	-3.183***	1.142	7.764	1
	ATO	.009	.049	.034	1
	RnD	-8.103	7.271	1.242	1
	WCS	.004	.015	.077	1
	FDL*WCS	-.022	.143	.025	1
Decline	Intercept	-.836	.145	33.167	1
	FDL	2.073***	.534	15.065	1
	LEV	.010	.024	.166	1
	ROE	.162	.104	2.415	1
	SALES	-.021	.050	.179	1
	CAPEX	.224	1.803	.015	1
	ATO	.053	.049	1.185	1
	RnD	10.272	20.365	.254	1
	WCS	-.002	.012	.017	1
	FDL*WCS	.031	.070	.195	1

Source : Processed data

***p<0.01.

**p<0.05.

*p<0.10.

The following are the empirical results of the regression analysis of the probability of companies experiencing financial distress (FDL) in terms of the firm life cycle (FLC) and working capital strategy (WCS). The test results in table 4.4 show that the working capital strategy has no effect on the firm life cycle, either in the birth phase (Beta = 0.009, p value = 0.645), in the growth phase (Beta = 0.010, p value = 0.634), in the mature phase (Beta = 0.010, p value = 0.621), or in the decline phase (Beta = 0.006, p value = 0.775). Therefore, referring to the research conducted by Sharma et al. (1981), the test can be continued to step 3 and step 4 in Table 5.

Based on the results in Table 5, working capital strategy (WCS) is not a moderating variable. This is indicated by the values of β_2 and β_3 in model 3.7, which are not significant. Thus, Hypothesis H2a, which states that the aggressive adoption of WCF weakens the probability of companies experiencing financial distress in the life cycle phases of birth, growth, and decline, is rejected. Hypothesis H2b, which states that conservative adoption of WCF weakens the probability of companies experiencing financial distress in the mature life cycle phase, is also rejected.

The result of this study contradicts the results of research conducted by Wang, Z. et al. (2020) which states that WCS is a form of strategy that plays a role in creating sustainable performance for companies that are in the birth, growth, and decline phases. WCF assists companies in dynamically connecting their resources with their competitive environment. This connection can increase the companies' sales and profits. Through increased sales and profits, the companies will have funds to cover their vulnerability in experiencing financial distress (Wang, X. et al., 2020).

The follow-up test is carried out through the $\Delta Sale$ variable, which is divided into several sub-groups based on the phases of the firm life cycle. There is no significant difference in the value of $\Delta Sale$ between the phases of the firm life cycle. It was both before and after WCS was included. According to Wang et al. (2020) WCS will only have a significant effect when the company's sales level is less stable. This result can be confirmed through the test results in Table 5 on the $\Delta Sale$ variable. Table 4.5 shows that the $\Delta Sale$ variable has no effect on the firm life cycle in the birth, growth, mature, and decline phases. In addition, in the

birth phase (Beta = 0.15, p value = 1.084), the growth phase (Beta = 0.15, p value = 1.089), and the mature phase (Beta = 0.15, p value = 1.084) also there is no significant difference in the level of sales. For that reason, this can be the reason why WCS does not moderate the probability of a company experiencing financial distress when viewed from the phases of the firm life cycle.

Thus, it is found that WCS has the potential as a suppressor variable when it is associated with the level of company leverage. In Table 5, it can be seen that the effect of leverage on the firm life cycle becomes insignificant after WCS is included. These results indicate that the management of WCS at the level of leverage is not optimal. Thus, the economic benefits of leverage for the company will also be less than optimal. These results are the reason why the implementation of WCS actually reduces the effect of leverage when viewed from the firm life cycle.

5. CONCLUSION, IMPLICATION, SUGGESTION AND LIMITATION

This study empirically examines the moderation of WCS on the effect of financial distress on the company when viewed from its life cycle. Based on the analysis of the sample of non-financial companies listed on the Indonesia Stock Exchange (IDX) for the period of 2010-2020, it was found that the probability of companies experiencing financial distress is high when they are in the decline phase. This study also confirms empirically that the probability of companies experiencing financial distress is low when these companies are in the mature and growth phases. Thus, these results confirm the firm life cycle (CLC) theory.

Contrary to the firm life cycle (CLC) theory, this study finds that the probability of companies in the birth phase to experience financial distress tends to be insignificant. Therefore, the company's feedback on its performance, reviewed based on the phase of the firm life cycle, becomes a consideration that can be carried out in further research. This is because feedback on performance is one of the factors that can affect the sustainability of a company.

This study found that the working capital strategy does not moderate the probability of a company experiencing financial distress when viewed from the phases of the firm life cycle. Therefore, this result confirms that the

implementation of the working capital strategy will only have a significant effect when the strategy is managed optimally.

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