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Cost of Financial Distress and Firm Performance

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The business performance become an important thing to be main goal of firm activities to get the competitive advantage, but it is contrary with the recession may bring a probability of firm's decreasing and liquidation. The uncertainty of global economy provides the importance in developing model to monitor, identify and asses potential risks which can threat business sustainability. Cost of Financial Distress (CFD) is one of tools for identifying firm performance decline early risk such as sales growth and stock return, so it can reduce the loss possibility before all lead to bankruptcy. This research aims to explain the evidence of CFD in Indonesia by using opportunity loss and consequency to firm performance. The datas used are 231 firms of Indonesia Stock Exchange (IDX) in 2011 – 2015 and panel regression used for presenting the impact of CFD to firm performance. Consistency of the theory that cost tend to increase following cash flow realization which may be lower in uncertainty of economiy. The analysis finds that Indonesia's industry have higher CFD and low sales growth after based year of uncertainty economy. The regression result also finds CFD have negative impact to firm's sales growth. The result propose that CFD can be used as an early detection tool for reducing loss possibility of firm's market share.

Keywords: *Cost of Financial Distress, Firm Performance, Sales Growth, Stock Return*

JEL classification: E31, E44, G11

Introduction

From the 2013's Indonesia economic report in issued by Central Bank of Indonesia, there are several changes of global economic cycles that caused global economy uncertainty in 2013. First, the movement of world's economy lanscape characterized by increasing economic growth of developing countries and decreasing economic growth of emerging market (EM) countries which are main support of world economy. Second, countinuing downward trend in world commodity price, and third, reversal of world capital flows due to the policy of reducing monetary stimulus in the US which marks end of the loose liuidity era of global financial market. Thus three cyclical changes impacted in global economy performance of 2013 declining and under expectation. The cycles changing also push for uncertainty in global financial market.

In Asia, the declining of performance looked by correction value in capital market as such Morgan Stanley Composite Index (MCSI) of EM Asia countries, increasing CDS sovereign and Emerging Markets Bond Index Global (EMBIG), and also weakening of Asian

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regional currency index (Asia Dollar Index) against the US Dollar. These external economic turbulance have significant impact on several EM countries which have current account deficit such Brazil, Indonesia, and India which apply tight monetary policy to respond the rising inflation and widening current account deficit. Indonesia is a country most often makes the policy of interest rate rising which is five times in 2013.

In fact, although countries with current account deficit have adopted aggressive policies in external pressure, but the policies implications are ineffective. Then, these extent global economy uncertainty of 2013 still impact to business stability in some Asia's countries for several years after its happen. Nikkei Releases on December 2016 reported a decline in new foreign business both volume and export since November 2015 where client demand weakened. Then this lead the ASEAN's manufacturing industries to buy fewer inputs in a third week of December and cause pre-production stocks to fall in 16 last month. In Indonesia, there are 28 firms of Indonesia Stock Exchange (IDX) suspended in their trading stock since 2014 until 2016. It indicates some problems in firms such as disruption of company's sustainability, no income, and other business management issues.

The uncertainty of economic improvement makes firm have greater pressure opportunity in industrial competition. Investment activities make a high probability of economic uncertainty risk that will affect firm's financial performance. A firm have potential decreasing of it when management have been unable to anticipate the impacts. This phenomenon referred as financial distress that occurs before bankruptcy or liquidation (Platt and Platt, 2002).

The financial distress can occur in all industries and have been an early signal of firm bankrupty such as in service (Smith and Graves, 2005), and manufacture (Smith and Liou, 2007). In distressed firm, there is a cost incurred called by Cost of Financial Distress (CFD) (Pindado and Rodrigues, 2005), and it is suffered by the firm as impact of weakening of financial position or business disruption (Bulot et al, 2014).

The firms do indeed incur costs when becoming distressed (Altman, 1984) and tend to increase following cash flow realization which may be lower in economic crisis (Hann et al, 2013). Then that will damage firm performance such as loss of market share and also cause inefficiency (Pulvino, 1998). Opler and Titman (1994) found a loss of firm's market share was caused by distress period of highly leveraged firm.

The importance of CFD still receive less attention in its consequency to firm performance. In previous studies, some researcher have been interesting to analysis the factors of it. And there is many different estimation for measuring such investmented capital growth (Chen and Marvile 1999), firm's debt (Ofek, 1993; Korteweg, 2007), different standard deviation and value of earning before interest and tax (Miguel dan Pindado, 2001). Opler and Titman (1994) capture financial distress debt which based the indicators assuming that the higher firms leverage will make higher it. Other studies such Pindado and Rodrigues (2005) and Bulot et al (2017) also capture opportunity cost that refer to the cost lowered as a result of decreasing financial conditions. This loss is calculated as the difference between firm's sales growth and the sectors's sales growth. A positive result will demonstrate that firm bear opportunity loss and underperform as comparation industry performance in term of sales growth.

The paper gives an insight when financial distress occurs, mostly a pressure is directed toward firm performance. In distressed firm, there is an indication that management has an option to reduce budgets for remaining of competitive because it may affect their cost and this decision can damage its performance. It capture that industry's CFD in Indonesia descriptively based uncertainty of global economy period that as same as distress period in Opler and Titma's study. The argumentation that the level of firm's financial distress is different between before and after occured global economy uncertainty in 2013, so it result firm's CFD and performance difference. Furthermore, for completing our descriptive

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analysis, using Pindado and Rodregues's model measurement through opportunity loss that mean opportunity cost which refer CFD, we test the impact of CFD to firm performance. It also estimate the influence of firm leverage, size, and firm age to firm performance. The analyzing cover whether firms with high CFD perform worse than their peers with low CFD. Unsimilar with Opler and Titman's method that investigate the link between financial distress and firm performance by testing high leverage are more likely experience performance losses, this study find the link between opportunity loss as CFD's proxy and firm performance .

This paper provides more attention on the matters that have not fully described but it is critical in financial distress research that is CFD and its implication to firm performance. Refering to previous researchs, loosing opportunity of sales growth as it measurement, sales growth and stock return as firm performance proxies. The argumentation using both of them as firm performance indicators can reflect financial distress consequencies in resource management, and also in the effort to describe its link to CFD. Furthermore, this study describes descriptively about the difference of firm performance in two years before based year of occured global economy uncertainty and two years after it. The hyphotesis is tested that CFD have negative affect to firm performance by using some control variables such as firm size, assets, leverage, and firm age in regression model are expected more clarify the CFD's impact to performance.

For easier explanation, managing the systemathic of this paper as below: part 2 describes literature review, then part 3 explains the datas, including variables, also empirical model. Part 4 talks about descriptive analysis and regression result, then part 5 discussion, and finally part 6 the conclusion, limitation, and suggestion.

Literature Review

Costs Of Financial Distress

In finance, a firm which use more debt for its operation will get more risk of facing financial distress. When firm have difficulty making payments to creditors, it categorized as distressed firm. The consequency of it that firm should pay some costs which associated with financial distress such indirect cost, higher cost of capital, bankrupcty cost, and also cost from conflict of interest or distressed asset sales.

Cost of Financial Distress (CFD) is a special argument in main financial problems of a firm that related with capital structure, firm valuation, and risk management. If firm takes more debt, it give more risk for firm being unable to meet the creditor's obligation. Several previous researchs argue that CFD only occurs in small percentage and temporary such as the result of study conducted by Weiss (1990), and Bris et al. (2006). On the other side, there are some results find CFD is significant impact to firm such as study of Altman (1984).

CFD appears as result of costs that occur when firm unable to fulfill responsibility because financial decline or financial distress (Platt and Platt, 2002; Altman and Hotchkiss, 2006). The firm have difficulty in payment to its creditors may cause by several reasons, such as decreasing of profitability or Earning Before Interest and Tax Depreciation of Assets (EBITDA) is lower than financial costs incurred (Opler and Titman, 1994), poor management, misforcasting of sales, and changes of consumer's taste and preferences (Ramana, et al., 2012).

Some of previous studies employ different estimations in assessing CFD, such using firm liabilities (Ofek, 1993; Korteweg, 2007), and firm sales growth compared to sectoral sales growth (Pindado and Rodrigues, 2005). The research refered to Pindado and Rodrigues (2005) which using sales as part to evaluates CFD because it less affected by firm characteristic. In context of Indonesian firms, management tends more attention to internal factors (Hartanto, 2009) such as human labor and sales growth. Therefore, sales used in measuring CFD which opportunity loss or profit can be detected as activities output. It calculated by comparison sales growth and sales sector.

However, the CFD discussion is important to understand the impact of control function

for their strategic decisions in improvement firm performance. It may lead to bankruptcy (Altman, 1984), so this paper assumes that CFD costs that occurs as result of financial decresing which will impact to market share loss, growth opportunity, and firm return, therefore causes firm inability to fulfill its responsibilities (Altman, 1984; Plat&Plat, 2002).

In this paper, CFD as independent variable will be measured using the operational performance represernted by opportunity loss. Following Pindado and Rodrigues (2005) and Bulot et al (2017), opportunity loss will be calculated as the difference between the growth rate of sales if the sector and the growth rate of the sales of the firm. A positive answer will demonstrate that firm bear opportinity loos and underform as compared to its industry performance in term of sales growth. The followig formula illustrates the calculation of opportunity loss :

$$OL = [(Sales_{it} – Sales_{it-1}) / Sales_{it}]_{sector} - [(Sales_{it} – Sales_{it-1}) / Sales_{it}]_{firm}$$

Firm Performance

The firm achievement in certain period reflects its performance level. Using financial statements, management and investors can analyze firm performance and evaluate it. The information of firm's financial performance is base of consideration for getting investment decision making, and risk management. Financial distress risk is one of things that firm should needs to pay attention to. As Opler and Titman states (1994 p.1015) that financial distress is costly :

[…] because it creates a tendency for firms to do things that are harmful to debtholders and non-financial stakeholders […], impairing access to credit and raising costs of stakeholder relationships. In addition, financial distress can be costly if a firm's weakened condition induces an aggressive response by competitors seizing the opportunity to gain market share

The market share decline impacts to firm's income decresing, so sales growth be an important ratio to measure firm ability for maintaining its position in economic and industrial growth. One of causes in market share loss is a high cost of financial distress from a high firm's debt. When firm has risky debt which make managers acting to maximize equity value rather than total firm value, there will be over invest in future growth opportunity. Potencial loss in firm value as impact managers's investment decision are significant component of agency cost of debt, so a firm can take solution for it by using less debt financing. This lead a prediction that firm with more opportunity in growth should have less leverage, if not it will get higher cost from higher debt (Jensen and Meckling, 1976).

Empirically, some literature in finance examine relation between growth opportunity and leverage. Opler and Tirman (1994) find there is loss of market share in highly leveraged firm than others competitor in industry downturn. Other results show that leverage is negative to growth opportunity (Rajan and Zingales, 1995; Barclay et al, 2003). As the sales result show, the differential coefficients on distressed firms proxy are always positive, suggesting that financial factors have a greater positive influence on sales performance of distressed firms than non distressed firm (Matthias, 1999).

In addition, firm performance in distress conditions also impact to rate of return in the market. Some results show evidence that distressed firm earn lower return than non distressed firm. Lamont et al (2001) find that firm have financially constrained earn lower return than nonconstrained firms. This finding supported by Griffin and Lemmon (2002), Ferguson and Shockley (2003), and Campbell et al (2008) that also find financially constrained firms are more likely to face financial distress and earn lower return. On the other side, some researchs also find that firm ability for adapting in environment make financial distress impact unrelated to rate of return as Vassalou and Xing's study (2004) which find distressed firms earn higher return. Other research such Garlappi et al (2008) find no significant difference between distressed and nondistressed firms in their return. The gap among these findings show

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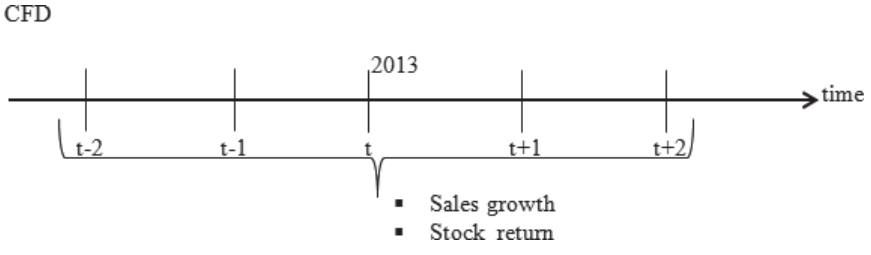
Figure 1. Diagrammatic representation of the five years period firms were analyzed



there is an optimum implementation of strategy that CFD is managable well by effectively ways and not the contrary, increasing high cost which may decline performance.

In this paper, firm performance as dependent variable which proxied by sales growth and stock return. Sales growth is of interest because it is the most direct measure of customer driven losses in sales. If the sales losses are customer or competitor driven, indicating financial distress costly. It measured by growth rate of firm's sales. We would also like to estimate the extent to which losses in sales translate into lost profits and value, therefore we also look at stock return. We not explore more the extent which looses in sales into market value such tobin's Q as measurement of firm performance because it tend as phenomena of capital market valuation, not of the firm. However, this paper assumes that CFD cost occurs as result of financial decresing which will impact to market share loss, growth opportunity, and firm return, therefore causes firm inability to fulfill its responsibilities.

Methodology

The Data

This research analyzes financial report of firms listed in IDX of 2011-2015. The samples are 231 firms with total of 1155 observations in the natural resources, manufacture, and service industry and covering the subsectors of plantation; coal, oil, and natural gas mining; basic processing and chemical; pharmacy; textile and garment; miscellaneous industries; automotive; cable and electricity; cosmetics; consumers goods; banks; financial institutions; insurance and securities; telecommunication; construction and building; and property and real estate. The datas consist of CFD, sales growth, and stock return processed using eviews for panel data. Then, we also use others data such firm size, leverage, and firm age as control variables. In order to attain required sample, firms observation having zero sales and stock return are excluded, also merger firms, cross industry, and trading investment sector are excluded**.**

The analysis of paper inform into two part, first, a descriptive analysis about firm's CFD, sales growth, and stock return over five-year periods between 2011 and 2015. It described previously that distressed firm has market share loss possibility that impacted by uncertainty economy. Then dividing period in two group are before and after 2013. However, as discussed in Introduction, there is a great uncertainty of global economy in 2013 that impacted uncertainty financial market to many countries including Indonesia. In keeping with convention, and as depicted in Figure 1, the two years of global uncertainty year is dated t (the second year of base year) and t-1 (the first year of base year), the year of normal operations t-2 and the post-uncertainty years, t+1 and t+2. The database provides industrial classification for each company and used to match sample firms with an industry.

Second, the link between CFD and firm performance tested without dummy certainty period because the insight of this paper that financial distress make a pressure to firm performance only. Then we focus in CFD's impact to firm performance and not explore the other determinants. We propose regression model as below:

$$SG_{it}=\beta_0+\beta_1 CFD_{it}+LEV_{it}+SIZE_{it}+AGE_{it}+\varepsilon_{it} \quad (1)$$

$$SR_{it}=\beta_0+\beta_1 CFD_{it}+LEV_{it}+SIZE_{it}+AGE_{it}+\varepsilon_{it} \quad (2)$$

Table 1. Descriptive Statistics Based Industrial Sector

Sample	Firms	Statistic	CFD	Sales Growth	Stock Return
Full Sample	231	Mean	0.0667	0.0584	0.1315
		Stdev	0.9622	0.9975	0.7121
Agriculture	8	Mean	-0.1220	0.1599	-0.1199
		Stdev	0.3420	0.3819	0.2881
Mining	32	Mean	0.3425	-0.2786	0.0027
		Stdev	2.4672	2.5389	0.9409
Basic and Chemical	44	Mean	0.0806	0.0066	0.0136
		Stdev	0.3730	0.3814	0.4050
Aneka Industry	34	Mean	0.0566	0.0291	0.1308
		Stdev	0.2249	0.2464	0.6396
Consumption	29	Mean	-0.0219	0.1059	0.1785
		Stdev	0.1407	0.1439	0.4976
Property	45	Mean	-0.0123	0.2178	0.4401
		Stdev	0.3915	0.4418	0.1879
Infrastructure	6	Mean	0.0887	0.1213	-0.0962
		Stdev	0.3051	0.2758	0.3835
Finance	33	Mean	0.0379	0.1663	0.1604
		Stdev	0.5729	0.5833	0.4595

This table presents the descriptive statistic of variables in which CFD is Cost of Financial Distress that measure by opportunity loss as comparison sales growth of firm and sales growth in its sector. (%), Sales growth and stock return are proxy of firm performance (%)

Table 2. Descriptive Statistics year by year

Year	Firms	Statistics	CFD	Sales Growth	Stock Return
2011	231	Mean	0.0149	0.3984	0.2408
		Stdev	0.3469	0.4518	0.7247
2012	231	Mean	-0.0210	0.1185	0.2449
		Stdev	0.4093	0.4098	0.6148
2013	231	Mean	0.0778	0.0140	0.1061
		Stdev	0.7753	0.7853	1.0460
2014	231	Mean	0.1904	-0.1216	0.1994
		Stdev	1.744	1.7548	0.5236
2015	231	Mean	0.0738	-0.1346	-0.1322
		Stdev	0.8357	0.8658	0.4147

This table presents the descriptive statistic of variables in which CFD is Cost of Financial Distress that measure by opportunity loss is calculated as the difference between fim's sales sales growth and the sector's sales growth. (%), Sales growth and stock return are proxy of firm performance (%)

SG_{it} represents firm performance which can be measured by sales growth and SR_{it} is stock return as another proxy of firm return, and CFD_{it} measured using opportunity loss as comparison sales growth of firm and sales sector, LEV_{it} is leverage of firm measured by total debt to total assets, $SIZE_{it}$ is firm size measured using ln assets, and AGEit is firm age.

Results and Analysis

Descriptive Statistics

Table 1 shows descriptive statistic results for each variable in all samples and sub-samples based on the category of industrial sector (JASICA - Jakarta Stock Exchange Industrial Clasification). In sectorial analysis, the table shows that lower sales growth is in mining sector with -27, 86% and the highest CFD is also in mining sector. Table 2 presents the statistics for each observation year for all sample of firms in which the lower average of sales growth and stock return for overall samples are -13,46% and -13,22% in 2015 and CFD as independent variable is the highest average of overall samples in 2014 with 19,04%.

This study finds that Indonesia's industries have highest of CFD in 2014 which one year after uncertainty of global economy based year. Contrasly, firms take down in sales growth level since uncertainty of global economy year until two year after. It is an early indication that firms may reduce budgets for remaining of

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Tabel 3. Comparation the average of CFD and Firm Performance in 2011-2015

Variables	Research Periode				
	2011	2012	2013	2014	2015
	t-2	t-1	T	t+1	t+2
CFD	0.0149	-0.0210	0.0778	0.1904	0.0738
Sales Growth (SG)	0.3984	0.1185	0.0140	-0.1216	-0.1346
Stock Return (SR)	0.2408	0.2449	0.1061	0.1994	-0.1322

This table presents the descriptive statistic of variables in which CFD is Cost of Financial Distress that measure opportunity loss is calculated as the difference between fim's sales sales growth and the sector's sales growth (%), Sales growth and stock return are firm performance proxies (%)

Table 4. Regression Result of Cost of Financial Distress and Firm Performance

	Dependent Variabel ; Firm Performance	
	Model 1 - Sales Growth (SG)	Model 2 - Stock Return (ST)
CFD	-1,023*	0,0077
	[0,000]	[0,7279]
LEV	0,0151	-0,0522
	[0,3185]	[0,2888]
SIZE	-0,0002	-0.0348*
	[0,4765]	[0,0025]
AGE	-0,0005**	0,0022**
	[0,1129]	[0,0471]
Method	Panel (LS)	Panel (LS)
Observations	1128	1131
R-squared	0,9525	0,0081

This table presents the result of LS on SG and SR. SG is sales growth and SR is stock return in percent, which CFD is cost of financial distress that measure by opportunity loss is calculated as the difference between fim's sales sales growth and the sector's sales growth (%), LEV is measured by total debt to total asset, SIZE is firm size computed from total asset (ln TA), and AGE is firm age.
*significant at 1% **significant at 5% *** signficant at 15%

competitive when uncertainty economy and it may affect their cost then it damage firms performance.

Regression

Against this background, the remainder of this study investigates the impact of CFD to firm performance. We employ panel least square regression to explain these, controling for a number factors such firm size, leverage, and firm age that might help to explain it.

The two proxies of firm performance used to capture the impact of CFD are sales growth, and stock return. Uncertainty economy may impact distress on firm that it reducing firm's financial capability. Cash flow problems of distressed firm may also retard firm competitiveness in product market for various reasons. Creditors may be unwilling to extend credit to them fearing that they may go bankrupt before clearing their debts. Distressed firm may be unable to take advantage of cash discounts, and customers may be reluctant to buy durable goods from weak firms, which might not be in business to provide after sales service. Decreasing of obligation fulfilment ability due to increase CFD that lead to return decline for investors.

As expected, this study finds negative and significant on the impact of CFD to sales growth. Firms with higher CFD make decreasing of firm's sales growth which mean firm lose more market share. This result support its hypothesis. As presented in Table 4, on contrast, stock return not impacted by CFD although it is significant by using size and firm age as control variables. This finding shows an important role of CFD as early detection tool for managing of firm performance.

This study also finds that leverage level and firm size has no role in controlling relation between CFD and firm performance, but firm age does. This supports the result of Loderer and Waechli (2009), that firm age is related to decreasing of financial performance.

Conclusion and Discussion

The conceptualization of CFD shows that cost of financial distress may appear as decreas-

ing of firm's financial condition caused by uncertainty of global economy. This paper focuses on explain the evidence of CFD in Indonesia industries by using opportunity loss and its consequency to firm performance. This analysis proposes that sales growth and stock return as firm performance proxies may be better capture the impact of CFDs.

Firstly, this paper explains how firms perform before, during, and after the base year of occured uncertainty of global economy. From the descriptive analysis, it is known that average CFD before the occured uncertainty of global economy is lower than after it and the average sales growth is greater than after it. This is in line with the statement of Opler and Titman (1994) that when an uncertainty condition or crisis occured, there will be a loss of market share in terms of lower sales growth.

Secondly, we examine the effect of CFD to firm performance and the result shows negative effect of CFD to sales growth, but not find the link between CFD and stock return. This is assumed due to the different Indonesian industry characteristics that tend to be based on the cost of human labor as the dominant determinant of corporate costs. Furthermore, it may indicate that CFD tend as phenomena of firm's operating and profit, not firm's value. In addition, Indonesian industrial investors may also have greater external considerations than the internal factors of the company, so it is necessary to explore further the link between CFD and stock return or other measurement of firm performance.

Other result of test also finds evidence that firm age has been as better controller on CFD's impact to firm performance, but none in firm size dan leverage. Pindado and Rodrigues (2005), and Bulot et al (2014) also find that the significant role of firm size in CFD. This is incosistency results need to be explore more in next research.

These all results have an implication in enriching evidence of the CFD's impact to firm performance. We also reveals the link between firm age and management risk decision in improvement of business performance. This study also offers an implication for goverment that should make better policies that support firm for its survival in uncertainty of global economy, not dominated by incresing of interest rate. Furthermore, this finding provide more chance for firm how making strategy to perform in preventive management when uncertainty period. Firm can take a preventive strategy by managing growth opportunity through controled opportunity loss, then decreasing performance probability can be minimized.

However this study has limitation that we only analyze firm performance in global economy uncertainty period descriptively, so can not generalize in its result. The suggestion for future research is using regression model that include dummy crisis period function for reflecting firm performance at different level of industry and capital market value.

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