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IMPACT OF FINANCIAL DISTRESS AND FINANCING CONSTRAINTS ON
TRADE CREDIT

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Abstract. Purpose this study to examine the effect of (1) Financial Distress and (2) Financial Constraints on trade credit in companies listed on the Indonesia Stock Exchange (IDX). The population in this study are all companies listed on the Indonesia Stock Exchange, except the banking and financing industries. The research sample was selected using the snowball method from companies from 2020 to 2011. This study used the regression Fixed Effect Model to analyze secondary data from S&P Capital IQ. The study results show that (1) Financial Distress and Financial Constraint have a negative effect on Accounts Payable, (2) Financial Distress and Financial Constraint have a positive effect on Accounts Receivable.

Abstrak. Tujuan penelitian ini untuk menguji pengaruh (1) Financial Distress dan (2) Financial Constraint terhadap trade credit pada perusahaan yang terdaftar di Bursa Efek Indonesia (BEI). Populasi dalam penelitian ini adalah seluruh perusahaan yang terdaftar di Bursa Efek Indonesia, kecuali industri perbankan dan pembiayaan. Sampel penelitian dipilih dengan menggunakan metode snowball dari perusahaan tahun 2020 hingga 2011. Penelitian ini menggunakan model regresi Fixed Effect untuk menganalisis data sekunder dari S&P Capital IQ. Hasil penelitian menunjukkan bahwa (1) Financial Distress dan Financial Constraint berpengaruh negatif terhadap Account Payable, (2) Financial Distress dan Financial Constraint berpengaruh positif terhadap Account Receivable.

INTRODUCTION

According to Astvansh & Jindal (2022), trade Credits are a management strategy for managing sales in the transaction cycle of the supply of goods and services that allows payment at a certain time. Trading credit with suppliers will reduce the bank's financing burden so that the policy of making purchases on a tempo basis is more profitable refer to Guo et al (2021). Companies with higher supplier maturity will have lower financing. In addition, payments due to suppliers replace bank financing. Based on El Ghouli & Zheng (2016), perform of company related cash receivable became oh most important to ensure that company can operating. This situation described working capital condition. One of the attributes companies to increase market share is increasing trade credit, wherever companies get impact from this strategy decreasing cash on hand due to trade receivable. This condition impacted for this profitability's because cost of production is high. This cost happens due to company give a discount for growth market as effort increase market share research by Hasan et al (2021).

Molina & Preve (2009) from this research compare the accounts receivable policies of companies facing profitability problems, defined as the pre-financial distress stage, with the accounts receivable policies of companies facing cash flow problems, usually in major financial difficulties. Companies facing profitability problems try to apply aggressive credit policies to clients to gain market share, especially if they have the market power to do so without incurring significant sales losses. One of the internal factors that cause a company's bankruptcy comes from economic activity in a country when a country's economic conditions enter a recession disrupting the level of sales revenue earned by the company, research by Makruf & Ramdani (2021) and Mojambo *et al* (2021).

Based on an analysis of the declining performance and bankruptcy in several companies in Indonesia, it can be assumed that the company is currently experiencing a significant impact on its operational performance. It does not rule out the possibility that manufacturing companies in Indonesia are experiencing financial distress or have entered a bankruptcy situation. Variables affecting trade credit provisions other than financial distress or bankruptcy are financial constraints or companies experiencing financial difficulties.

Previous studies show that the factors affecting sales with tempo include financial distress and financial constraints. Research conducted by Osinubi (2020) explains that financial distress has a significant positive effect on accounts payable and a significant negative effect on accounts receivables. Financial constraints have a negative and significant effect on accounts payable and a positive and significant effect on accounts receivables. Boissay (2007) argue that financial distress is common among new companies. The occurrence of financial distress conveys the adverse effects of difficulties experienced by vendor by default on trade payables.

LITERATURE REVIEW AND HYPOTHESIS.

Effect of Financial Distress on Trade Credit

Financial Distress Against Trade Payables

Operating cash must predict future cash potential, and this can use cash performance by predicting inflation, debt, and dividend pay-out Casey et al (1985). The company's operations have a strong attachment to the company's cash flow both in terms of reporting and regulation (Harris et al 1980). Financial distress has a significant correlation with payments to suppliers

concerning the supply chain of goods inventory, especially in the mechanism of inventory management strategy. A similar opinion comes from Yang & Birge (2009), who stated that influence is intrinsically acceptable. Not only that, but this study also captures the explicit relationship between financial risk and payments to suppliers. They also review how the mechanism of payment to suppliers can affect profitability and finance. According to Steinker (2016), inhibiting supplier payments can increase company value for stakeholders. The strategic ability of effective and efficient in the supplier payment cycle can also create a company's competitiveness depend on research Wu et al (2014), Zhang et al (2014). The close relationship between suppliers makes it part of taking financial distress risks. This risk is related to the risk relationship between the seller and the buyer in terms of seeing the costs of the load being lower than those of financial institutions. Buyer's reputation capital can also encourage suppliers to extend trade credits.

Concerning working capital, the main constituent of working capital is current assets divided by current debt. Research by Makori & Jagongo (2013) explained that working capital's ability to optimize profitability is very important. This study explains that the age of long debt will have a positive correlation with profitability. According Wu *et al* (2014), Alamsyah *et al* (2019) Zhang *et al* (2014), company ready to provide trade credit financially distressed customers in good standing. In this study, suppliers provide outside normal conditions considering the company is experiencing payments. Product can be trial in customer area to check that specification product in good condition. This activity issued cost in our company, and user will be paid after spec already cover, based on user specification. that activity for trial product to make sure sales get impact from this activity. The discussion above shows that companies experiencing financial distress the trade payable will be managed according to needs, and this will cause a decrease in trade for companies that are under pressure. The above discussion will be hypotheses:

H1: Trade payable will get negative impact from financial distress.

Financial Distress Against Trade Receivables

To ensure that the supply chain is maintained and sustainable, companies experiencing financial distress provide proposals regarding modified quantity discounts based on order quantity and prepayment, which means that manufacturers offer quantity discounts if retailers pay part of the prepayment and increase the order quantity Zhang et al, (2014). Companies are experiencing financial difficulties because there are several hold payment or experiencing severe economic changes that can impact to decrease in the level of trade with term of condition. This situation will make thought cash flow, the other hand customer still request supply from our side event our condition get financial distress. Customer will make sure that supply chain in relation between company still going, that case refer for study Molina & Preve, 2009). Thus research mentions financial distress positive impact for accounts receivable. Based on Wilner (2000), this concession also causes the interest rate of dependent creditors to fluctuate less than that of rate-independent lenders in response to changes in the risk-free rate. In addition, dependent creditors reduce the rates they charge more quickly because the probability of defaulting on their customers decreases.

Zhao & Huchzermeier (2019) argue that the companies experiencing financial distress, communication with customers in terms of sales on receivables is still carried out with a partial

payment mechanism by continuing the supply of goods and services. Financial difficulties in a single firm can have valuation implications for firms linked in product markets (industry rivals) and those linked along the supply chain (customers and suppliers). In addition, feedback effects can arise when rivals, customers, and suppliers respond to related company difficulties research by Hertz et al (2008). Also, Molina & Preve (2009) state on the research companies have discount for incase this amount still under inflation. This situation also makes difficulties explain that program impact from financial distress or keep market share.

According to Love et al (2007), shock in macroeconomic will be impact sustainable global business. Companies must be using this data to manage and forecast business issues, basically sales will get impact due to this condition.

Referring to actual condition, company must be prepared strategy to minimalization trade receivable from customer, bias form this situation also make customer to hold payment due to cash operation. Every company will have an action plan to reduce accounts receivable to get cash, this matter has become more important concern for business process.

The negative impact of financial difficulties on accounts receivable can be caused by urgent cash needs from companies experiencing financial difficulties. A distressed company can reduce its receivables level if it sells to a factoring company rather than directly reducing its receivables. When a struggling company sells its receivables through factoring, it deducts them from its balance sheet in exchange for cash from the factoring company. If a company experiencing financial difficulties sells its receivables to a factoring company, the impact on its balance sheet and cash requirements are the same as if the company directly cut credit to customers Molina & Preve (2009). This condition to make hypothesis:

H2: Trade receivable will get positive impact from financial distress.

Relationship of Financial Constraints to Trade Credit

Financial Constraints Against Trade Payables

Companies are financially constrained between internal and external costs with increasing funds. Financially constrained companies not including NPV as a argue due to others factor financial from outside. Therefore, the company is expected to be able to invest in profitable projects with financial constraints arguing from Frank & Maksimovic (2005). This research also mentions If information asymmetry causes bank consideration loan amount not only to depend high interest rate only but also Performa companies more important to considering. A higher interest rate does not help bank allocation loan to companies, companies with good rating as mandatory to get loan.

According to Hasan et al (2021), alternative to get cash for companies is making sales with specialty term of payment, whenever companies already making budget for cash for several period. This situation will be affected by asymmetric information, financing risk and cash flow operation. Another research conducted by Osinubi (2020) explained that financial constraints negatively and significantly affect accounts payable. Companies with financial constraints get advantages additional sales from customer due to strategy discount for payment in advanced from this schedule, this is also considering interest rate from bank loan. This research from Bougheas et al (2009) considering cash receive in advance to maximalization payment from

customer. Frank & Maksimovic (2005) explain to confirm that the amount of sales with term of payment extended by companies to customer as a function of brand image companies. Thus, empirically less of brand image company from buyers get less trade credit overall. After all, vendors will be less willing to sell on credit because vendors are less likely to make adverse choices. If a company with financial constraints cannot obtain funds from banks or markets due to low creditworthiness, the supplier will reduce trade credit to the financially constrained company. Based on the description, the hypothesis proposed is as follows:

H3: Trade payable will get impact negative from financial constrain.

Financial Constraints Against Trade Receivables

The company's ability get new project from customer with external financing cause impact to financial constrain and cash flow operation will be sensitive. Companies with financial constraints cause of positive impact funding from external due to bank get collateral data project sign. This condition indirect credit trust from customer also increases. Refer for Bougheas et al., (2009), companies with financial constraints can also benefit from increasing sales to user. Decreasing inventory due to increasing sales to get positive opportunity additional number of sales. Refers for this situation cost of internal capital will be optimum, companies with strategy cash advanced from user also make cash payment will be positive.

Sales with condition is strategy companies with term of condition, make a thought of cash flow operation. The company also made a new strategy for treasury activity to get cash in advance. Arguing from Molina & Preve (2009) to state that strategy of companies to get market share and increasing for account receivable will be affected to decrease account payable.

The discussion above proposed that a financially constrained company would be impact to increase the terms of sales with condition to customers to raise cash quickly to stability cash. Companies with financial constraints can impact to positive sales to customers and making increase the company's total assets, which can be used as collateral to facilitate access to external funds. Based on the description above, the hypothesis proposed is as follows:

H4: Financial constraints have a positive effect on trade receivables.

DATA AND EMPIRICAL MODELS

Data

This research uses panel data on 517 companies listed on the Indonesia Stock Exchange (IDX) from 2011 to 2020 without involving the financial industry. In line with Osinubi (2020) research, this research focuses on the dynamics of corporate behaviour in using and providing trade credit. This data source uses data from public companies on S&P Capital in July 2022. The approach uses a backwards snowball, arriving at issuer data for 2011.

Empirical Models

Based on Atanasova & Wilson (2003) examined the dynamics of credit sales on the development of the business itself. This model detects trade payable and receivable against financial distress and financial constraints.

Model 1

$$\frac{AP_{it}}{TA_{i,t-1}} = \beta_1 + \beta_2 FD_{it} + \beta_3 FC_{it} + \beta_4 \frac{AR_{it}}{TA_{it}} + \beta_5 \frac{INV_{it}}{TA_{it}} + \beta_6 \frac{COGS_{it}}{TA_{it}} + \beta_7 \frac{TANG_t}{TA_{it}} + \gamma Z_{it} + \varepsilon_{it}$$

Model 2

$$\frac{AR_{it}}{TA_{i,t-1}} = \gamma_1 + \gamma_2 FD_{it} + \gamma_3 FC_{it} + \gamma_4 \frac{AP_{it}}{TA_{it}} + \gamma_5 \frac{INV_{it}}{TA_{it}} + \gamma_6 \frac{SGROW_{it}}{TA_{it}} + \gamma_7 \frac{SIZE_{it}}{TA_{it}} + \gamma Z_{it} + \varepsilon_{it}$$

Table 1: Variable Measurement

Variables	abbreviation	Measurements)
COGS	COGS	(Sales-End of stock) + Purchasing
Account Payable Ratio	AP	AP/Total assets (Model 1)
Account Receivable Ratio	AR	AR/Total assets (Model 2)
Inventory	INV	INV/Total assets
Tangible Assets	TANG	Plant, Property and Equipment / Total assets
Sales Growth	SGROW	Ratio of annual sales change [(SALES _t – SALES _{i,t-1})/Sales
Firm Size	SIZE	Natural logarithm of Total Assets
Financial Distress	FD	measured using the study Zmijewski (1984), where this study explains that the higher the Nilin FD then identifies the bankruptcy of a company $FD = -4,336 - \left[4.513 * \left(\frac{NI_{it}}{TA_{it}} \right) \right] + \left[5.679 * \left(\frac{TD_{it}}{TA_{it}} \right) \right] + \left[0.004 * \left(\frac{CA_{it}}{CL_{it}} \right) \right]$ <p>From the calculation above results, it was found that the cutoff value is 0, and S symbolizes financial distress Devy Nilasari (2018). If the score is S<0, it is predicted that the company will not experience financial distress. Meanwhile, if the score S> 0, the company is predicted to experience financial Distress, where FD; Financial Disters, Ni: Net Income, TA: Total Assets, TD: Total debt, CA: Current Assets, and Cl: Current liabilities.</p>
Z score	Z score	Z score measurement, using a model Altman, (2005), for developing countries with the following calculations: $EMS (Z) = 6.56 \frac{WC_{it}}{TA_{it}} + 3.26 \frac{RE_{it}}{TA_{it}} + 6.72 \frac{OI_{it}}{TA_{it}} + 1.05 \frac{BV_{it}}{TA_{it}} + 3.25$ <p>Where WC (working capital), TA (total asset), RE (retained Earning), OI (Operating Income) and BV (Book value)</p>

		<p>The results criteria are as follows: If the Z value is < 1.1, it is a company experiencing financial distress. If the value is $1.1 < Z < 2.6$, then it is included in the grey zone (it cannot be determined whether the company is healthy or experiencing financial distress). If the value of $Z > 2.6$, it is a company that is not experiencing financial distress. (Furqan et al., 2017)</p>
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4. Results

4.1 Descriptive Analysis

Table 2 display for mean, median and standard deviation. These data show that the accounts receivable ratio is greater than trade payables compared to total assets.

Table 2: Descriptive Statics (Full Sample)

Variables	Obs	Means	std. Dev.	Min	Max
FD	4390	-2,724	1819	-5.68	6.63
FC	4390	.318	.466	0	1
AP	4390	.097	.109	0	.56
AR	4390	.142	.136	0	.64
INV	4390	.139	.142	0	.57
COGS	4390	.757	.821	0	5.11
TANG	4390	.4	.249	0	.92
SIZE	4390	14,318	1,801	9.39	18.41
SGROW	4390	.233	.595	-.84	3.6
ZSCORE	4390	4,417	4,464	-23.57	11.32

The data above shows that for all companies on the IDX, 9.7% of assets are funded by trade payables, while 14.2% of sales are supported by total assets owned. Likewise, data that indicates financial distress data where the data is presented from the ranking by (Zmijewski, 1984b) experiencing potential financial distress with an average ratio of -2.7. This is also in line with research (Devi, 2016) that a company experiences financial distress if the ratio is > 0 .

If you take a deeper look at this ratio, you can retrieve data on the vulnerable -5.6 to 6.6, the company with the potential for bankruptcy is 10%. Also seen from the data shows that the ability to pay dividends from companies seen from the dividend payout ratio of companies listed on the IDX is 31.8%, meaning that the company does not pay dividends. The Zscore ratio has the highest score in the table above 4.4, meaning that on average, companies on the IDX do not experience financial distress, but if you look at the range, there are 10% of companies have the potential to experience financial distress.

Table 3: Regression results of 2 models according to (Atanasova & Wilson 2003), using data from the IDX for the 2011-2020 period:

VARIABLES	(1) AP	(2) AR
FD	-0.00791** (0.00321)	0.00415** (0.00204)
FC	-0.00361 (0.00345)	0.00756* (0.00402)

AR	0.213*** (0.0388)	
INV	0.168*** (0.0439)	-0.124*** (0.0396)
TANG	-0.0392** (0.0175)	
COGS	0.0274*** (0.00895)	
ZSCORE	-0.00871*** (0.00185)	0.00647*** (0.00122)
AP		0.287*** (0.0474)
SIZE		-0.0143*** (0.00463)
SGROW		-0.0162*** (0.00274)
Constant	0.0565*** (0.0128)	0.320*** (0.0669)
R-squared	0.201	0.137

Robust standard errors in parentheses

***p<0.01, **p<0.05, *p<0.1

Table 3 shows the relationship in research conducted at companies listed on the IDX using two research models Atanasova & Wilson, (2003). Data is taken by comparing accounts with total assets.

Financial Distress, Financial Constraint and Account Payable.

Table 2 continues the research from Atanasova & Wilson, (2003) in model 1, where Account Payable is the benchmark for calculation as a dependence variable. The following results are obtained:

1. Account Payable has a negative relationship with Financial Distress
2. Account Payable has a negative relationship with Financial Constraint.

From the data, it can also be seen that from Hypothesis H1: Trade payable will get negative impact from financial distress, it turns out that the results show different. This is because the data on the IDX, only 5% have the potential for financial distress as measured by the model Zmijewski (1984), and this study also showed different results from research by Osinubi (2020).

Conversely, financial constraints are negatively related to trade payable. This is in line with research Osinubi (2020). Companies with financial constraints will get a low credit score, which generally affects the difficulty of finding funding. This is in line with the hypothesis 3 Trade payable will get impact negative from financial constrain.

In the control variable AR, the data yields a positive significance, and this also confirms the research by Ozkan (2000), where the suitability of asset maturity is linearly proportional to the maturity of receivables. The results are a negative correlation, judging from the Tangible Assets

and Account Payable data. It can be concluded that asset investments are funded, not from accounts payable. On the other hand, the INV data will have a positive relationship because all Inventory is obtained from debt purchases.

Financial Distress, Financial Constraint and Account Receivable

In model 2 in table 2, it can be explained how the relationship between Accounts receivable and Financial distress. There is an opposite relationship from the previous research (Osinubi, 2020) where a negative relationship is produced, and this also answers H2: Trade receivable will get positive impact from financial distress from the data, there is a positive relationship between FD and AR which has a positive relationship. This is because, in the data measured, only 25% of the listed companies on the IDX experience potential financial distress.

Financial constraints and Accounts receivable have a positive relationship; this is in line with research Molina & Preve (2009), that the negative effect of financial Distress on AR will cause urgent cash. This also answers hypothesis 4, H4: Financial constraints positively affect trade receivables. In the control variable AP, there is a positive relationship between the two AR models as a benchmark for AP of 28.7%, meaning that if AR goes up, AP will also go up. Moreover, this is in line with his research Hertz et al., (2008) on the company's ability to supply customer supplies. Inventory, size and company growth have negative indications, and this can be interpreted as a lot of AR will not necessarily increase the size of the company.

CONCLUSION AND IMPLICATIONS

This study evaluates how Accounts Receivable and Account Payable are affected by financial distress conditions and financial constraints on companies listed on the IDX. The result is that Accounts Receivable are positively influenced by financial distress and financial constraints and Accounts Payable are strongly influenced negatively by financial distress and financial constraints. This finding is also in line with Kamaluddin et al (2019), Adiguzel (2021), said that bankruptcy could be identified with significant difficulties and that a review of the factors, including the impact on trade credit, must be carried out. According to Wilner (2000), trade credit will also affect how the company implements a strategy in the relationship between vendors and clients where the attachment to the relationship makes a positive dependency relationship. This study also directs the length of the relationship. If the vendor has financial difficulties, then the buyer or customer gives an order in terms of sustainable business continuity. Regarding payment, vendors can apply for partial payments in order to help maintain the continuity of the supply chain refer to Zhang et al (2014).

Financial distress and financial constraints positively affect accounts receivable because customers will delay payments by ensuring the supplier is in good financial condition. Financial distress and financial constraints have a negative impact on Account Payable, so customers will reduce supply and optimize existing inventory to avoid supply problems to end users; this expert confirms the study of Hertz et al (2008), this study explain that there is a relationship between the assessment of the company's condition and the potential for bankruptcy. According Masdupi et al (2018), Emphasizes the relationship between profitability and financial distress so that the appraisal relationship is limited to avoiding the risk of business continuity.

The real implication of this research is how companies prepare strategic steps to avoid potential financial distress and financial constraints by collaborating with third parties. So that the company's reputation can be controlled and can seek refinancing from that party, this research still needs to be developed and has yet to analyze how financial distress and financial constraints related to credit score rankings from third parties.

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