Analysis of Factors Affecting Zero-Leverage Policy in Companies During Global Crisis in Indonesia

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Abstract. This paper examines the impact of the financial crisis on the collectivity of zero-leveraged companies in Indonesia during the period 2008-2012. Since recent evidence indicates that the financial crisis does not have a fundamental impact on zero-leveraged companies in the United States, this encourages researchers to see if zero-leveraged companies in Indonesia have the same characteristics. The data of this research are collected through Refinitiv Eikon screener. The object of this research is unlevered companies (zero levered firms) where these companies have a total debt value of zero. The analytical methods this research used is T-Test and Probit Regression for testing hypothesis (α=5%, 1%, 0,01%). After controlling for the variables that affect the zero-leveraged firms, the results show that the global economic crisis on companies with zero-leverage has no significant effect on the zero-leverage policy.

Keywords: Zero-Leverage Policy, Zero-Leveraged Firms, Global Crisis

1 Introduction

In 2000, the capital structure of 701 (14.0%) large-scale listed non-financial companies in the United States had zero debt, including both short-term and long-term debt [1]. Between 1962 and 2009, an average of 10.2% of the companies had no debt in their capital structure and 32% of the companies had zero or negative net debt. This is not a short-term trend, since 61% of companies that do not have debt in their capital structure in a given year do not have a tendency to take on any debt in the next year.

Dang [2] reported that almost 10% of UK companies have zero leverage and 18% of market leverage is less than or equal to 1% (very low leverage). Companies that maintain zero or ultra-low leverage are usually smaller, younger, and less profitable, but have higher dividend payout ratios. Companies with huge growth opportunities are more likely to adopt and switch to very conservative debt policies.

Research on the phenomenon of zero-leverage companies will be conducted on companies registered in Indonesia. The global economic crisis in 2008 also affected Indonesia. Foreign funds that came out and caused the Jakarta Composite Index (JCI) to fall sharply, it is still unclear what impact the financial crisis will have on zero-levered firms.

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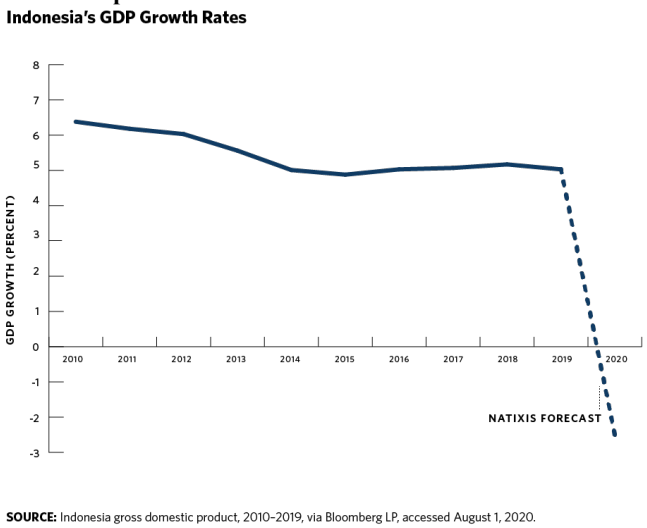
Graph 1. Indonesia's Economic Growth in 2010-2020



(Indonesia GDP, 2010-2019, via Bloomberg LP)

Based on graph 1., it can be seen that the economic growth in Indonesia in 2013 (5.56%) to 2019 (5.02%) was relatively stable, there was only a slight decline in 2014 (5.01%), which was 0.55%. This study is aimed at examining how the characteristics of zero-leverage companies during the global crisis, the stability of economic growth in 2013-2019 is considered less in accordance with the background of the observations that will be carried out in this study. Therefore, this research will only focus on analyzing the factors that determine zero-leverage policies for companies in Indonesia in 2008 to 2012 only. In addition, Indonesia provides a very suitable test context for extreme debt conservatism. British firms on average have the lowest leverage ratios, compared to firms in other industrial economies [3].

2 Literature Review

2.1 Leverage

Leverage is an indicator that measures the amount of a company's assets from debt or equity so that the indicator can determine the company's position and remaining obligations to other parties, and balance the value of fixed assets with existing capital [4]. There are two types of leverage, operating leverage and financial leverage. Joystick. Operating leverage is related to the existence of permanent operating costs and is a characteristic of the risks in the production and realization process. Operational risks include fixed costs, especially the potential risks of production management and the effective use of service costs, which are reflected in the reduction of expected profits.

Technically, financial leverage is defined as the percentage change in after-tax income (EAT) divided by the percentage change in EBIT. Financial leverage is the use of debt in the capital structure of a company [5]. DFL is the change in earnings per share caused by the use of fixed payment securities to finance the operations of the company.

2.2 Capital Structure Theories

Capital structure theories consist of Trade-Off Theory, Pecking Order Theory, Market Timing Theory, and Agency Theory. Trade-off points out that debt financing has advantages in tax relief over debt interest, while the disadvantage is the cost of financial difficulties related to the direct and indirect costs of bankruptcy. In the Pecking Order theory the company follows the financing hierarchy to reduce cost due to the information asymmetry between the management of the company and its shareholders. Market Timing theory shows that debt market and equity market conditions are important and dominant factors in making decisions about the capital structure of a company. Baker and Wurgler [6] agree with these findings and believe that the capital structure of the firm includes all previous attempts to time the market. According to Green and Talmor [7], the proxy theory of the asset substitution effect believes that if the debt-equity ratio increases, the motivation of management to participate in risky projects with or without positive NPV will also increase.

2.3 Zero Leverage Firms

Larger companies will be able to increase leverage more than smaller companies because the probability of default is lower. The size of a company is also related to the cost of issuing debt securities or stocks [8]. The increasing prevalence of zero-leverage companies is related to different IPO waves and subsequent changes in the composition of the industry. Furthermore, there is a link between the higher tendency to maintain zero leverage policies in all sizes and age groups and higher asset volatility [9]. Companies that only follow a zero-leverage policy in the short term seek financial flexibility. After abandoning the zero-leverage policy, these unrestricted companies jumped to a higher leverage ratio, made more investments, and reduced their cash holdings more than those of companies with a zero-leverage limit that remained free Long-term debt [9].

3 Research Methodology

3.1 Research Method

The object of this research are unlevered companies (zero leveraged firms) located in Indonesia, where these companies have a total debt value of zero. Secondary data is obtained by downloading fundamental data from 2002 to 2012 from data stream databases, such as Refinitiv Eikon Thomson Reuters and other data not obtained from the company directly. Due to acquisitions, defaults, retirements or mergers, not all companies existed during the period. The research data used in this study were 57 zero-leverage companies and 734 leveraged companies, namely 791 companies as the research population. Furthermore, with several categories for selecting data that have been discussed previously, the research sample obtained is 414 companies, consisting of 30 zero-leverage companies and 384 leveraged companies.

3.2 Data Analysis

3.2.1 Uji T

T-test was conducted to test whether the mean for ZLF firms differed significantly from LF firms. These steps are carried out for data for 2002-2007, namely before the financial

crisis, and for 2008-2012 when the financial crisis occurred. This is done to find out whether there are differences in the zero-leverage policy in ZLF before and during the financial crisis.

3.2.2 Regression Analysis

To further analyze the characteristics of companies with zero leverage, it is necessary to perform a regression analysis, to obtain a correlation between the selected explanatory variables and the dependent variable of companies that are not classified. Regression analysis used is probit regression which uses the dependent variable as a dummy variable, namely total debt for companies with zero leverage. The value of one is taken if the company does not have leverage and the value of zero is taken if the company has debt [10]. The regression analysis equation can be written as follows [11]:

$$Y = \beta 0 + \beta i \bar{X} i$$

Where Y is the dependent variable with normal distribution, 0 is the unknown intercept parameter, is the coefficient parameter, $\bar{X}i$ is the independent variable (firm size, Tobin's Q, profitability ratio, and tangibility ratio), and is the error that is assumed to be normally distributed with zero mean and variance ^{2} [11].

This study also investigated the patterns of "entry" and "exit" decisions (entry and exit decisions) of these companies as zero-leveraged companies. In this section, when the company was not a zero-leverage company in the previous period, but changed to a zero-leverage policy this year, the entry decision will be defined. At the same time, the exit decision is defined by the opposite characteristics [10].

4 Results and Discussion

4.1 Descriptive Analysis

4.1.1 Frequency of Occurrence of Zero-Leverage Phenomenon

The first column in Table 1 reports the years of observation from 2008-2012. In the second column (ZLF), it can be seen the share of companies that do not have leverage. An average of 12.94% of all firm-years showed zero-leverage from 2008-2012, with a minimum of 11.73% in 2011 and a maximum of 14.75% in 2008.

The third column in Table 1 reports the share of firms with leverage. It has been found that on average 87.06% of companies from the entire sample have leverage, which implies that cash holdings are greater than book leverage. During the period 2008-2012, there were 87.05% of companies that had leverage during the financial crisis.

Table 1. Frequency of Occurrence of Zero-Leverage Phenomenon (ZL)

Year	ZLF	LF	N
2008	0.1475	0.8525	373
2009	0.1429	0.8571	371
2010	0.1200	0.8800	375
2011	0.1173	0.8827	375
2012	0.1197	0.8803	376
Total	0.1294	0.8706	1870
Average	0.1295	0.8705	374
Number of Observations	791	414	1205

4.2 Descriptive Statistics for Unlevered Firms and Levered Firms

In Table 2, zero-leverage firms are compared with leveraged firms on several dimensions. This table is obtained from Strebulaev and Yang [1] and adapted for this study. The table shows descriptive statistics for zero-leveraged companies (ZLF) and leveraged companies (LF). The first and second columns show the ZLF and LF for the entire observation period from 2008 to 2012 during the financial crisis. The third column shows statistics that test whether the average value of ZLF company is significantly different from the average value of LF company.

Table 2. Descriptive Statistics for Zero-Leverage Firms (ZLF) and Leveraged Firms (LF)

	Period: 2002-2007			Period: 2008-2012		
	ZLF	LF	t-value	ZLF	LF	t-value
Firm Size	12,65	13,53	15,78437	13.15	13.99	-5.8075
Tobin's Q	0.96	1,32	15,78456	5.81	2.18	-10.4591
Profitability	0,1	0,42	15,78458	0.09	5.04	-1.5760
Tangibility	1,13	0,46	15,78458	0.18	0.48	-15.0037
Observations	126	2056		121	1742	

The first column in Table 2 reports the results for zero-leverage and leverage companies along with the t-value obtained based on the results of data processing in the 2002-2007 range, namely companies in the period before the financial crisis. T-statistics are relatively stable for all explanatory variables. On average, zero-leverage firms have significantly smaller firm sizes than leveraged firms.

4.3 Regression Analysis

Regression analysis used was probit regression where zero-leverage is the dependent variable, take the values of 1 (one) and 0 (zero) if the company is leveraged. Tobin's Q is included as one of the explanatory variables because the author wants to see whether companies that do not have leverage are different from companies with leverage in the dimensions of market valuation. it could be that financial markets perceive zero-leverage companies as assets during a crisis. Therefore, Tobin's Q must be higher for zero-leverage firms.

The author uses the profitability ratio data as the key fundamental data. Since tangible assets act as collateral for creditors, the tangible index can be expected to be negatively

correlated with zero leverage. In the event of bankruptcy, it is easier to sell tangible assets than intangibles.

Table 3. Characteristics of a Zero-Leverage Company

	Coefficient	Std. Error
Firm Size	-0.2068***	0.0230
Tobin's Q	-4.09E-08	0.4989
Profitability	-9.73E-05	0.7347
Tangibility	-1.1010***	6.05E-08
Observations	1863	
Pseudo R-squares	0.1051	

Table 3 shows the main results for the probit regression with 1863 observations. The output of this probit regression is used as parameter estimation for explanatory variables, such as Firm Size which has a coefficient of -0.2068 and a standard error of 0.0230, which is significant based on a significance level of 0.01%. Next is Tobin's Q which has a coefficient of -4.09E-08 and a standard error of 0.4989, the value of Tobin's Q from the results of this probit regression shows that it is not significant. The author decided to use probit regression to standardize the correlation on the dependent dummy variable. Multiplying the variable coefficient by a single standard deviation can give an indication of economic significance. Simultaneous calculation of profitability will increase the tendency to become a zero-leverage company by -0.000715%.

4.4 Zero-Leverage Enterprise Entry and Exit Decisions

This table shows the results of the probability regression with the entry-exit decision as the dependent variable. In this section, when the company was not a zero leverage company in the previous period but was converted to a zero leverage policy this year, the entry decision will be defined. At the same time, the exit decision is defined by the opposite characteristics. The second column shows the results of the entry decision, with standard errors grouped by company level to adjust for heteroscedasticity. The standard error is enclosed in parentheses. The coefficients indicated by *, ** and *** are statistically significant at the levels of 5%, 1%, and 0.01%.

Table 4. Zero-Leverage Enterprise Entry and Exit Decisions

	Entry Decision	Exit Decision
Firm Size	-0.212399 (0.021408)	-0.193620 (0.026123)
Tobin's Q	-0.020133* (0.019339)	-3.72E-08 (6.08E-08)
Profitability	-0.007649 (0.010090)	-5.06E-05 (0.000280)
Tangibility	0.034628* (0.030453)	-1.210128 (0.172331)
Observations	2025	1490
Pseudo R-squares	0.065541	0,104761

Table 4 shows that the impact of the crisis on the decision to enter or exit a zero-leverage policy is indirect. The entry decision has a statistically significant impact, but the exit decision has an insignificant impact. According to the data presented, there is little evidence that during the crisis more companies entered the zero-leverage policy than left it, judging by the Tobin's Q value and the tangibility ratio which have significant values.

5 Discussion

5.1 Frequency of Occurrence of Zero-Leverage Phenomenon

Over time, the number of companies with zero leverage has remained relatively stable, with a difference of 3.01% between the last two years. This shows that the company has decided to significantly reduce leverage and pursue a zero-leverage strategy in response to the financial crisis. Debt-for-equity swaps are highly dependent on the availability of financial resources and capital markets, also access to capital markets is increasingly restricted during the crisis.

Strebulaev and Yang [1] also compared similar tables of ZLF and LF companies, and argued that for most companies, cash holdings are the most crucial source of financing, rather than debt loans. The same appears to be the case during the financial crisis. During the financial crisis, more companies do not have enough leverage to show that companies are reducing their debt or holding more cash in a tough economic environment than in normal times.

5.2 Descriptive Statistics for Zero-Leveraged Firms and Levered Firms

During 2008-2012, in several dimensions, the group of companies being leveraged is different from the companies with leverage. On average, the company size of an unlevered company (ZLF) is significantly smaller than that of a leveraged company (LF). However, on the other hand, the Tobin Q value of an unlevered company (ZLF) is higher than that of a leveraged company (LF). This may be because compared with leveraged companies, a zero-leverage company has fewer tangible assets and less funds for capital expenditures and acquisitions. Therefore, it can be said that zero-leverage companies tend to have more cash than leveraged companies, pay more dividends, pay more taxes, and invest more in research and development. Observations on zero-leverage companies with Tobin's Q value higher than leveraged companies show that the capital market cannot interpret zero-leverage as assets, so the capital market values their business more.

5.3 Implications and Recommendations

The implication of this research for company managers, especially zero-leverage companies, is as a material for consideration in making managerial decisions related to capital structure when at any time an event similar to the global financial crisis occurred in 2008. Due to the global financial crisis, it did not significantly affect regarding the phenomenon of zero-leverage companies, this simply does not necessarily result in the same conclusion when a similar phenomenon occurs in the global financial crisis. Therefore, company managers should analyse and maintain optimal debt levels. Suggestions for the next researcher is to conduct further research with a similar theme using other variables that have not been studied in this study. In addition, it can use the latest year data, for example 2013-2019, which can be related to the Covid-19 pandemic in 2020, so that it will produce even better research.

6 Conclusions

The financial crisis did not have a crucial effect on zero-leverage companies. This can be seen. Firstly, it can be said that the number of companies without leverage did not change

significantly through the financial crisis. Before the global financial crisis, there were up to 5.77% of companies with zero leverage, which during the crisis rose slightly to 6.49% and reached a peak in 2008 when the crisis began, reaching 14.75%. Therefore, there is no evidence that companies usually change their capital structure policies.

It is useful to analyse the behavioural changes of zero-leverage companies from the perspective of entry and exit policies in several ways. Entry decisions are mainly affected by the negative correlation between company size and profitability. If fundamental events such as the financial crisis do not influence the company's capital structure policy, it will become an imperative and permanent decision. Otherwise, due to the rapid changes in the economic environment, it will be unclear whether companies must adapt to restrictive capital structure policies.

Given the enormous scale of the world economy, the financial crisis did not change the company's zero-leverage policy as people expected. However, there is something new in this zero-leverage event. It can be said that zero-leverage behaviour is a very long-lasting event, and there have been no obvious changes in extreme events such as the financial crisis of 2008 and 2012. Furthermore, the group of zero-leverage companies is very diverse.

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