

**THE ESTIMATION OF FINANCIAL TURNAROUND
LIKELIHOOD OF FINANCIALLY DISTRESSED FIRMS**

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to Obtain the Bachelor Degree in Management Department



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DECLARATION OF AUTHENTICITY

Herein I declare the originality of the thesis; I have not presented anyone else's work to obtain my university degree, nor have I presented anyone else's words, ideas or expression without acknowledgement. All quotations are cited and listed in the bibliography of the thesis.

If in the future this statement is proven to be false, I am willing to accept any sanction complying with the determined regulation or its consequence.



Yogyakarta, June 27th, 2018

Student Researcher
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TABLE OF CONTENTS

COVER PAGE.....	i
LEGALIZATION PAGE.....	ii
APPROVAL PAGE.....	iii
DECLARATION OF AUTHENTICITY.....	iv
ACKNOWLEDGEMENTS.....	v
LEGALIZATION PAGE.....	ii
APPROVAL PAGE.....	iii
DECLARATION OF AUTHENTICITY.....	iv
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	viii
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
LIST OF APPENDICES.....	xiii
ABSTRACT.....	xiv
ABSTRAK.....	xv
CHAPTER I INTRODUCTION.....	1
1.1. Background of Study.....	1
1.2. Problem Identification.....	5
1.3. Problem Formulation.....	6
1.4. Problem Limitation.....	6
1.5. Research Objective.....	7
1.6. Research Contribution.....	7
1.7. Systematics of Writing.....	9
CHAPTER II REVIEW OF RELATED LITERATURE.....	10
2.1. Financial Distress.....	10
2.1.1. Definition of Financial Distress.....	10
2.1.2. The Cause of Financial Distress.....	12
2.1.3. The Measurement of Financial Distress.....	15
2.2. Financial Turnaround.....	18
2.2.1. Definition of Financial Turnaround.....	18
2.2.2. The Measurement of Successful Financial Turnaround.....	20
2.3. Factors that Influence the Likelihood of Financial Turnaround.....	21

2.3.1. Prospective Earnings	21
2.3.2. Free Assets	22
2.3.3. Firm Size	24
2.3.4. Asset Retrenchment	25
2.3.5. Level of Leverage	27
2.4. Theoretical Framework	29
CHAPTER III RESEARCH METHOD	30
3.1. Population and Sample.....	30
3.2. Source of Data.....	32
3.3. Research Variables.....	32
3.3.1. Likelihood of Financial Turnaround	32
3.3.2. Prospective Earnings (PEARN)	33
3.3.3. Free Assets (FASSETS).....	34
3.3.4. Firm Size (FSIZE).....	34
3.3.5. Asset Retrenchment (ASSETR).....	35
3.3.6. Level of Leverage (LOLEV).....	35
3.4. Analysis Technique	36
3.4.1. Descriptive Statistics	36
3.4.2. Hypothesis Testing.....	36
CHAPTER IV DATA ANALYSIS AND DISCUSSION	40
4.1. Descriptive Statistic	40
4.2. Hypothesis Testing.....	43
4.2.1. Base Model	43
4.2.2. Alternative Model 1	49
4.2.3. Alternative Model 2	55
4.3. Discussion	61
4.3.1. Logistic Regression Models.....	61
4.3.2. The Influence of Prospective Earnings on the Likelihood of Financial Turnaround.....	64
4.3.3. The Influence of Free Assets toward on Likelihood of Financial Turnaround.....	65
4.3.4. The Influence of Firm Size toward on Likelihood of Financial Turnaround.....	67
4.3.5. The Influence of Asset Retrenchment on the Likelihood of Financial Turnaround.....	69

4.3.6. The Influence of Level of Leverage on the Likelihood of Financial Turnaround.....	70
CHAPTER V CONCLUSIONS AND RECOMMENDATIONS	73
5.1. Conclusions.....	73
5.2. Research Limitations.....	76
5.3. Recommendations	77
REFERENCES.....	78
APPENDICES	83

LIST OF TABLES

Table 4.1 Descriptive Statistic of Sample	40
Table 4.2 Evaluation of the Logistic Regression Model – Base Model	44
Table 4.3 Expectation-Prediction Evaluation – Base Model	45
Table 4.4 Result of Logistic Regression – Base Model	46
Table 4.5 Evaluation of the Logistic Regression Model – Alternative Model 1 ..	50
Table 4.6 Expectation-Prediction Evaluation – Alternative Model 1	51
Table 4.7 Result of Logistic Regression – Alternative Model 1	52
Table 4.8 Evaluation of the Logistic Regression Model – Alternative Model 2 ..	56
Table 4.9 Expectation-Prediction Evaluation – Alternative Model 2	57
Table 4.10 Result of Logistic Regression – Alternative Model 2	58
Table 4.11 The Influence of Independent Variables Based on Models	63

LIST OF FIGURES

Figure 2.1. Conceptual Framework.....	29
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LIST OF APPENDICES

APPENDIX 1: All Listed Companies in Secondary Sectors of JASICA	83
APPENDIX 2: List of Companies IPO and Listed since 2005	87
APPENDIX 3: List of Companies with Complete Financial Statements	90
APPENDIX 4: Screening for Financial Distressed Firms – Raw Data	93
APPENDIX 5: Screening for Financial Distressed Firms – Ratio.....	106
APPENDIX 6: Sample of Financially Distressed Firms.....	111
APPENDIX 7: Sample of Successful Financially Turnaround Firms	113
APPENDIX 8: Independent Variables – Raw Data.....	114
APPENDIX 9: Dependent and Independent Variables –Tabulation Data.....	116
APPENDIX 10: Descriptive Statistics – STATE 0.....	117
APPENDIX 11: Descriptive Statistics – STATE 1.....	118
APPENDIX 12: Descriptive Statistics – All Sample.....	119

ABSTRACT

Dynamic economic conditions combined with increasingly rapid pace of change nowadays bring special challenges to any firm in which this condition often drag them into the state of insolvent or bankruptcy. There are several stages before firms reach the state of bankruptcy including financial distress, insolvency, filing of bankruptcy, and administrative receivership. There are three possibilities when firms fall into financial distress condition, one of them is the firm may continue its operations and expect to regain financial stability in which firm may then will be faced by two outcomes: 1) Successful financial turnaround; and 2) Unsuccessful financial turnaround. This research aimed to figure out factors that may influence the probability of financial turnaround for financially distressed firms and use logistic regression in conducting the research. This research also adopted the principle of parsimony that aim to create the simplest model with the least assumptions and variables but with greatest explanatory power which lead to three models generated: 1) Base model; 2) Alternative model 1; and 3) Alternative model 2. Results of the research found that three of five independent variables including free assets, asset retrenchment, and level of leverage had significant impact toward the likelihood of financial turnaround. Meanwhile, two other independent variables including prospective earnings and firm size had no significant impact. Results of the research also found that only firm size and asset retrenchment that gave positive impact toward the likelihood of financial turnaround. Conversely, prospective earnings, free assets, and level of leverage give negative impact. The best model in estimating the likelihood of financial turnaround of financially distressed firm was alternative model 2 which yield the greatest explanatory power as presented by overall predictions accuracy of 83.33%.

Keywords : Financial Turnaround, Financial Distress, Prospective Earnings, Free Assets, Firm Size, Asset Retrenchment, Level of Leverage

ABSTRAK

Kondisi ekonomi yang dinamis dikombinasikan dengan laju perubahan yang semakin pesat membawa tantangan khusus bagi perusahaan manapun yang mana kondisi ini sering menyeret perusahaan ke dalam keadaan pailit atau bangkrut. Ada beberapa tahap sebelum perusahaan mencapai keadaan bangkrut termasuk kesulitan keuangan, kepailitan, pengajuan kebangkrutan, dan penerimaan administratif. Terdapat tiga kemungkinan ketika perusahaan jatuh ke dalam kondisi kesulitan keuangan, salah satunya adalah perusahaan dapat melanjutkan operasinya dan berharap untuk mendapatkan kembali stabilitas keuangan di mana perusahaan tersebut kemudian akan menghadapi dua kemungkinan: 1) Financial turnaround yang sukses; dan 2) Financial turnaround yang gagal. Penelitian ini bertujuan untuk mengetahui faktor-faktor yang dapat mempengaruhi probabilitas financial turnaround pada perusahaan yang mengalami kesulitan keuangan dan menggunakan regresi logistik dalam teknik pengolahan data. Penelitian ini juga mengadopsi prinsip parsimoni yang bertujuan untuk menciptakan model yang paling sederhana dengan asumsi dan variabel yang paling sedikit namun dengan kekuatan penjelas terbesar dimana hal ini mengarah kepada pembentukan tiga model yaitu: 1) Model dasar; 2) Model alternatif 1; dan 3) Model alternatif 2. Hasil penelitian menemukan bahwa tiga dari lima variabel bebas termasuk aset bebas, pengurangan aset, dan tingkat leverage memiliki dampak yang signifikan terhadap kemungkinan financial turnaround. Sementara itu, dua variabel bebas lainnya termasuk laba prospektif dan ukuran perusahaan tidak memiliki dampak yang signifikan. Hasil penelitian juga menemukan bahwa hanya ukuran perusahaan dan penghematan aset yang memberikan dampak positif terhadap kemungkinan financial turnaround. Sebaliknya, laba prospektif, aset bebas, dan tingkat leverage memberikan dampak yang negatif. Model terbaik dalam mengestimasi probabilitas terjadinya financial turnaround pada perusahaan yang mengalami kesulitan keuangan adalah model alternatif 2 yang menghasilkan kekuatan penjelas terbesar sebagaimana ditunjukkan oleh keseluruhan akurasi prediksi sebesar 83,33%.

Kata Kunci : Financial Turnaround, Kesulitan Keuangan, Penghasilan Prospektif, Aset Bebas, Ukuran Perusahaan, Pengurangan Aset, Tingkat Leverage

CHAPTER I

INTRODUCTION

1.1. Background of Study

Dynamic economic conditions combined with increasingly rapid pace of change nowadays brings a special challenge to every firm. Changes that simultaneously arise, either directly or indirectly will affect activities and performances of firms. Often, rapid change cannot be well anticipated by firms which eventually drag them into the state of insolvent or bankruptcy.

There are several stages before firms reach the state of insolvent or bankruptcy. According to Wruck (1990), there are stages to be passed by firms before it can be categorized as insolvent: financial distress, insolvency, filing of bankruptcy, and administrative receivership (in order to avoid filing for bankruptcy), for instance. Thus, financial distress can be categorized as a state of transition which occurs when healthy companies suffer from decreasing performance which at the end may lead to bankruptcy. This statement is also supported by Plat & Plat (2002) where they argued that financial distress is defined as the stage of decline in financial condition prior to the occurrence of bankruptcy or liquidation.

Many researchs has been done in relation to financial distress. Each researcher has several definitions of financial distress. Purnanandam (2007)

defined that financial distress is defined where the state of the company's cash flow is low enough to cause losses but has not yet led to bankruptcy. Wruck (1990) argued that financial distress is the situation where the cash flow of a firm is not enough to cover its current financial obligations. In a more practical terms, one of the indications that has to be fulfilled before a firm can be categorized as financially distressed is if its earnings before interest, taxes, depreciation and amortization (EBITDA) are less than its financial costs in two consecutive years (Tinoco & Wilson, 2013).

In line with the increasing number of studies related to financial distress, the establishment of model to predict the likelihood of occurrence of financial distress is also growing. There is now an extensive literature on the modelling of corporate financial distress and bankruptcy (Tinoco & Wilson, 2013). One of the model is Altman's Z-core, for which the coefficients of the variables needed in the model are available and easy to get, which turn this model into very popular among others (Poston, Harmon, & Gramlich, 1994).

All firm has the possibility to fall into financial distress condition. An in-depth study of financial distress, its consequences and its possible outcomes are interesting topics to study. This is because in the state of financial distress, the firm's future is at stake and bankruptcy may happen anytime. According to Pastena & Rusland (1986), financially distressed firms has three options available: 1) The firm may continue its operations, hoping to regain financial stability, economic recovery, or both; 2) The firm may be able to merge or may be acquired by another firm; and the last option is 3) The firm may file for bankruptcy and

liquidate its assets or continue its operations through a successful reorganization. Many firms suffered from financial distress choose to continue its operation, although only some in this group that are able to turnaround and regain its financial strength (Fletcher, 1993). This research also interested in the first option that was available to financially distressed firms in which the firm decided to continue its operations. Based on Pastena & Rusland (1986) description, first option may lead to two final states which were: 1) Turnaround firms; and 2) Continued distress firms.

Financially distressed companies that continue their operations expect to turnaround and achieve healthy company's financial condition in the future. A recovery in company's performance from declining or a life-threatening situation that occur in the state of financial distress into an acceptable performance is defined as a turnaround (Barker & Duhaime, 1997). According to Poston et al. (1994), their study concluded that a firm can be classified as turnaround once a company is no longer show financial distress sign as previously predetermined.

Until now, many research focused on the prediction of bankruptcy and the prediction of financial distress, but not so with the turnaround prediction of firms which is currently experiencing financial distress. Several researches showed many factors may influence the likelihood of financially distressed firms to successfully achieve the condition of turnaround and regain healthy financial position. Fletcher (2003) proposed that, respectively, prospective earning and free assets have strong support important indicator and moderate support important indicator of successful turnarounds for distressed firms.

Prospective earning which use return on assets (ROA) as its proxy was used as one of the factors that influence the likelihood of turnaround due to firms with more attractive earning prospects have tendencies to emerge from unsatisfactory condition in comparison to those firms that liquidate. This is in line with White (1981) who argued firms that is expected to have better profitability in near future and have more ability to generate funds needed either internally or from additional borrowing. Another factor proposed by Fletcher (2003) is free assets which defined as those non-collateral assets which available for use as collateral for additional borrowing. Large proportion of free assets in company makes it easy for companies to obtain additional funds in the financial distress condition. Thus, this variable affects the possibility of companies to emerge from financial distress and achieve financial stability.

Firm size, asset retrenchment and level of leverage also increase the likelihood of financial turnaround according to several literatures. Positive relation of firm size in the turnaround process is expected based on the assumption that the size is a tangible resource for the firm (Schmuk, 2013). The assumption states that the larger the size of the company, the greater the likelihood of turnaround from difficult conditions. The likelihood of survival of financially distressed firm by combining strategic asset retrenchment as well as cost retrenchment has also shown a significant increase. The significant increase in the likelihood of survival is primarily due to reduced leverage and an increased focus on core competencies in retrenchment actions, as well as the productivity growth achieved by divestitures of less productive plants (Schweizer & Nienhaus, 2017).

Based on previous research, the lower the level of leverage of the firm, the higher the probability of turnaround. This assumption is based on several literature stated that financial distress is primarily and commonly caused by overleverage (Molina, 2005) which then reduces the chances of firm survival (Zingales, 1998). According Giroud et al. (2012), debt reduction has also found to contribute a significant improvements in firm performance.

The importance of this research is that every financially distressed firm that choose to continue its operations had the potential for turnaround. This research figured out several factors that may have influence the probability of turnaround for financially distressed firms. These factors included prospective earnings, free assets, firm size, asset retrenchment, and level of leverage. Therefore, researcher was interested to conduct a study toward the estimation of financial turnaround likelihood of financially distressed firms.

1.2. Problem Identification

Based on the background above, the research identifies the problems as follow:

1. The influence of prospective earnings on the likelihood of financial turnaround.
2. The influence of free assets on the likelihood of financial turnaround.
3. The influence of firm size on the likelihood of financial turnaround.
4. The influence of asset retrenchment on the likelihood of financial turnaround.

5. The influence of level of leverage on the likelihood of financial turnaround.

1.3. Problem Formulation

According to the Problem Identification, the problem formulations in this research were as follow:

1. Does prospective earnings influence likelihood of financial turnaround?
2. Does free assets influence likelihood of financial turnaround?
3. Does firm size influence likelihood financial turnaround?
4. Does asset retrenchment influence likelihood of financial turnaround?
5. Does level of leverage influence likelihood of financial turnaround?

1.4. Problem Limitation

In this research, the researcher limits only on secondary sector (industry and manufacturing) based on JASICA (Jakarta Stock Industrial Classification) which consisted of three major sectors including basic industry and chemical, miscellaneous industry, and consumer goods industry. Due to time limit and the data availability concerned, the researcher also limit period of the research from 2005 to 2016.

1.5. Research Objective

The expected goals of the research were:

1. To find out the influence of prospective earnings on the likelihood of financial turnaround.
2. To find out the influence of free assets on the likelihood of financial turnaround.
3. To find out the influence of firm size on the likelihood financial turnaround.
4. To find out the influence of asset retrenchment on the likelihood of financial turnaround.
5. To find out the influence of level of leverage on the likelihood of financial turnaround.

1.6. Research Contribution

1. Researcher

The research result is expected to provide in-depth knowledge and empirical evidence on factors that influence the successful of financial turnaround in financially distressed firms.

2. Future Researcher

Future researcher may use this research as the base to expand more factors related to financial turnaround and may develop predictive model of financial turnaround.

3. Government

The results of this research may be useful for the government to create regulations that support financially distressed firms in order to achieve the turnaround state and regain financial stability.

4. Companies

The results of this research are expected to be useful for corporate management. Management of a company that is currently in a financial distress condition may utilize the information available from the study's results to point out important aspects that have to be underlined in order to achieve a successful turnaround.

5. Investors

The results of this research can be very useful for investors because when a firm experiencing financial distress conditions, assuming the market is efficient, firm's stock price will decline. The falling in stock price brings huge opportunities for investors who can predict the turnaround probability of the firm. By knowing the probability of a firm's turnaround, investors will be able to exploit cheap stock price with the assumption that the firm's condition will improve in the near future for which it may positively influence firms' stock price performance.

1.7. Systematics of Writing

CHAPTER I: INTRODUCTION

This chapter contains the background that will be discussed. This chapter includes background of study, problem identification, problem formulation, problem limitation, research objective, research contribution and systematics of writing.

CHAPTER II: REVIEW OF RELATED LITERATURE

This chapter contains basic, theoretical basis of this research, hypotheses formulation and the theoretical framework.

CHAPTER III: RESEARCH METHOD

This chapter contains the type of study conducted in this research, the population and the research sample, the type and sources of data, methods of data collection, research variables and the methods of data analysis.

CHAPTER IV: DATA ANALYSIS AND DISCUSSIONS

This chapter contains analysis of the general description and data that already described in previous chapter, analysis of descriptive statistic, result of the reliability and validity test, hypothesis testing, and research results discussion.

CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

This chapter explain the conclusions that can be drawn based on the results of data processing, limitation of the research and suggestions for future researcher.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1. Financial Distress

2.1.1. Definition of Financial Distress

In general, financial distress can be defined as a condition where firms experience decline in financial performance as well as decrease in financial stability or so called financial difficulties which increase firm's bankruptcy risk. In some classical literatures, the inability to pay preferred stock's dividend or debts and the corresponding consequences such as overdraft of bank deposits, liquidation for interests of creditors, and even entering the statutory bankruptcy proceeding are signs of financial difficulties. The theoretical framework of "cash flow" or "liquid assets" model is adopted by financial distress definition above (Sun, Li, Huang, & He, 2014).

According to Purnanandam (2007), a low cash-flow state of the firms that suffer losses without being insolvent is defined as financial distress condition. Other definition stated that at any given point in time when the liquid assets of the firm are unable to meet the current requirements of its hard contracts, a firm can be categorized as financial distress (Hotchkiss et al., 2008). Wruck (1990) stated that financial distress is the situation where the cash flow of a firm is not enough to cover its current financial obligations. Tinoco & Wilson (2013) offered a more practical definition of financial distress in which this research will adopt. They

argued that if firm's financial cost is more than its earnings before interest, taxes, depreciation and amortization (EBITDA) in at least two consecutive years, a firm has meet a condition where it can be categorized as financially distressed firm. In short, Tinoco & Wilson (2013) emphasized that financial distress is characterized by the inability of the firm to meet its financial expenses with its own earning power.

Several studies in various literatures argued that bankruptcy may be the end result of a state of financial distress and is part of a long process. Based on the previous definition, we are able to interpret bankruptcy is in line with its legal definition (insolvency) and identify the stage prior to insolvency with the period of financial distress state. As many studies have emphasized, financial distress often does not appear clearly at first and only when the bankruptcy statement has been declared that the evidence of a financial distress period become definite (Pindado & Rodrigues, 2005). Thus, it can be concluded that there are several stages before firms reach the state of insolvent or bankruptcy. According to Wruck (1990), stages to be passed by firms before it can be categorized as insolvent including: 1) Financial distress; 2) Insolvency, and 3) Filing of bankruptcy, and/or 4) Administrative receivership (in order to avoid filing for bankruptcy), for instance. Consequently, financial distress can be classified as a transition period which occurs when healthy companies suffer from decreasing performance where at the end may lead to bankruptcy. This statement is also supported by Plat & Plat (2002) where they argued that financial distress is

defined as the stage of decline in financial condition prior to the occurrence of bankruptcy or liquidation.

Many researchers argue that when all the efforts made to get out of financial distress fail, then bankruptcy is the last ultimate alternative (Palinko & Agnes, 2016). As the consequence, firm that suffer from financial distress have several options, including the option to continue its operations in the hope of getting out of the current difficult conditions. According to Pastena & Rusland (1986), there are three possible options available to firms that suffer from financial distress which are: 1) First option, the firm may continue its operation with expectation that financial stability, general economy recovery, or both of them will arise in the future; 2) Second option, financially distressed firm may execute merger action or may be acquired by other firm and expect to continue its operation; and the last is; 3) Third option, bankruptcy filing and either liquidate may be exercised by financially distressed firm.

2.1.2. The Cause of Financial Distress

There are several factors that can drag down the performance of the firm to enter financial distress condition. Based on the source of the cause, financial distress can be caused by external factors and internal factors. External factors are factors that come from outside the firm and beyond the reach of the firm's ability to control. The external factors may include changes in macro-economic conditions, changes in industry structure, government policies that suppress firm's

prospects, and others. Internal factors are factors that can cause financial distress which comes from within the company itself. The internal factors may include financing policies, operational policies, board size, and others.

External factors such as industry downturn can be one of the causes of financial distress in certain industries (Asquith, Gertner, & Scharfstein, 1994). In fact, 24 firms studied by Asquith et al. (1994) showed that poor industry performance is the primary causes for financial distress. In sluggish industrial conditions, the potential for financial distress in companies in the industry will increase. Industry downturn can be caused by many factors such as the abundance of inventory of a particular product, which will have an impact on the selling price. Industry downturn can be caused by many factors. One of them is the abundance of supply of a particular product, which will have an impact on its selling price. Over-supply that occurs will suppress the selling price of the product which will directly affect the profitability of the company. Decline in firm profitability that occurred long enough will be able to suppress the performance of the firm and drag it into the condition of financial distress.

Internal factors are usually more dominant to become the primary cause of financial distress. The statement is supported by Whitaker (1999) who argued that poor management leads the firm into financial distress condition in most cases, compared to the effects of economic distress. The inability of management to determine source of financing for the firm's operational continuity and lack of proper financing policy is widely regarded as the cause of financial distress from internal factors. This is in line with the Asquith et al. (1994) who stated that high

interest expense is one of distinct factors causing financial distress and within their study, they have found that leverage is the primary cause of financial distress for 9 firms. Mselmi et al. (2017) also agreed that more leveraged firm with lower repayment capacity is a common thing found in financially distressed firm. It is also found that an increase in capital gearing or the debt to assets ratio, coupled with low profitability, will raise the possibility of financial distress occurrence (Bunn & Redwood, 2003). Likewise, Eugene and Ernhardt (2016) also found that excessive debt and insufficient capital are the main financial factors of financial distress. Abnormal large leverage ratios and small proportion of equity relative to firm capital structure has also found commonly in financially distressed firm. (Li, Lockwood, & Miao, 2017).

In addition to the source of financing and financing policy, other financial factors that can influence significantly the likelihood of financial distress occurrence is the ability of management in managing the activity and profitability of the company. Asquith et al. (1994) argued that firm with weak performance compared to its peer within the same industry is one of the distinct reasons that cause financial distress which they found in their study that 69 firms entered financial distressed condition due to poor firm-specific performance. The inability of management in managing firm liquidity coupled with low levels of profitability is often found in firms experiencing financial distress (Mselmi, Lahiani, & Hamza, 2017). Moreover, Keasey & McGuinness (1990) has found that profitability ratio is a significant indicator of financial distress for a number of years prior to the date of failure. Good activity management in term of liquidity is

found to reduce the probability of financial distress, which means that firm with higher liquidity, as measured by the current ratio, will be able to reduce its probability of failure (Bunn & Redwood, 2003).

Besides financial factors which are most closely related to the cause of financial distress, several internal factors beyond financial factors also in some level contribute to the possibility of companies to enter into financial distress. One variable that has found to have correlation with the cause of financial distress is firm board size. According to Manzanque et al. (2016), firm board size has a negative relationship on the likelihood of financial distress. Other factors proposed by Li et al. (2017) in which generally found in financially distressed firm are management's decision to overinvest, which may lead to destroyed value and exhaust firm cash flows. The size of the firm is also found to contribute toward the likelihood of financial distress as smaller firm is more likely to get into financial distress condition (Mselmi, Lahiani, & Hamza, 2017).

2.1.3. The Measurement of Financial Distress

Commonly speaking, a firm that is currently in financial distress condition has difficulties in meeting its obligations that are already matured. In a more specific measurement, we may identify whether a firm is financially distressed or not by measuring firm's ability in paying its obligation as it is commonly found that a financially distressed firm does not have the ability to pay both its short-term and long-term liabilities at any given time whenever the creditors ask for return.

Regarding the ability of the firm in paying its obligations which directly related to the cause of insolvency or bankruptcy, Sun et al. (2014) also stated the inability to pay debts or preferred dividend and the corresponding consequences such as overdraft of bank deposits, liquidation for interests of creditors, and even entering the statutory bankruptcy proceeding are signs which usually found on financially distressed firms. Thus, it gives clear measures and emphasize that the way to measure financial distress is by analyzing firm's ability to pay its obligation, while corresponding action such as overdraft of bank deposits is a strong sign that firm is in financial distress condition. Besides measuring financial distress by firm's profitability, Purnanandam (2007) argued that a low cash-flow state of the firm in which it incurs losses without being insolvent is defined as financial distress. Based on definition above, it can be added to previous understanding towards measuring the financial distress, where firm that is currently in financial distress condition may incurs losses but then again it is not being insolvent yet, thus it put firm's profitability level as a measurement towards financial distress.

In the other hand, Tinoco & Wilson (2013) has putted their focus on firm's ability in generating cash-flow as a measurement toward financial distress where he argued that the situation where the cash flow of a firm is not enough to cover its current financial obligations is defined as the situation where the cash flow of a firm is not enough to cover its current financial obligations. Likewise, whenever operational cash flows of a firm is lower than financial expenses and market value persistently falls, a firm is considered financially distressed (Pindado, Rodrigues,

& De La Torre, 2008). Besides firm's ability in generating cash-flow, firm's solvability level and market value as the important measurement of financial distress, other research is more focused on measuring financial distress by the level of liquidity of the firm. One of which is from Hotchkiss et al. (2008) who argued that whenever the liquid assets of the firm are not sufficient to meet the current requirements of its hard contracts at any given point, a firm is categorized as financially distressed firm.

A broad measurement is needed to identify financially distressed firm. However, to be able to easily categorize whether a firm is in a financial distress or not, mostly a practical term is needed. In connection with that matter, some researchers already offered several practical term to easily categorize firms that is in financial distress condition. For the purpose of this research, practical terms were used to determine whether a firm is in financial distress condition or not were stated by Tinoco & Wilson (2013) who categorized a firm is in financial distress if its earnings before interest, taxes, depreciation and amortization (EBITDA) are less than its reported financial expenses (interest expense on debt) for two consecutive year. This practical term for financial distress measurement and categorization offered by Tinoco & Wilson (2013) is comprehensive as earnings before interest, taxes, depreciation and amortization (EBITDA) that represent both firm's profitability. In the other hand, it compromised firm's cash flow as depreciation and amortization which are not a cash expense and are left behind. In short, earnings before interest, taxes, depreciation and amortization (EBITDA) is a better measurement for measuring firms's profitability solely by its

performance and neglecting non-cash expense. Financial expense is an indicator that represent the amount of cash needed by firm to meet its financial obligation. With that being said, financial expenses represent the cash flow need in financing as well as showing the solvability level of the firm.

2.2. Financial Turnaround

2.2.1. Definition of Financial Turnaround

Financial turnaround can be defined as condition where firms currently suffer from financial distress condition attempt to continue its operation by making improvements so that in the end the firm will be able to get out from difficult conditions. As a general understanding, Barker & Duhaime (1997) stated that successful financial turnaround occurs when firm is able to reverse its performance from decline that threatens its ability to survive, in which at the end the firm will be able to achieve a sustainable profitability. Likewise, turnaround is described as the recovery of a company's performance after serious decline (Balgobin & Pandit, 2001). In shorter term, turnaround can be defined as the reversal in a firm's decline in performance (Bruton & Rubanik, 1997).

Financial turnaround can also be defined as the action taken to prevent the occurrence of financial disaster such as insolvency or bankruptcy as the ultimate result of financial distress. The turnaround definition implies that a declining firm can be turned around, while a firm that has failed cannot be turned around (Pretorius, 2009). Turnaround situation will be faced by a firm when it does not meet expectations of the stakeholders and the industry in terms of results over a

period of time which includes both the present expectation of results (Chathoth, Tse, & Olsen, 2006). Empirical research identified a pattern to the turnaround process: Firms experience declining performance due to a variety of managerial and environmental causes including economic recessions, technological obsolescence, infrastructure and operational inefficiencies, and other deterioration of competitive advantages. These causal factors lead to performance declines that place the firm in a turnaround situation that warrants a two-tiered strategic response, labeled the turnaround strategy. Managers attempt to recover their pre-decline performance levels with an initial retrenchment phase, followed by a longer-term recovery phase (Pearce & Robbins, 2008).

It is a general guideline that financial turnaround is characterized by the increase in profitability level of the firm. It is supported by Hoffman (1989) who stated that turnaround studies have defined variously decline and turnaround, by relying mostly on financial indicators such as decreasing and increasing profitability. Likewise, Bibeault (1998) proposed that firm's primary objective of turnaround is to stop the downturn and should be followed by actions that pursue profitability. On the other hand, a successful financial turnaround is often associated with a firm's ability in regaining a sustainable competitive advantage (Lohrke, Bedeian, & Palmer, 2004). According to Pretorius (2009), financial turnaround is also often associated with the return of the condition of the firm into a healthy condition or in other words "a normal operation", which can be measured from the firm's achievement of its positive cash flow.

2.2.2. The Measurement of Successful Financial Turnaround

In practical measurement, a firm can be categorized to have been successful doing successful financial turnaround when financial condition of the firm is no longer in distress, or in other word a successful financial turnaround is achieved whenever the firm is no longer in financial distress condition. A comparison between firm's condition during and after financial distress also can be a fair measurement for a successful financial turnaround, as Pearce & Robbins (1993) argued that successful turnaround described as financial or market measures of the relative success of the troubled firm in returning to pre-downturn performance levels. He also stated that in order to achieve successful financial turnaround predicate, a firm must be able to match or even exceed their most prosperous periods of pre-downturn performance.

Besides being able to match or exceed pre-downturn performance or in other words at financial distress condition, the firm also need to be able to maintain its profitability as a representation of sustainable performance (Barker & Duhaime, 1997). Based on the definition of financial turnaround, a practical term or measurement to categorize successful financial turnaround firm is as follows: 1) The firm's financial condition is no longer in distress; and 2) The firm must be able to continue its good performance in the subsequent years since the company's exit from financial distress period.

2.3. Factors that Influence the Likelihood of Financial Turnaround

There are several factors that based on previous studies have influence on the probability of successful financial turnaround of firms that were suffered from financial distress. At least there are five factors influencing the likelihood of financial turnaround, which are: 1) Prospective Earnings; 2) Free Assets; 3) Firm Size; 4) Asset Retrenchment; and 5) Level of leverage.

2.3.1. Prospective Earnings

Several previous studies conducted have shown that prospective earnings have relationship toward the likelihood of successful financial turnaround. According to Fletcher (1993), earnings prospects have the proxy of return on assets (ROA) which is calculated as operating income from continuing operations before taxes and depreciation, divided by net operating assets. He also stated that return on asset is a measurement of firm's profitability and within his study, return on asset is the best variable to predict distressed firms that recovered and those that did not (Fletcher, 1993).

Some studies show positive relation of prospective earnings toward financial turnaround probability. White (1981) proposed that firms that rise up out of insolvency have more appealing profit prospects than those that liquidated. Likewise, Casey et al. (1986) also found that prospective earnings have positive relationship towards reorganization in their model of reorganization versus liquidation. Firms with sufficient level of return on asset are expected to operate profitably in the near future and are better to be able to generate funds either

internally or through additional outside borrowings. This anticipated ability to generate funds will enable firms to reorganize successfully (Fletcher, 1993).

Nevertheless, researcher also found previous studies that represent a negative relationship between prospective earnings and the possibility of financial turnaround in companies that are experiencing financial distress. In their research, Sudarsanam & Lai (2001) has found that return on assets (ROA) shows only a small difference between successful and unsuccessful financial turnaround in the financial distress period. Nonetheless, the non-recovery firms' ROA is significantly lower to the recovery firms' in the post-distress years.

Based on several theoretical bases and previous studies above, the hypothesis is developed by researcher as follow:

H1: Prospective earnings have significant and positive impact influence on the likelihood of financial turnaround.

2.3.2. Free Assets

By its terminology, free assets are tangible assets owned by firms where these assets are not a guarantee or mortgage of firm debt. This definition is in line with White (1981) who stated that free assets refer to excess assets over liabilities. Likewise, Yao & Shen (2015) also argued that free asset is measured by the difference between the total tangible assets and total liabilities divided by the total tangible assets.

Several previous studies have argued that free assets have an influence toward the success of a financial turnaround in firms who experienced financial distress. Suratno et al. (2017) defined that free assets has significant positive effect on the turnaround as larger free assets will help enlarge the possibilities to bounce from difficult situation. Firms that have free assets are not likely to be bankrupt since these companies are able to raise additional funds which are necessary for their turnaround (White, 1981). Similarly, Routledge & Gadenne (2004) also claimed that free assets can be a significant predictor of corporate financial turnaround from financial distress. A study conducted by Yao & Shen (2005) also resulted the same result as they identified that non-recovery firms have less free assets than recovered one and indicate that free assets help firms achieve financial turnaround from financial distress (Smith & Graves, 2005).

Nevertheless, there are several studies that have found contrary results to the findings of previous researchers. In their study, Chenchene & Mensah (2014) claimed that free assets did not affect the turnaround since it had lower coefficient of variation value for the failed group in comparison to the recovered group. Similar result also found in study conducted by Endah (2017) who stated that free assets does not give any influence to the probability of company recovery condition.

Based on several theoretical bases and previous studies above, the hypothesis is developed by researcher as follow:

H2: Free assets have significant and positive influence on the likelihood of financial turnaround.

2.3.3. Firm Size

According to several literatures, firm size has an influence on the probability of financial turnaround in companies experiencing financial distress. According to Trahms et al. (2013), organizational theory has noted that the mortality rates of firms decline with increased size. Mortality rate as stated in above argument can be interpreted as the probability of bankruptcy in a firm experiencing financial distress. Likewise, firm size affects the capacity of a firm to make the necessary adjustments amid a changing environment which is related to ability in implementing turnaround strategy and achieve a successful financial turnaround (Tushman & Romanelli, 1985). Schmitt & Raisch (2013) argued that firm size can influence turnaround firms' ability to implement different turnaround strategies and, ultimately, affect their turnaround performance. Although in other research as conducted by Sudarsanam & Lai (2001), firm size does not have significant influence on the likelihood of financial turnaround on both of their models which include logistic regression and linear regression.

Based on previous research, there are various arguments related to the firm size relationship to a firms' likelihood in achieving successful financial turnaround. Schmitt & Raisch (2013) proposed that firm size have a significant and positive influence on turnaround performance. Their argument was also supported by Smith & Graves (2005) who stated that firm size measures are

highly significant with positive correlation, meaning large companies are much more likely to affect recoveries from a distressed state. Larger firms are likely to have a higher probability of survival, as the potential losses to stakeholders are greater. Besides that, such firms are likely to have a higher profile and therefore more likely to be kept alive (Smith & Graves, 2005). Similarly, Campbell (2006) also identified that successful reorganized companies were generally larger than liquidated companies.

However, Pant (1991) detailed that turnaround companies were generally smaller than failed companies. He also stated that smaller companies may be more successful in enacting a successful turnaround as they are able to adapt to their changing environment more easily than large companies (Pant, 1991). Similarly, Trahms et al. (2013) also argued that large firms can suffer from routinization that limits flexibility and fosters inertia, leading to environmental maladaptation. Thus, it has negative influence on the likelihood of financial turnaround.

Based on several theoretical bases and previous studies above, the hypothesis is developed by researcher as follow:

H3: Firm size has significant and positive influence on the likelihood of financial turnaround.

2.3.4. Asset Retrenchment

Asset retrenchment is one of the strategies that is often applied by management when a firm is dragged into financial distress condition.

Retrenchment is a consequence of a steep performance decline which a firm's financial performance is extremely poor (Barker & Mone, 1994). In broader definition, retrenchment refers to efficiency-oriented, short-term turnaround actions, such as downsizing, cost reduction, asset sell-offs, and divestment of businesses, that aim to stem survival-threatening performance decline (Tangpong, Abebe, & Li, 2015). Likewise, Lim et al. (2013) argued that retrenchment is deliberately eliminating assets and/or reducing costs as a means of increasing firm efficiency. Asset retrenchment itself is defined as a net reduction in total assets for at least one year subsequent to the year of the largest absolute performance decrease for a firm during its decline (Robbins & Pearce, 1992).

Based on previous researches, asset retrenchment has an influence on the probability of a successful firm's financial turnaround. The result of study conducted by Robbins & Pearce (1992) found that declining firms which do not retrench will be less likely to turn around and will continue to have declining performance. Thus, declining firms initially need to retrench to stabilize declining performance with the objective of sustaining the firm's survival and attaining a situation of positive cash flow. They also stated that retrenchment has almost universal utility for firms facing decline conditions. In addition, firms should retrench regardless of the cause of the firm's performance decline (Robbins & Pearce, 1992). Likewise, in general, retrenchment related positively to successful turnarounds and improved performance because of increased efficiencies (Lim, Morse, & Rowe, 2013). Another research conducted by Tangpong et al. (2015) showed that earlier implementation of retrenchment actions by declining firms

have a higher likelihood of successful turnaround, whereas specific retrenchment actions including early divestments and geographic market exits are positively related to the likelihood of successful turnaround. It confirms that an early timing of retrenchment has a positive influence on performance of declining firms (Barbero, Pietro, & Chiang, 2017).

Based on several theoretical bases and previous studies above, the hypothesis is developed by researcher as follow:

H4: Asset retrenchment has significant and positive influence on the likelihood of financial turnaround. (Asset growth has significant and negative influence on the likelihood of financial turnaround).

2.3.5. Level of Leverage

Based on previous researches, level of leverage is one of the important variables that have impact on the firm performance, especially on financial distress and financial turnaround. The composition of firm's financing sourced from equity and debt should be proportional for firms that are in financial distress condition to make them able to regain their financial stability and achieve successful financial turnaround. This statement is in line with Asquith et al. (1994) and James (1996) statement in which they argued that debt composition is important for turnaround.

Level of leverage was found to have significant and negative influence on the likelihood of financial turnaround, as stated by Zingales (1998) who described

that high leverage reduces survival chances by curtailing investments. Likewise, Giroud et al. (2012) found that significant performance improvements after debt reductions in which he also demonstrate in their study that linking a significant reduction in leverage to an increase in firm performance.

In the other hand, several studies showed positive relationship between level of leverage and the likelihood of financial turnaround, which suggest that high leverage increase the successful financial turnaround probability. Winn (1997) stated that he does not find any asset productivity growth due to debt reduction during turnaround. While George & Hwang (2010) and Routledge & Gadenne (2000) concluded that companies experiencing successful turnaround are more leveraged. Equally, Kalay et al. (2007) stated that firms with higher debt ratios experience greater operating performance improvements.

Based on several theoretical bases and previous studies above, the hypothesis is developed by researcher as follow:

H5: Level of leverage has significant and negative influence on the likelihood of financial turnaround.

2.4. Theoretical Framework

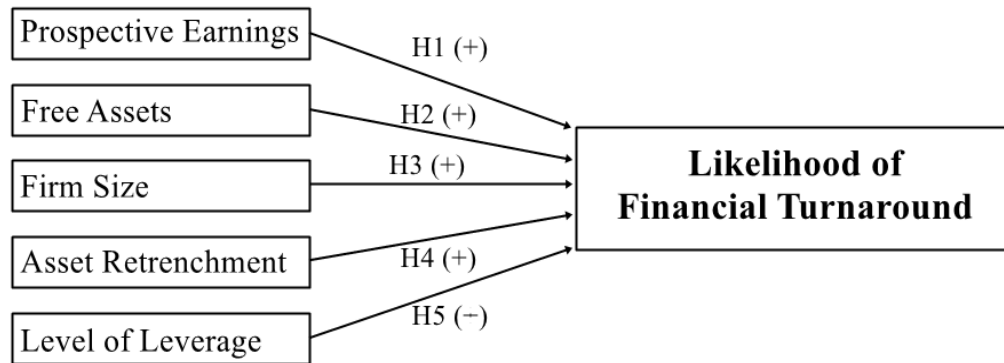


Figure 2.1. Conceptual Framework

The figure above illustrates the framework of thought including dependent variable and independent variables of the research.

CHAPTER III

RESEARCH METHOD

3.1. Population and Sample

The population in this research was all companies that included in the classification of secondary sectors (industry and manufacturing) based on Jakarta Stock Industrial Classification (JASICA). Secondary sector included basic industry and chemical, miscellaneous industry, and consumer goods industry. Companies observed were companies that ever had or was currently experiencing financial distress.

Determination of the sample in this research was conducted by using purposive sampling method, in which the sample companies were selected based on the criteria or considerations related to the use of research. The sampling criteria were as follows:

1. Companies that fell into the category of secondary sectors in the JASICA classification system and successively listed on the Indonesia Stock Exchange within the period of 2005-2016. From this first criterion, the researcher obtained the sample of 140 companies.
2. Companies that had been IPO and listed in IDX at least since 2005. From this second criterion, the researcher obtained the sample of 107 companies.

3. Companies that consistently published complete financial statements in the 2005-2016 period. From this third criterion, the researcher obtained the sample of 101 companies.

After determining 101 sample companies that passed in three stages of purposive sampling criteria, then the sample company will be categorized on the condition of the company where researchers will look for companies that experiencing financial distress and companies that successfully achieved the state of financial turnaround.

The determination of the financial distress situation refers to the practical terms offered by Tinoco & Wilson (2013), that categorized firm is in financial distress if its earnings before interest, taxes, depreciation and amortization (EBITDA) are less than its reported financial expenses (interest expense on debt) for two consecutive year. The determination of successful financial turnaround refers to the practical term as follows: 1) The firm's financial condition is no longer in distress; and 2) The firm must be able to continue its good performance in the subsequent years since the company's exit from financial distress period (Barker & Duhaime, 1997; Pearce & Robbins, 1993).

Based on this criterion, there were a total of 24 companies that had been or were currently experiencing financial distress, where 13 companies had failed to achieve financial turnaround and the other 11 companies were able to achieve successful financial turnaround.

3.2. Source of Data

The data used in this research was documentary data which was the type of data gathered by collecting, recording and analyzing data to be processed and researched. Data collected through indirect observation (secondary data), i.e. by collecting financial reports of companies obtained from The Indonesian Capital Market Institute (TICMI), Indonesia Stock Exchange (IDX), and Morningstar. The data required was in the form of financial statements of companies in the period of 2005-2016.

3.3. Research Variables

This research used variable which consisted of dependent variable and independent variable. Dependent variable in this research was likelihood of financial turnaround in company experiencing financial distress. Independent variables included prospective earnings, free assets, firm size, asset retrenchment and level of leverage.

3.3.1. Likelihood of Financial Turnaround

The dependent variable in this research was the probability of achieving the successful financial turnaround condition of a company experiencing financial distress. If the company succeeded in achieving a financial turnaround, the company was assigned with value of 1 for STATE. In the other hand, if the company failed to achieve a financial turnaround, the assigned value was 0 for

STATE. Categorization of companies that successfully achieved financial turnaround condition and companies that fail were as follows:

1. Successful financial turnaround (STATE 1)

Companies that in the period of 2005-2016 have experienced financial distress and able to rise and achieve the condition of financial turnaround with the following criteria: a) The firm's financial condition is no longer in distress; and b) The firm must be able to continue its good performance in the subsequent years since the company's exit from financial distress period (Barker & Duhaime, 1997; Pearce & Robbins, 1993).

2. Unsuccessful financial turnaround (STATE 0)

Companies that in the period 2005-2016 have experienced financial distress and are unable to achieve the financial turnaround condition that is represented by the following conditions: The firm does not meet the criteria of successful financial turnaround (Barker & Duhaime, 1997; Pearce & Robbins, 1993).

3.3.2. Prospective Earnings (PEARN)

According to Fletcher (1993), earnings prospects is proxy by return on assets (ROA) which is calculated as operating income from continuing operations before taxes and depreciation, divided by net operating assets. Based on literature review, prospective earning may increase the likelihood of the financial turnaround. In this research, prospective earning was calculated as earnings before

interest, tax, depreciation and amortization (EBITDA) divided by total asset (Fletcher, 1993).

$$PEARN = \frac{EBITDA}{Total\ Asset}$$

3.3.3. Free Assets (FASSETS)

Based on literature review, proportion of firm's free assets may increase the likelihood of the financial turnaround. Several previous studies have argued that free assets have an influence toward the success of a financial turnaround in firms who experienced financial distress. In this research, free assets were measured by the proportion of firm total asset available after being deducted by firm total liability toward firm total asset (Francis & Desai, 2005).

$$FASSETS = \frac{(Total\ Asset - Total\ Liabilities)}{Total\ Asset}$$

3.3.4. Firm Size (FSIZE)

According to several literatures, firm size has an influence on the probability of financial turnaround in companies experiencing financial distress. Based on literature review, asset retrenchment may increase the likelihood of the financial turnaround. In this research, firm size was measured by natural logarithm of total sales (Francis & Desai, 2005).

$$FSIZE = Ln\ Firm\ Total\ Sales$$

3.3.5. Asset Retrenchment (ASSETR)

The sale of company assets is an efficiency measure. The reduction of assets is done by the company hoping that the decrease in less productive assets can increase asset utilities more effectively and more efficiently. Based on literature review, asset retrenchment may increase the likelihood of the financial turnaround. In this research, asset retrenchment was measured by percentage change in total assets of the current period with total assets of previous period (Francis & Desai, 2005).

$$ASSETR = \frac{(Total\ Asset_t - Total\ Asset_{t-1})}{Total\ Asset_{t-1}}$$

3.3.6. Level of Leverage (LOLEV)

Based on literature review, level of leverage may increase the likelihood of the financial turnaround. In other word, increase in leverage may increase the probability of corporate financial turnaround. In this research, level of leverage was measured by debt-to-asset ratio as mentioned by Zingales (1998), which in his study he used capital structure to measure the level of leverage. Debt-to-asset ratio was used in order to measure firm's level of leverage as this indicator had advantage in which the result would always be in positive figure.

$$LOLEV = \frac{Total\ Debt}{Total\ Asset}$$

3.4. Analysis Technique

The data collected and processed in this research was then analyzed by using two statistical methods, namely descriptive statistics and inductive statistics (hypothesis test).

3.4.1. Descriptive Statistics

Descriptive statistics were used to analyze and present quantitative data in order to describe the data. The data that analyzed is the big picture of sample companies in this research. Descriptive statistic was used to find out the mean, median, minimum and maximum values and standard deviation. The data studied was grouped into two categories, namely successful financial turnaround firms and unsuccessful turnaround firms.

3.4.2. Hypothesis Testing

Hypothesis testing was done by using logistic regression method because it had one non-metric (binary scales) dependent variable and had more than one independent variable. Logistic regression is one type of conditional probability model, measures the relationships between the independent and dependent variables. Logistic regression has a number of advantages over ordinary least squares (OLS) regression when modeling a dichotomous (binary) accounting choice. First, it does not require that the independent variables be multivariate normal or that the groups have equal covariance matrices. Second, it uses the nonlinear cumulative logistic probability function to model the relationship

between the independent and dependent variables. Finally, it automatically produces probability estimates that fall between zero and one (Fletcher, 1993).

Logistic regression does not require many of the principle assumptions of linear regression models that are based on ordinary least squares method—particularly regarding linearity of relationship between the dependent and independent variables, normality of the error distribution, homoscedasticity of the errors, and measurement level of the independent variables. Logistic regression can handle non-linear relationships between the dependent and independent variables, because it applies a non-linear log transformation of the linear regression (Park, 2013).

Characteristics of the dichotomous dependent variable in this research support the use of logistic regression analysis that was the success of financial turnaround or failure of financial turnaround. Logistic regression models were used to test whether independent variables influence the success of financial turnaround.

Here is the logistic regression model proposed:

$$\ln \frac{p}{1-p} = b_0 + b_1PEARN + b_2FASSETS + b_3FSIZE + b_4ASSETR + b_5LOLEV$$

Where:

p	= Probability of companies experiencing recovery / success of financial turnaround
b0	= Constants
b1 – b5	= Coefficient of independent variable
PEARN	= Prospective earnings
FASSETS	= Free assets

FSIZE	= Firm size
ASSETR	= Asset retrenchment
LOLEV	= Level of leverage

The logistic regression model analysis takes the following matters into account (Park, 2013):

1. Evaluation of the Logistic Regression Model

Logistic regression is a regression model that has been modified so that its characteristics are not the same anymore with a simple or multiple regression model. Therefore, the determination of the significance is statistically different. In the multiple regression model, the fitness of the model (Goodness-of-fit) can be seen from the value of R^2 or F-test. In assessing logistic regression model, it can be seen from testing Hosmer and Lemeshow's goodness of fit test. This test is performed to assess the hypothesized model for empirical data to match or fit the model.

2. Overall Model Fit

To assess the overall model, it is indicated by log of likelihood value (value of -2LL), that is by comparing the value of -2LL at the beginning (block number = 0) where the model only includes constants, with a value of -2LL at the time of block number = 1, where the model enters the constants and independent variables.

3. Statistical Tests of Individual Predictors

Statistical tests of individual predictors are performed to test how far the independent variables included in the model have an influence on the dependent variable. Test results obtained from EViews 9 program in the form of table of variables in the equation. The table shows the value of z-statistic and probability value (Sig.).

To determine the acceptance or rejection of H_0 , this can be determined by comparing the probability value (Sig.) with the significance level (α) based on the level of significance (α) of 10% with the following criterion:

- a. H_0 is accepted if the probability value (Sig) $>$ level of significance (α).
This means the alternative hypothesis is rejected or the hypothesis that the independent variables affect the dependent variable is rejected.
- b. H_0 is rejected if the probability value (Sig) $<$ level of significance (α).
This means that the alternative hypothesis is accepted or the hypothesis that the independent variable has an effect on the dependent variable is accepted.

The regression coefficients can be seen from the coefficient values in the variables in the equation table display. The sign derived from the coefficient value expresses the influence of independent variables on the dependent variable.

CHAPTER IV

DATA ANALYSIS AND DISCUSSION

4.1. Descriptive Statistic

Descriptive statistic was used to describe general overview of the firms that was categorized into successful financial turnaround (SFT) and unsuccessful financial turnaround (UFT) for each independent variable in the model. The analyzed data was variable data since the first year until the firm categorized into financial distress condition within the period of 2005 – 2016, in which it is expected that management began to take action on the worsening financial condition of the firm. The analysis included mean, median, maximum, minimum and standard deviation using the EViews 9 program which could be seen in the following table.

Table 4.1
Descriptive Statistic of Sample

Variable	UFT					SFT				
	Mean	Median	Max	Min	St. Dev.	Mean	Median	Max	Min	St. Dev.
PEARN	-0.0210	-0.0286	0.1152	-0.1275	0.0668	-0.1123	-0.0407	0.0436	-0.5580	0.1944
FASSETS	-0.1888	0.2862	0.8773	-4.0561	1.3060	-0.0068	0.0818	0.8751	-1.7881	0.7918
FSIZE	22.0158	21.0608	28.5178	14.7394	4.7172	22.8859	24.8832	29.2571	11.7871	4.8652
ASSETR	0.0616	-0.0058	0.4746	-0.0932	0.1511	-0.0901	-0.0500	0.1795	-0.4276	0.1804
LOLEV	0.9219	0.5341	4.6828	0.0000	1.2959	0.6259	0.5786	2.0255	0.0000	0.6023

UFT: Unsuccessful Financial Turnaround; SFT: Successful Financial Turnaround; PEARN: Prospective Earnings; FASSETS: Free Assets; FSIZE: Firm Size; ASSETR: Asset Retrenchment; LOLEV: Level of Leverage.

Source: Secondary data processed, 2018

Table 4.1 showed PEARN of unsuccessful financial turnaround (UFT) firms that had the mean value of -0.0210, median value of -0.0286, maximum value of

0.1152, minimum value of -0.1275, and standard deviation of 0.0668. In the other hand, PEARN of successful financial turnaround (SFT) firms had the mean value of -0.1123, median value of -0.0407, maximum value of 0.0436, minimum value of -0.5580, and standard deviation of 0.1944. From descriptive statistic, it can be concluded that the mean value of PEARN for UFT firms was bigger than SFT firms.

FASSETS of UFT firms had the mean value of -0.1888, median value of 0.2862, maximum value of 0.8773, minimum value of -4.0561, and standard deviation of 1.3060. In the other hand, FASSETS of SFT firms had the mean value of -0.0068, median value of 0.0818, maximum value of 0.8751, minimum value of -1.7881, and standard deviation of 0.7918. From descriptive statistic, it can be concluded that the mean value of FASSETS for UFT firms was smaller than SFT firms. There were eight firms with negative FASSETS that occurred due to the result of capital deficiency suffered by firms. In another term, total equity of firms with negative FASSETS was below zero which resulted in firms' liability becoming greater than the total assets.

FSIZE of UFT firms had the mean value of 22.0158, median value of 21.0608, maximum value of 28.5178, minimum value of 14.7394, and standard deviation of 4.7172. In the other hand, FSIZE of SFT firms had the mean value of 22.8859, median value of 24.8832, maximum value of 29.2571, minimum value of 11.7871, and standard deviation of 4.8652. From descriptive statistic, it can be

concluded that the mean value of FSIZE for UFT firms was smaller than SFT firms.

ASSETR of UFT firms had the mean value of 0.0616, median value of -0.0058, maximum value of 0.4746, minimum value of -0.0932, and standard deviation of 0.1511. In the other hand, ASSETR of SFT firms had the mean value of -0.0901, median value of 0.0500, maximum value of 0.1795, minimum value of -0.4276, and standard deviation of 0.1804. From descriptive statistic, it can be concluded that the mean value of ASSETR for UFT firms was bigger than SFT firms. There were 14 firms showed negative sign of ASSETR which means that the ammount of firms total asset at current year was smaller compared to previous year. It means that these firms reduced their asset or it might be concluded that the firm was implementing asset retrenchment strategies. There were 10 firms with potitive sign of ASSETR which means that firms total asset at current year was increase compared to previous year which indicated that asset retrenchment strategies was not implemented.

LOLEV of UFT firms had the mean value at 0.9219, median value of 0.5341, maximum value of 4.6828, minimum value of 0.0000, and standard deviation of 1.2959. In the other hand, LOLEV of SFT firms had the mean value of 0.6259, median value of 0.5786, maximum value of 2.0255, minimum value of 0.0000, and standard deviation of 0.6023. From descriptive statistic, it can be concluded that the mean value of LOLEV for UFT firms was bigger than SFT firms.

4.2. Hypothesis Testing

Hypothesis testing used logistic regression model to test the influence of prospective earnings (PROPERN), free assets (FASSETS), firm size (FSIZE), and asset retrenchment (ASSETR) on the estimation of financial turnaround likelihood of financially distressed firms. In order to create the best model, researcher adopted the principle of parsimony, in which the principle aimed to create the simplest model with the least assumptions and variables but with greatest explanatory power (Fritz, Brandon, & Xander, 1984). In logistic regression model where the dependent variable was binary, explanatory power was presented by the predictive power of the model. In short, after the base model was created, other alternatives model would be created with elimination of insignificant independent variables by underlying expectation that it would lead to higher predictive power.

4.2.1. Base Model

The first analysis was conducting evaluation of the logistic regression model and goodness of fit test as measured by Chi-Square on Hosmer and Lemeshow test, which obtained the number of 6.1591 as the result. The probability of significance showed the number of 0.6294 which was greater than 0.05. Thus, H0 cannot be rejected. This means that the regression model was appropriate for further analysis, since there was no significant difference between the predicted classification and the observed classification as shown in Table 4.2 below.

Table 4.2
Evaluation of the Logistic Regression Model – Base Model

Goodness-of-Fit Evaluation for Binary Specification
 Andrews and Hosmer-Lemeshow Tests
 Equation: UNTITLED
 Date: 05/12/18 Time: 14:29
 Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total Obs	H-L Value
	Low	High	Actual	Expect	Actual	Expect		
1	0.0210	0.0381	2	1.94085	0	0.05915	2	0.06095
2	0.0615	0.0628	2	1.87565	0	0.12435	2	0.13260
3	0.0903	0.1625	2	2.63720	1	0.36280	3	1.27308
4	0.1790	0.1915	2	1.62954	0	0.37046	2	0.45469
5	0.2481	0.3524	1	2.14725	2	0.85275	3	2.15642
6	0.4084	0.4372	2	1.15436	0	0.84564	2	1.46512
7	0.5303	0.6116	1	0.85805	1	1.14195	2	0.04113
8	0.7119	0.8727	1	0.57671	2	2.42329	3	0.38463
9	0.9300	0.9386	0	0.13141	2	1.86859	2	0.14065
10	0.9670	0.9945	0	0.04899	3	2.95101	3	0.04981
Total			13	13.0000	11	11.0000	24	6.15907
H-L Statistic			6.1591		Prob. Chi-Sq(8)		0.6294	
Andrews Statistic			21.6985		Prob. Chi-Sq(10)		0.0167	

Source: Secondary data processed, 2018

After conducting evaluation of the logistic regression model and goodness of fit test, expectation-prediction evaluation was performed to calculate the correct and wrong estimation value. It needed to be done in order to measure the accuracy of the model in the estimation process.

Table 4.3 showed that based on the model, 11 firms were estimated to be included in the category of unsuccessful financial turnaround (STATE 0) where in the actual observation, firms that entered into the category of unsuccessful financial turnaround were 13 companies. In the other hand, based on the model, 8 firms were estimated to be included in the category of successful financial turnaround (STATE 1) where in the actual observation, firms that entered into the category of successful financial turnaround were 11 companies. Thus, the overall accuracy of this model was 79.17%, where the accuracy rate in estimating

companies that fell into the category of unsuccessful financial turnaround showed slightly greater accuracy at the level of 84.62% compared to the estimation accuracy of firms that fell into the category of successful financial turnaround that showed the accuracy rate of 72.73%.

Table 4.3
Expectation-Prediction Evaluation – Base Model

Expectation-Prediction Evaluation for Binary Specification
Equation: UNTITLED
Date: 05/12/18 Time: 14:44
Success cutoff: C = 0.5

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)≤C	11	3	14	13	11	24
P(Dep=1)>C	2	8	10	0	0	0
Total	13	11	24	13	11	24
Correct	11	8	19	13	0	13
% Correct	84.62	72.73	79.17	100.00	0.00	54.17
% Incorrect	15.38	27.27	20.83	0.00	100.00	45.83
Total Gain*	-15.38	72.73	25.00			
Percent Gain**	NA	72.73	54.55			

Source: Secondary data processed, 2018

The next analysis was an overall model fit analysis using Prob (LR statistic), analysis of determining the variability of dependent variables that can be explained by the variability of independent variables using the McFadden R-squared value, and testing the regression coefficients to test how far all the independent variables included in the model had an effect on dependent variable by looking at the significance value of each independent variable. Table 4.4 below showed the results of data processing and provided information related to the last analysis of the hypothesis test.

Table 4.4
Result of Logistic Regression – Base Model

Dependent Variable: STATE
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/12/18 Time: 13:40
Sample: 1 24
Included observations: 24
Convergence achieved after 5 iterations
Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
PEARN	-8.911013	7.295259	-1.221480	0.2219
FASSETS	-6.534535	3.730417	-1.751690	0.0798
FSIZE	0.273550	0.183913	1.487384	0.1369
ASSETR	-9.190757	4.578754	-2.007262	0.0447
LOLEV	-6.971391	3.888727	-1.792718	0.0730
C	-2.031574	4.528896	-0.448581	0.6537
McFadden R-squared	0.430790	Mean dependent var		0.458333
S.D. dependent var	0.508977	S.E. of regression		0.420920
Akaike info criterion	1.285135	Sum squared resid		3.189125
Schwarz criterion	1.579648	Log likelihood		-9.421615
Hannan-Quinn criter.	1.363269	Deviance		18.84323
Restr. deviance	33.10420	Restr. log likelihood		-16.55210
LR statistic	14.26097	Avg. log likelihood		-0.392567
Prob(LR statistic)	0.014034			
Obs with Dep=0	13	Total obs		24
Obs with Dep=1	11			

Source: Secondary data processed, 2018

Based on the data above, the overall model fit analysis was performed with reference to the value of Prob (LR statistic) which showed that the independent variables in the model of the equation altogether had significant influence on the dependent variable. This was shown by Prob (LR statistic) which showed the value of 0.0140 which was smaller than the specified alpha (α) value of 10%. McFadden R-squared value was used to determine the variability of dependent variables that can be explained by the variability of independent variables, and from the data above it can be seen that McFadden R-squared value from equation

was 0.4308, or it can be said that variability of dependent variable can be explained by variability of independent variable which was equal to 43.08%.

Testing the regression coefficients was conducted to test how far all the independent variables included in the model that had an influence on dependent variable by looking at the significance value of each independent variable. From the base model, it can be stated that the interpretation of output variable in the equation model's as follows:

$$\begin{aligned} \text{Ln} \frac{p}{1-p} = & -2.0316 - 8.9110 \text{ PEARN} - 6.5345 \text{ FASSETS} \\ & + 0.2736 \text{ FSIZE} - 9.1908 \text{ ASSETR} - 6.9714 \text{ LOLEV} \end{aligned}$$

From the logistic regression equation, it can be seen that there were four independent variables that had negative influence and one independent variable that had positive influence on financial turnaround likelihood. The four independent variables that had negative influences were PEARN (Prospective Earnings), FASSETS (Free Assets), ASSETR (Asset Retrenchment), and LOLEV (Level of Leverage), while one independent variable that had positive influences is FSIZE (Firm Size). Independent variables that had significant influence on dependent variable were those who had the probability value of <10%, where based on the calculation, there were three independent variables which had the probability value of <10%.

Each unit of increase in PEARN would lower the log of odds of successful financial turnaround of 8.9110 if other variables held constant. Each unit of

increase in FASSETS would lower the log of odds of successful financial turnaround of 6.5345 if other variables held constant. Each unit of increase in FSIZE would increase the log of odds of successful financial turnaround of 0.2736 if other variables held constant. Each unit of increase in ASSETR would lower the log of odds of successful financial turnaround of 9.1908 if other variables held constant. Each unit of increase in LOLEV would lower the log of odds of successful financial turnaround of 6.9714 if other variables held constant.

Prospective earnings (PEARN) variable had regression coefficient of -8.911013, z-statistic value of -1.221480, and with probability value of 0.2219 which was greater than 0.10 (α). This means that the alternative hypothesis that stated prospective earnings (PEARN) has positive and significant influence on the likelihood of financial turnaround was rejected.

Free assets (FASSETS) variable had regression coefficient of -6.534535, z-statistic value of -1.751690, and with probability value of 0.0798 which was lower than 0.10 (α). This means that the alternative hypothesis that stated free assets (FASSETS) had positive and significant influence on the likelihood of financial turnaround was rejected.

Firm size (FSIZE) variable had regression coefficient of 0.273550, z-statistic value of 1.487384, and with probability value of 0.1369 which was greater than 0.10 (α). This means that the alternative hypothesis that stated firm size (FSIZE) has a positive and significant influence on the likelihood of financial turnaround was rejected.

Asset retrenchment (ASSETR) variable had regression coefficient of -9.190757, z-statistic value of -2.007262, and with probability value of 0.0447 which was lower than 0.10 (α). It means that the reduction in total asset would increase the odd of financial turnaround likelihood. This means that the alternative hypothesis that stated asset retrenchment (ASSETR) has a positive and significant influence on the likelihood of financial turnaround, or in another expression, asset growth had significant negative influence on the likelihood of financial turnaround, was accepted.

Level of leverage (LOLEV) variable had regression coefficient of -6.971391, z-statistic value of -1.792718, and the probability value of 0.0730 which was lower than 0.10 (α). This means that the alternative hypothesis that stated the level of leverage (LOLEV) has a negative and significant influence on the likelihood of financial turnaround was accepted.

4.2.2. Alternative Model 1

In this model, prospective earning (PEARN) was eliminated as it showed the least significant predictors on previous model. The first analysis was conducting evaluation of the logistic regression model and goodness of fit test as measured by Chi-Square on Hosmer and Lemeshow test, which obtained the number of 3.1686 as the result. The probability of significance showed the number of 0.9233 which was greater than 0.05. Thus, H₀ cannot be rejected. This means that the regression model was appropriate for further analysis, since there

was no significant difference between the predicted classification and the observed classification as shown in Table 4.5 below.

Table 4. 5
Evaluation of the Logistic Regression Model – Alternative Model 1

Goodness-of-Fit Evaluation for Binary Specification
Andrews and Hosmer-Lemeshow Tests
Equation: UNTITLED
Date: 05/18/18 Time: 12:18
Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total Obs	H-L Value
	Low	High	Actual	Expect	Actual	Expect		
1	0.0366	0.0882	2	1.87519	0	0.12481	2	0.13312
2	0.0950	0.0956	2	1.80937	0	0.19063	2	0.21071
3	0.1210	0.1377	3	2.61889	0	0.38111	3	0.43657
4	0.1448	0.1679	1	1.68731	1	0.31269	2	1.79068
5	0.1953	0.3394	2	2.17683	1	0.82317	3	0.05235
6	0.5719	0.6161	1	0.81202	1	1.18798	2	0.07326
7	0.6301	0.6308	1	0.73909	1	1.26091	2	0.14610
8	0.6381	0.7177	1	0.98074	2	2.01926	3	0.00056
9	0.8888	0.9179	0	0.19336	2	1.80664	2	0.21406
10	0.9552	0.9719	0	0.10720	3	2.89280	3	0.11117
	Total		13	13.0000	11	11.0000	24	3.16858
H-L Statistic			3.1686		Prob. Chi-Sq(8)		0.9233	
Andrews Statistic			21.8899		Prob. Chi-Sq(10)		0.0157	

Source: Secondary data processed, 2018

After conducting evaluation of the logistic regression model and goodness of fit test, expectation-prediction evaluation was performed to calculate the correct and wrong estimation value. It needed to be done in order to measure the accuracy of the model in the estimation process.

Table 4.6 showed that based on the model, 10 firms were estimated to be categorized as unsuccessful financial turnaround (STATE 0) where in the actual observation, there were 13 categorized as unsuccessful financial turnaround. In

the other hand, based on the model, 9 firms were categorized as successful financial turnaround (STATE 1) where in the actual observation, there were 11 firms categorized as successful financial turnaround. Thus, the overall accuracy of this model was 79.17%, where the accuracy rate in estimating companies categorized as successful financial turnaround showed slightly greater accuracy at the level of 81.82% compared to the estimation accuracy of firms categorized as unsuccessful financial turnaround that showed the accuracy rate of 76.92%.

Table 4. 6
Expectation-Prediction Evaluation – Alternative Model 1

Expectation-Prediction Evaluation for Binary Specification
Equation: UNTITLED
Date: 05/18/18 Time: 12:18
Success cutoff: C = 0.5

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)≤C	10	2	12	13	11	24
P(Dep=1)>C	3	9	12	0	0	0
Total	13	11	24	13	11	24
Correct	10	9	19	13	0	13
% Correct	76.92	81.82	79.17	100.00	0.00	54.17
% Incorrect	23.08	18.18	20.83	0.00	100.00	45.83
Total Gain*	-23.08	81.82	25.00			
Percent Gain**	NA	81.82	54.55			

Source: Secondary data processed, 2018

The next analysis was an overall model fit analysis using Prob (LR statistic), analysis of determining the variability of dependent variables that could be explained by the variability of independent variables using the McFadden R-squared value, and testing the regression coefficients to test how far all the independent variables included in the model that had an influence on dependent variable by looking at the significance value of each independent variable. Table

4.7 below showed the results of data processing and provided information related to the last analysis of the hypothesis test.

Table 4. 7
Result of Logistic Regression – Alternative Model 1

Dependent Variable: STATE
 Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
 Date: 05/18/18 Time: 12:15
 Sample: 1 24
 Included observations: 24
 Convergence achieved after 4 iterations
 Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FASSETS	-8.063508	3.855719	-2.091311	0.0365
FSIZE	0.168229	0.142665	1.179192	0.2383
ASSETR	-9.007664	4.189209	-2.150206	0.0315
LOLEV	-8.483557	4.019772	-2.110457	0.0348
C	1.819454	3.354659	0.542366	0.5876
McFadden R-squared	0.367137	Mean dependent var		0.458333
S.D. dependent var	0.508977	S.E. of regression		0.430040
Akaike info criterion	1.289601	Sum squared resid		3.513750
Schwarz criterion	1.535029	Log likelihood		-10.47521
Hannan-Quinn criter.	1.354713	Deviance		20.95042
Restr. deviance	33.10420	Restr. log likelihood		-16.55210
LR statistic	12.15378	Avg. log likelihood		-0.436467
Prob(LR statistic)	0.016244			
Obs with Dep=0	13	Total obs		24
Obs with Dep=1	11			

Source: Secondary data processed, 2018

Based on the data above, the overall model fit analysis was performed with reference to the value of Prob (LR statistic) which showed that the independent variables in the model of the equation altogether had significant influence on the dependent variable. This was shown by Prob (LR statistic) which showed the value of 0.0162 which was smaller than the specified alpha (α) value of 10%. McFadden R-squared value was used to determine the variability of dependent

variables that could be explained by the variability of independent variables, and from the data above it could be seen that McFadden R-squared value from equation amounted to 0.3671, or it could be said that variability of dependent variable could be explained by variability of independent variable which was equal to 36.71%.

Testing the regression coefficients was conducted to test how far all the independent variables included in the model that had an influence on dependent variable by looking at the significance value of each independent variable. From the alternative model 1, it can be stated that the interpretation of output variable in the equation model was as follows:

$$\begin{aligned} \text{Ln} \frac{p}{1-p} = & \mathbf{1.8195 - 8.0635 FASSETS + 0.1682 FSIZE} \\ & \mathbf{- 9.0077 ASSETR - 8.4836 LOLEV} \end{aligned}$$

From the logistic regression equation, it could be seen that there were three independent variables that had negative influence and one independent variable that had positive influence on financial turnaround likelihood. The three independent variables that had negative influences were, FASSETS (Free Assets), ASSETR (Asset Retrenchment), and LOLEV (Level of Leverage), while one independent variable that had positive influence was FSIZE (Firm Size). Independent variables that had significant influence on dependent variable were those that had the probability value of <10%, which were based on the

calculation, there were three independent variables which had the probability value of <10%.

Each unit of increase in FASSETS would lower the log of odds of successful financial turnaround of 8.0635 if other variables held constant. Each unit of increase in FSIZE would increase the log of odds of successful financial turnaround of 0.1682 if other variables held constant. Each unit of increase in ASSETR would lower the log of odds of successful financial turnaround of 9.0077 if other variables held constant. Each unit of increase in LOLEV would lower the log of odds of successful financial turnaround of 8.4836 if other variables held constant.

Free assets (FASSETS) variable had regression coefficient of -8.063508, z-statistic value of -2.091311, and the probability value of 0.0365 which was lower than 0.10 (α). This means that the alternative hypothesis that stated free assets (FASSETS) has a positive and significant influence on the likelihood of financial turnaround was rejected.

Firm size (FSIZE) variable had regression coefficient of 0.168229, z-statistic value of 1.179192, and the probability value of 0.2383 which was greater than 0.10 (α). This means that the alternative hypothesis that stated firm size (FSIZE) has a positive and significant influence on the likelihood of financial turnaround is rejected.

Asset retrenchment (ASSETR) variable had regression coefficient of -9.007664, z-statistic value of -2.150206, and the probability value of 0.0315 which was lower than 0.10 (α). It means that the reduction in total asset would

increase the odd of financial turnaround likelihood. This means that the alternative hypothesis that stated asset retrenchment (ASSETR) has a positive and significant influence on the likelihood of financial turnaround, or in another expression, asset growth has significant negative impact toward the likelihood of financial turnaround, was accepted.

Level of leverage (LOLEV) variable had regression coefficient of -8.483557, z-statistic value of -2.110457, and the probability value of 0.0348 which was lower than 0.10 (α). This means that the alternative hypothesis that stated the level of leverage (LOLEV) has a negative and significant influence on the likelihood of financial turnaround is accepted.

4.2.3. Alternative Model 2

In this model, firm size (FSIZE) was eliminated as it showed the least significant predictors on previous model. The first analysis was conducting evaluation of the logistic regression model and goodness of fit test as measured by Chi-Square on Hosmer and Lemeshow test, which obtained the number of 6.9809 as the result. The probability of significance showed the number of 0.5387 which was greater than 0.05. Thus, H₀ cannot be rejected. This means that the regression model was appropriate for further analysis, since there was no significant difference between the predicted classification and the observed classification as shown in Table 4.8 below.

Table 4. 8
Evaluation of the Logistic Regression Model – Alternative Model 2

Goodness-of-Fit Evaluation for Binary Specification
 Andrews and Hosmer-Lemeshow Tests
 Equation: UNTITLED
 Date: 05/18/18 Time: 12:24
 Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total Obs	H-L Value
	Low	High	Actual	Expect	Actual	Expect		
1	0.0675	0.0940	2	1.83851	0	0.16149	2	0.17567
2	0.0964	0.0976	1	1.80603	1	0.19397	2	3.70918
3	0.1487	0.1665	2	2.52388	1	0.47612	3	0.68518
4	0.2063	0.2296	2	1.56412	0	0.43588	2	0.55735
5	0.2881	0.3099	3	2.10307	0	0.89693	3	1.27947
6	0.4424	0.5144	1	1.04326	1	0.95674	2	0.00375
7	0.5530	0.6598	1	0.78714	1	1.21286	2	0.09492
8	0.6630	0.7273	1	0.92014	2	2.07986	3	0.01000
9	0.8207	0.9005	0	0.27881	2	1.72119	2	0.32398
10	0.9408	0.9701	0	0.13503	3	2.86497	3	0.14140
	Total		13	13.0000	11	11.0000	24	6.98089
H-L Statistic			6.9809		Prob. Chi-Sq(8)		0.5387	
Andrews Statistic			14.1807		Prob. Chi-Sq(10)		0.1649	

Source: Secondary data processed, 2018

After conducting evaluation of the logistic regression model and goodness of fit test, expectation-prediction evaluation was performed to calculate the correct and wrong estimation value. It needed to be done in order to measure the accuracy of the model in the estimation process.

Table 4.9 showed that based on the model, 11 firms were estimated to be categorized as unsuccessful financial turnaround (STATE 0) where in the actual observation, there were 13 firms that enter into the categorized as unsuccessful financial turnaround. In the other hand, based on the model, 9 firms were estimated categorized as successful financial turnaround (STATE 1) where in the

actual observation, there were 11 firms that categorized as successful financial turnaround. Thus, the overall accuracy of this model was 83.33%, where the accuracy rate in estimating companies that categorized as unsuccessful financial turnaround showed slightly greater accuracy at the level of 84.62% compared to the estimation accuracy of firms that categorized as successful financial turnaround that showed the accuracy rate of 81.82%.

Table 4.9
Expectation-Prediction Evaluation – Alternative Model 2

Expectation-Prediction Evaluation for Binary Specification
Equation: UNTITLED
Date: 05/18/18 Time: 12:24
Success cutoff: C = 0.5

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)≤C	11	2	13	13	11	24
P(Dep=1)>C	2	9	11	0	0	0
Total	13	11	24	13	11	24
Correct	11	9	20	13	0	13
% Correct	84.62	81.82	83.33	100.00	0.00	54.17
% Incorrect	15.38	18.18	16.67	0.00	100.00	45.83
Total Gain*	-15.38	81.82	29.17			
Percent Gain**	NA	81.82	63.64			

Source: Secondary data processed, 2018

The next analysis was an overall model fit analysis using Prob (LR statistic), analysis of determining the variability of dependent variables that could be explained by the variability of independent variables using the McFadden R-squared value, and testing the regression coefficients to test how far all the independent variables included in the model had an influence on dependent variable by looking at the significance value of each independent variable. Table

4.10 below showed the results of data processing and provided information related to the last analysis of the hypothesis test.

Table 4. 10
Result of Logistic Regression – Alternative Model 2

Dependent Variable: STATE
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/18/18 Time: 12:23
Sample: 1 24
Included observations: 24
Convergence achieved after 5 iterations
Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FASSETS	-6.689480	3.512666	-1.904388	0.0569
ASSETR	-8.245079	4.030976	-2.045430	0.0408
LOLEV	-7.190349	3.751486	-1.916667	0.0553
C	4.744997	2.657055	1.785811	0.0741

McFadden R-squared	0.318703	Mean dependent var	0.458333
S.D. dependent var	0.508977	S.E. of regression	0.423318
Akaike info criterion	1.273074	Sum squared resid	3.583968
Schwarz criterion	1.469417	Log likelihood	-11.27689
Hannan-Quinn criter.	1.325164	Deviance	22.55378
Restr. deviance	33.10420	Restr. log likelihood	-16.55210
LR statistic	10.55042	Avg. log likelihood	-0.469871
Prob(LR statistic)	0.014423		

Obs with Dep=0	13	Total obs	24
Obs with Dep=1	11		

Source: Secondary data processed, 2018

Based on the data above, the overall model fit analysis was performed with reference to the value of Prob (LR statistic) which showed that the independent variables in the model of the equation altogether had significant influence on the dependent variable. This was shown by Prob (LR statistic) which showed the value of 0.0144 that was smaller than the specified alpha (α) value of 10%. McFadden R-squared value was used to determine the variability of dependent

variables that could be explained by the variability of independent variables, and from the data above it could be seen that McFadden R-squared value from the equation was 0.3187, or it can be said that variability of dependent variable could be explained by variability of independent variable equal to 31.87%.

Testing the regression coefficients was conducted to test how far all the independent variables included in the model had an influence on dependent variable by looking at the significance value of each independent variable. From the alternative model 2, it can be stated that the interpretation of output variable in the equation model was as follows:

$$\ln \frac{p}{1-p} = 4.7449 - 6.6895 \text{ FASSETS} - 8.2451 \text{ ASSETR} \\ - 7.1903 \text{ LOLEV}$$

From the logistic regression equation, it can be seen that all independent variables had negative influence on financial turnaround likelihood. The three independent variables that had negative influence were FASSETS (Free Assets), ASSETR (Asset Retrenchment), and LOLEV (Level of Leverage). Independent variables that had significant influence on dependent variable were those who had the probability value of <10%, where based on the calculation, there were three independent variables which had probability value of <10%.

Each unit of increase in FASSETS would lower the log of odds of successful financial turnaround of 6.6895 if other variables held constant. Each unit of increase in ASSETR would lower the log of odds of successful financial

turnaround of 8.2451 if other variables held constant. Each unit of increase in LOLEV would lower the log of odds of successful financial turnaround of 7.1903 if other variables held constant.

Free assets (FASSETS) variable had regression coefficient of -6.689480, z-statistic value of -1.904388, and the probability value of 0.0569 which was lower than 0.10 (α). This means that the alternative hypothesis that stated free assets (FASSETS) has a positive and significant influence on the likelihood of financial turnaround was rejected.

Asset retrenchment (ASSETR) variable had regression coefficient of -8.245079, z-statistic value of -2.045430, and the probability value of 0.0408 which was lower than 0.10 (α). This means that the reduction in total asset would increase the odd of financial turnaround likelihood. This means that the alternative hypothesis that stated asset retrenchment (ASSETR) has a positive and significant influence on the likelihood of financial turnaround, or in another expression, asset growth had significant negative influence on the likelihood of financial turnaround was accepted.

Level of leverage (LOLEV) variable had regression coefficient of -7.190349, z-statistic value of -1.916667, and the probability value of 0.0553 which was lower than 0.10 (α). This means that the alternative hypothesis that stated level of leverage (LOLEV) has a negative and significant effect towards the likelihood of financial turnaround was accepted.

4.3. Discussion

This section is the explanation of data analysis result as described in previous chapter. Discussion of research results in this chapter is arranged sequentially based on the problem formulation and research hypotheses.

4.3.1. Logistic Regression Models

There are three logistic regression models generated based on the principle of parsimony (Fritz, Brandon, & Xander, 1984), the three models are: 1) Base Model; 2) Alternative Model 1; and 3) Alternative Model 2.

In the base model, there are five independent variables used to estimate the likelihood of financial turnaround, where in this model there were three independent variables that had significant influence and two independent variables that have no significant influence. Base model had the overall accuracy of 79.17%, where the accuracy rate in estimating companies that categorized as unsuccessful financial turnaround at the level of 84.62% and estimation accuracy of firms that categorized as successful financial turnaround at the level of 72.73%. Base model had McFadden R-squared value of 0.4308, or it can be said that variability of dependent variable could be explained by variability of independent variable by 43.08%.

In the alternative model 1, there were four independent variables used to estimate the likelihood of financial turnaround, where in this model there were three independent variables that had significant influence and one independent

variable that had no significant impact. Alternative model 1 had the overall accuracy of 79.17%, where the accuracy rate in estimating companies categorized as unsuccessful financial turnaround at the level of 76.92% and estimation accuracy of firms that categorized as successful financial turnaround at the level of 81.82%. Alternative model 1 has McFadden R-squared value of 0.3671, or it can be said that variability of dependent variable could be explained by variability of independent variable by 36.71%.

In the alternative model 2, there were three independent variables used to estimate the likelihood of financial turnaround, where all of the three independent variables had significant impact. Alternative model 2 had the overall accuracy of 83.33%, where the accuracy rate in estimating companies categorized as unsuccessful financial turnaround at the level of 84.62% and estimation accuracy of firms categorized as successful financial turnaround at the level of 81.82%. Alternative model 2 had McFadden R-squared value of 0.3187, or it can be said that variability of dependent variable could be explained by variability of independent variable by 31.87%.

Based on the three logistic regression models and based on the principle of parsimony, it can be concluded that alternative model 2 was the best model which had the greatest explanatory power in terms of predicting the likelihood of financial turnaround. Alternative model 2 had the highest overall accuracy of 84.62%, which was 4.16% higher than both base model and alternative model 1. Alternative model 2 also had the highest level of accuracy in predicting firms that

categorized as unsuccessful financial turnaround which was equal to 84.62%, in which this level of accuracy was equal to the accuracy of the base model but 7.70% higher than the alternative model 1. In terms of predicting firms that categorized as successful financial turnaround, alternative model 2 also had the highest level of accuracy of 81.82%, in which this level of accuracy was equal to alternative model 1 but higher 9.09% than base model.

In term of dependent variable's variability that can be explained by the variability of independent variables which measured by McFadden R-squared value, alternative model 2 had the smallest value of 0.3187, which was smaller than both the alternative model 1 of 0.3671 and the base model of 0.4308. This was due to the reduced number of independent variables used that allegedly influenced the decrease in McFadden R-squared value. However, in logistic regression model where the dependent variable was binary, explanatory power was presented by the predictive power of the model instead of McFadden R-squared value. Thus, alternative model 2 remained the best model for estimating the likelihood of financial turnaround. The influence of independent variables used in three of the models on dependent variable can be seen in the table below.

Table 4. 11
The Influence of Independent Variables Based on Models

Independent Variable	Base Model	Alternative Model 1	Alternative Model 2
PEARN	Negative	N/A	N/A
FASSETS	Negative	Negative	Negative
FSIZE	Positive	Positive	N/A
ASSETR	Positive	Positive	Positive
LOLEV	Negative	Negative	Negative

4.3.2. The Influence of Prospective Earnings on the Likelihood of Financial Turnaround

As of three logistic regression models generated, this variable was only used in base model. The result of logistic regression test showed that prospective earnings variable consistently had the sign of negative regression coefficient with the probability value greater than 0.10 (α). This suggested that prospective earnings had negative influence but not significant on the likelihood of financial turnaround.

The results obtained contradicted the hypothesis that had been prepared which stated that prospective earnings have significant and positive influence on the likelihood of financial turnaround. This means that high figure of prospective earnings in the first year when the firms categorized as financial distress that indicated the probability to achieve financial turnaround was lower. Conversely, firms with small prospective earnings that indicate the probability of companies to achieve financial turnaround was higher. In this research, prospective earning was calculated as earnings before interest, tax, depreciation and amortization (EBITDA) divided by total asset.

The results of this research were consistent with the findings of Sudarsanam & Lai (2001) who found that return on assets (ROA) showed only a small difference between successful and unsuccessful financial turnaround in the financial distress period. However, the results of this research did not support the results of White (1981), Casey et al. (1986), and Fletcher (1993) which proposed that firms that rise up out of financial distress have more appealing profit

prospects than those fail to turnaround. Study result also contradicted with Fletcher (1993) who stated that return on asset is a measurement of firm's profitability and within his research, return on asset was the best variable to predict distressed firms that recovered and those that did not.

This might happen because at the time of financial distress, profitability of the firms became the less prioritized factor compared to others such as liquidity and solvency of firms which might be important to pay more attention. As financial distress condition became more apparent, liquidity and solvency of firms might become the main focus of the management as financial distress condition had close link on bankruptcy in which might cause by the inability of firms in fulfilling both their short-term and long-term financial obligation.

4.3.3. The Influence of Free Assets toward on Likelihood of Financial Turnaround

As of three logistic regression models generated, this variable was used in all of models and showed the same result. The result of logistic regression test showed that free assets variable consistently had the sign of negative regression coefficient with probability value of lower than 0.10 (α). This suggested that free assets had negative influence and significant on the likelihood of financial turnaround.

The results obtained contradicted the hypothesis that had been prepared which stated that free assets have significant and positive influence on the likelihood of financial turnaround. This means that high level of free assets within the firms in the first year when the firms categorized as financial distress that

indicates the probability to achieve financial turnaround was lower. Conversely, firms with small level of free assets indicated the probability of companies to achieve financial turnaround was higher. In this study, free assets were measured by the proportion of firm total asset available after being deducted by firm total liability on firm total asset.

The results of this research did not support the results of Suratno et al. (2017), White (1981), Routledge & Gadenne (2004), Yao & Shen (2005), and Smith & Graves (2005) who defined that free assets has significant and positive influence on the turnaround as larger free assets will help enlarge the possibilities to bounce from difficult situation. They also proposed that firms that have free assets are not likely to be bankrupt since these companies are able to raise additional funds which are necessary for their turnaround.

The result of the research that showed the level of free asset had negative and significant influence on the possibility of financial turnaround might be due to the availability of free asset that did not necessarily represent all the asset turnover of the firm and not become the main guarantee of the bank or other financial institution in deciding to lend the capital to the firm experiencing financial distress. These different results might also be attributed to the number, nature of data, and the conditions of manufacturing firms in Indonesia that did not rely on free assets to overcome financial distress.

4.3.4. The Influence of Firm Size toward on Likelihood of Financial Turnaround

As of three logistic regression models generated, this variable was used in base model and alternative model 1 in which both models showed the same result. The result of logistic regression test showed that firm size variable consistently had the sign of positive regression coefficient with the probability value of greater than 0.10 (α). This suggested that firm size had positive influence but not significant on the likelihood of financial turnaround.

The results obtained contradicted the hypothesis that had been prepared which stated that firm size has significant and positive influence on the likelihood of financial turnaround, although the regression coefficient sign was the same as what was hypothesized. This means that high figure of firm size in the first year when the firms categorized as financial distress indicated the probability to achieve financial turnaround was higher even though this variable cannot be a significant indicator. Conversely, firms with small firm size indicated the probability of companies to achieve financial turnaround was lower. In this research, asset retrenchment was measured by natural logarithm of total sales.

The results of this research were consistent with the findings of Sudarsanam & Lai (2001) who found that firm size does not have significant influence on the likelihood of financial turnaround on both of their models which include logistic regression and linear regression. The results of this research indicated that the similarity of regression coefficient signs with research findings of Tushman & Romanelli (1985), Trahms et al. (2013), Schmitt & Raisch (2013), Smith & Graves (2005), and Campbell (2006) in which they found positive relationship

between firm size and financial turnaround likelihood. This research results contradicted with research findings of Pant (1991) which stated that firms with smaller size have higher odd to achieve financial turnaround in which he proposed that smaller firms may be more successful in enacting a successful turnaround as they are able to adapt to their changing environment more easily than large companies.

As proposed by Tushman & Romanelli (1985), firm size influence the capacity of a firm to make the necessary adjustments amid a changing environment which related to the ability in implementing turnaround strategy and achieve a successful financial turnaround. By having large firm size, firms will have ability to implement different turnaround strategies once they had financial distress condition and at the end would influence their likelihood of achieving financial turnaround (Schmitt & Raisch, 2013).

Having a large firm size, which in this research has the proxy of natural log of total sales, showed the quality of the firm's fundamentals in its ability to sell its products to its customers. Large consumer base that had been owned by the firm provided coverings when entering the financial distress conditions and allowed the company to have additional time to improve the internal condition of its internal financial condition. With a large customer base, the firm had more assurance in sustaining sales in difficult times in which it was extremely needed for the sustainability of the firm's operations while the company seek to achieve financial turnaround.

4.3.5. The Influence of Asset Retrenchment on the Likelihood of Financial Turnaround

As of three logistic regression models generated, this variable was used in all of models and showed the same result. The result of logistic regression test showed that asset retrenchment variable consistently had the sign of negative regression coefficient with the probability value of lower than 0.10 (α). This suggested that asset retrenchment had positive influence and significant on the likelihood of financial turnaround.

The results obtained support and inline on the hypothesis that had been prepared which stated that asset retrenchment has significant and positive influence on the likelihood of financial turnaround. This means that high level of asset retrenchment, or in another word, high percentage of asset reduction in the first year when the firms categorized as financial distress that indicate the probability to achieve financial turnaround is higher. Conversely, firms with low percentage of asset retrenchment or even had negative asset retrenchment (or positive number in total asset growth) that indicate the probability of companies to achieve financial turnaround is lower. In this research, asset retrenchment was measured by percentage change in total assets of the current period with total assets of previous period.

The results of this research were consistent with the findings of Robbins & Pearce (1992), Lim, Morse, & Rowe (2013), Tangpong et al. (2015), and Barbero, Pietro, & Chiang (2017) who proposed that retrenchment is positively and significantly related to the successful turnarounds and improved firm performance

because of the increase in operating efficiencies. Regardless the cause of firm financial distress, financially distressed firm should do retrenchment strategy (Robbins & Pearce, 1992) in order to stem survival-threatening performance decline (Tangpong, Abebe, & Li, 2015).

In general, retrenchment refers to efficiency-oriented, short-term turnaround actions, such as downsizing, cost reduction, asset sell-offs, and divestment of businesses. In this research, the focus was at asset retrenchment which might include downsizing, divestment, asset sell-off and others. Asset retrenchment had many advantages for firms that were in financial distress. Among them was the retrenchment assets derived from the assets sell-off in which this strategy was very helpful for firms to improve the cash-inflow that its conditions might be in a difficult. Downsizing and divestment also contributed positively where both strategies enable management of the firm to release business units or business segments that were less profitable to the firm, or business segment that was not the core business of the firm. Thus, after conducting the strategy, the firm might operate more efficiently.

4.3.6. The Influence of Level of Leverage on the Likelihood of Financial Turnaround

As of three logistic regression models generated, this variable was used in all of models and showed the same result. The result of logistic regression test showed that level of leverage variable consistently had the sign of negative regression coefficient with the probability value of lower than 0.10 (α). This

suggested that the level of leverage had negative and significant influence on the likelihood of financial turnaround.

The research results obtained supported the hypothesis that had been prepared which stated that level of leverage had significant negative influence on the likelihood of financial turnaround. This means that high level of leverage in the first year when the firms categorized as financial distress that indicated the probability to achieve financial turnaround was considerably lower. Conversely, firms with low level of leverage that indicated the probability of companies to achieve financial turnaround was higher. Debt-to-asset ratio was used in order to measure firm's level of leverage.

The results of this research were consistent with the findings of Zingales (1998), and Giroud et al. (2012) who concluded that leverage level of firm under financial distress condition was related negatively and significantly on the likelihood of successful turnarounds. Meanwhile, research results were contrary with the findings of George & Hwang (2010), Routledge & Gadenne (2000), and Kalay et al. (2007) who proposed that companies experiencing successful turnaround were more highly leveraged. Research results were also contrary with Winn (1997) who believed that there is no significant difference on the outcomes of financially distressed firm based on its level of leverage.

Zingales (1998) described that high leverage reduces survival chances by curtailing investments of the firm that is currently under financial distress condition. Likewise, Giroud et al. (2012) found significant performance improvements after debt reductions in which he also demonstrated in their

research that linking a significant reduction in leverage to increase the firm performance. His findings suggested that low level of leverage may improve firm's business performance.

In normal economic and business conditions, leverage provided benefits to the firm if it was managed properly. Leverage was derived from debt provides tax shields to the firm which would increase the profitability. In addition, by using leverage, return on equity of the company would be boosted. However, in the case of financial distress, the profitability of the firm would be more depressed with excessive leverage. High leverage leads to high financing cost for companies which in turn would reduce the company's net income and also drag down the company's performance even further. In addition, the company's cash flow would be depressed with the obligation to pay the financing cost. Thus, high leverage, especially during financial distress conditions, would further exacerbate the company's financial condition and further minimize the possibility of companies to achieve financial turnaround.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The purpose of this research was to find out the influence of prospective earnings (PEARN), free assets (FASSETS), firm size (FSIZE), asset retrenchment (ASSETR), and level of leverage (LOLEV) on the likelihood of financial turnaround. The sample was collected by purposive sampling method and the analysis technique used in this research was logistic regression.

Based on the analysis and discussion from the previous chapter, the research results can be concluded as follows:

1. Since the observation period from 2005 – 2016, researcher found as many as 24 firms that fall into the category of financially distress firm. Among them, 11 firms were able to achieve successful financial turnaround conditions, while 13 other firms were not able to achieve financial turnaround and thus categorized as unsuccessful financial turnaround firm.
2. There were three models of logistic regression generated using parsimony principle where alternative model 2 was the best model in estimating the likelihood of financial turnaround. Alternative model 2 used three independent variables including free assets (FASSETS), asset retrenchment (ASSETR), and level of leverage (LOLEV) in which all of the three independent variables had significant influence.

3. The results of logistic regression in alternative model 2 yielded a regression model that showed the overall predictions accuracy of 83.33%, where the accuracy rate in estimating companies that fall into the category of unsuccessful financial turnaround showed greater accuracy at the level of 84.62% compared to the estimation accuracy of firms that fall into the category of successful financial turnaround that showed the accuracy rate of 81.82%.
4. From the result of base model where all the independent variables were tested and by using 10% level of significance, there were three independent variables that had significant influence on the dependent variable which included free assets (FASSETS), asset retrenchment (ASSETR), and level of leverage (LOLEV). Conversely, the other two independent variables which were prospective earnings (PEARN) and firm size (FSIZE) did not give significant influence on dependent variable.
5. Prospective earnings (PEARN) that used only in base model gave negative influence but no significant influence on the likelihood of financial turnaround. This may happen because at the time of financial distress, profitability of the firms became the less prioritized factor compared to others. As financial distress condition became more apparent, liquidity and solvency of firms may became the main focus of the management compared to profitability.
6. Free assets (FASSETS) used in base model, alternative model 1, and alternative model 2 gave negative influence and significant influence on

the likelihood of financial turnaround. This may happen due to the availability of free asset that did not necessarily represent all the asset turnover of the firm and did not become the main guarantee of the bank or other financial institution in deciding to lend the capital to the firm experiencing financial distress, especially in Indonesia.

7. Firm size (FSIZE) used in base model and alternative model 1 gave positive influence but no significant influence on the likelihood of financial turnaround. Having a large firm size, which in this research had the proxy of natural log of total sales, showed the quality of the firm's fundamentals in its ability to sell its products to its customers. Large consumer base that had been owned by the firm provided coverings when entering the financial distress conditions and allowed the company to have additional time to improve the internal condition of its internal financial condition as well as it gives the firm has more assurance in sustaining sales in difficult times.
8. Asset retrenchment (ASSETR) that used in base model, alternative model 1, and alternative model 2 gave negative influence and significant influence on the likelihood of financial turnaround. Asset retrenchment had many advantages for firms that were in financial distress such as improve the cash-inflow of the firm, enable management of the firm to release business units or business segments that were less profitable to the firm in order to operate more efficiently.

9. Level of leverage (LOLEV) that used in base model, alternative model 1, and alternative model 2 gave negative influence and significant influence on the likelihood of financial turnaround. In the situation of financial distress, the profitability of the firm would be more depressed with excessive leverage which in turn led to high financing cost for companies and would drag down the company's performance even further. High level of leverage also burdened the firm's cash flow with high financing cost. Thus, high leverage would further exacerbate the firm's financial condition and further minimize the possibility of companies to achieve financial turnaround.

5.2. Research Limitations

1. Limitations of the data that cause the sample size were fairly small (less than 30) which may cause the insignificant influence on several independent variables in this research.
2. The absence of standard definitions in the determination and categorization of firms that experiencing financial distress and the condition of firms managed to achieve financial turnaround conditions. Thus, the results could be very diverse among researchers.
3. This research only studied the manufacturing industry that caused applications of the results. This research could not be used in companies from different industries due to the nature of each industry that were highly diverse.

4. Independent variables in this research focused more on the internal condition of the company without considering external conditions such as global macroeconomic conditions, domestic macroeconomics, industrial conditions, and others.

5.3. Recommendations

After looking at the conclusions and limitations of this research, the researcher proposed suggestions for further research as follows:

1. Increase the number of samples in the research by extending the industrial spectrum and the time period of the research. With larger sample size, it is expected that further research can provide more accurate results.
2. Use factors outside the variables in this research such as macroeconomic conditions and industry condition to obtain more complex model of the estimation of financial turnaround likelihood.

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APPENDICES

APPENDIX 1: All Listed Companies in Secondary Sectors of JASICA

No.	Company's Name	Ticker	Year of IPO
1	Akasha Wira International Tbk.	ADES	1994
2	Alakasa Industrindo Tbk.	ALKA	1990
3	Alkindo Naratama Tbk.	ALDO	2011
4	Alumindo Light Metal Industry Tbk.	ALMI	1996
5	Argha Karya Prima Industry Tbk.	AKPI	1992
6	Argo Pantes Tbk.	ARGO	1990
7	Arwana Citramulia Tbk.	ARNA	2001
8	Asahimas Flat Glass Tbk.	AMFG	1995
9	Asia Pacific Fibers Tbk.	POLY	1990
10	Asiaplast Industries Tbk.	APLI	2000
11	Astra International Tbk.	ASII	1990
12	Astra Otoparts Tbk.	AUTO	1998
13	Ateliers Mecaniques D'Indonesie Tbk.	AMIN	2015
14	Barito Pacific Tbk.	BRPT	1993
15	Bentoel Internasional Investama Tbk.	RMBA	1989
16	Berlina Tbk.	BRNA	1989
17	Betonjaya Manunggal Tbk.	BTON	2001
18	Budi Starch & Sweetener Tbk.	BUDI	1995
19	Champion Pacific Indonesia Tbk.	IGAR	1990
20	Chandra Asri Petrochemical Tbk.	TPIA	1996
21	Charoen Pokphand Indonesia Tbk.	CPIN	1990
22	Chitose Internasional Tbk.	CINT	2014
23	Citra Tubindo Tbk.	CTBN	1989
24	Darya-Varia Laboratoria Tbk.	DVLA	1994
25	Delta Djakarta Tbk.	DLTA	1983
26	Duta Pertiwi Nusantara Tbk.	DPNS	1990
27	Dwi Aneka Jaya Kemasindo Tbk.	DAJK	2014
28	Ekadharma International Tbk.	EKAD	1990
29	Eratex Djaja Tbk.	ERTX	1990
30	Eterindo Wahanatama Tbk.	ETWA	1997
31	Ever Shine Textile Industry Tbk.	ESTI	1992
32	Fajar Surya Wisesa Tbk.	FASW	1994
33	Gajah Tunggal Tbk.	GJTL	1990
34	Garuda Metalindo Tbk.	BOLT	2015
35	Goodyear Indonesia Tbk.	GDYR	1980
36	Grand Kartech Tbk.	KRAH	2013

**APPENDIX 1: All Listed Companies in Secondary Sectors of JASICA
(Cont'd)**

No.	Company's Name	Ticker	Year of IPO
37	Gudang Garam Tbk.	GGRM	1990
38	Gunawan Dianjaya Steel Tbk.	GDST	2009
39	HM Sampoerna Tbk.	HMSP	1993
40	Holcim Indonesia Tbk.	SMCB	1977
41	Impack Pratama Industri Tbk.	IMPC	2014
42	Indah Kiat Pulp & Paper Tbk.	INKP	1990
43	Indal Aluminium Industry Tbk.	INAI	1994
44	Indo Acidatama Tbk.	SRSN	1992
45	Indo Kordsa Tbk.	BRAM	1990
46	Indocement Tunggul Prakarsa Tbk.	INTP	1989
47	Indofarma (Persero) Tbk.	INAF	2001
48	Indofood CBP Sukses Makmur Tbk.	ICBP	2010
49	Indofood Sukses Makmur Tbk.	INDF	1994
50	Indomobil Sukses Internasional Tbk.	IMAS	1993
51	Indopoly Swakarsa Industry Tbk.	IPOL	2010
52	Indo-Rama Synthetics Tbk.	INDR	1990
53	Indospring Tbk.	INDS	1990
54	Industri Jamu dan Farmasi Sido Muncul Tbk.	SIDO	2013
55	Intanwijaya Internasional Tbk.	INCI	1990
56	Intikeramik Alamasri Industri Tbk.	IKAI	1997
57	Jakarta Kyoei Steel Works Tbk.	JKSW	1997
58	Japfa Comfeed Indonesia Tbk.	JPFA	1989
59	Jaya Pari Steel Tbk.	JPRS	1989
60	Jembo Cable Company Tbk.	JECC	1990
61	Kabelindo Murni Tbk.	KBLM	1992
62	Kalbe Farma Tbk.	KLBF	1991
63	Kedaung Indah Can Tbk.	KICI	1993
64	Kedawung Setia Industrial Tbk.	KDSI	1996
65	Keramika Indonesia Asosiasi Tbk.	KIAS	1994
66	Kertas Basuki Rachmat Indonesia Tbk.	KBRI	2008
67	Kimia Farma (Persero) Tbk.	KAEF	2001
68	Kino Indonesia Tbk.	KINO	2015
69	KMI Wire and Cable Tbk.	KBLI	1992
70	Krakatau Steel (Persero) Tbk.	KRAS	2010
71	Langgeng Makmur Industri Tbk.	LMPI	1994
72	Lion Metal Works Tbk.	LION	1993
73	Lionmesh Prima Tbk.	LMSH	1990

**APPENDIX 1: All Listed Companies in Secondary Sectors of JASICA
(Cont'd)**

No.	Company's Name	Ticker	Year of IPO
74	Lotte Chemical Titan Tbk.	FPNI	2002
75	Malindo Feedmill Tbk.	MAIN	2006
76	Mandom Indonesia Tbk.	TCID	1993
77	Martina Berto Tbk.	MBTO	2010
78	Mayora Indah Tbk.	MYOR	1990
79	Merck Sharp Dohme Pharma Tbk.	SCPI	1990
80	Merck Tbk.	MERK	1981
81	Mulia Industrindo Tbk.	MLIA	1994
82	Multi Bintang Indonesia Tbk.	MLBI	1981
83	Multi Prima Sejahtera Tbk.	LPIN	1989
84	Multistrada Arah Sarana Tbk.	MASA	2005
85	Mustika Ratu Tbk.	MRAT	1995
86	Nippon Indosari Corpindo Tbk.	ROTI	2010
87	Nipress Tbk.	NIPS	1991
88	Nusantara Inti Corpora Tbk.	UNIT	2002
89	Pabrik Kertas Tjiwi Kimia Tbk.	TKIM	1990
90	Pan Brothers Tbk.	PBRX	1990
91	Panasia Indo Resources Tbk.	HDTX	1990
92	Pelangi Indah Canindo Tbk.	PICO	1996
93	Pelat Timah Nusantara Tbk.	NIKL	2009
94	Polychem Indonesia Tbk.	ADMG	1993
95	Prasidha Aneka Niaga Tbk.	PSDN	1994
96	Prima Alloy Steel Universal Tbk.	PRAS	1990
97	Primarindo Asia Infrastructure Tbk.	BIMA	1994
98	Pyridam Farma Tbk.	PYFA	2001
99	Ricky Putra Globalindo Tbk.	RICY	1997
100	Saranacentral Bajatama Tbk.	BAJA	2011
101	Sat Nusapersada Tbk.	PTSN	2007
102	Sekar Bumi Tbk.	SKBM	1992
103	Sekar Laut Tbk.	SKLT	1993
104	Sekawan Intipratama Tbk.	SIAP	2008
105	Selamat Sempurna Tbk.	SMSM	1996
106	Semen Baturaja (Persero) Tbk.	SMBR	2013
107	Semen Indonesia (Persero) Tbk	SMGR	1991
108	Sepatu Bata Tbk.	BATA	1982
109	Siantar Top Tbk.	STTP	1996
110	Sierad Produce Tbk.	SIPD	1996

**APPENDIX 1: All Listed Companies in Secondary Sectors of JASICA
(Cont'd)**

No.	Company's Name	Ticker	Year of IPO
111	Siwani Makmur Tbk.	SIMA	1994
112	SLJ Global Tbk.	SULI	1994
113	Sri Rejeki Isman Tbk.	SRIL	2013
114	Star Petrochem Tbk.	STAR	2011
115	Steel Pipe Industry of Indonesia Tbk.	ISSP	2013
116	Sumi Indo Kabel Tbk.	IKBI	1990
117	Sunson Textile Manufacturer Tbk.	SSTM	1997
118	Suparma Tbk.	SPMA	1994
119	Supreme Cable Manufacturing & Commerce Tbk.	SCCO	1982
120	Surya Toto Indonesia Tbk.	TOTO	1990
121	Taisho Pharmaceutical Indonesia (PS) Tbk.	SQBI	1983
122	Taisho Pharmaceutical Indonesia Tbk.	SQBB	2001
123	Tembaga Mulia Semanan Tbk.	TBMS	1990
124	Tempo Scan Pacific Tbk.	TSPC	1994
125	Tifico Fiber Indonesia Tbk.	TFCO	1979
126	Tiga Pilar Sejahtera Food Tbk.	AISA	1997
127	Tirta Mahakam Resources Tbk.	TIRT	1999
128	Toba Pulp Lestari Tbk.	INRU	1990
129	Tri Banyan Tirta Tbk.	ALTO	2012
130	Trias Sentosa Tbk.	TRST	1990
131	Trisula International Tbk.	TRIS	2012
132	Tunas Alfin Tbk.	TALF	2013
133	Ultrajaya Milk Industry & Trading Co. Tbk.	ULTJ	1990
134	Unggul Indah Cahaya Tbk.	UNIC	1989
135	Unilever Indonesia Tbk.	UNVR	1981
136	Voksel Electric Tbk.	VOKS	1990
137	Wijaya Karya Beton Tbk.	WTON	2014
138	Wilmar Cahaya Indonesia Tbk.	CEKA	1996
139	Wismilak Inti Makmur Tbk.	WIIM	2012
140	Yanaprima Hastapersada Tbk.	YPAS	2008

APPENDIX 2: List of Companies IPO and Listed since 2005

No.	Company's Name	Ticker	Year of IPO
1	Akasha Wira International Tbk.	ADES	1994
2	Alakasa Industrindo Tbk.	ALKA	1990
3	Alumindo Light Metal Industry Tbk.	ALMI	1996
4	Argha Karya Prima Industry Tbk.	AKPI	1992
5	Argo Pantes Tbk.	ARGO	1990
6	Arwana Citramulia Tbk.	ARNA	2001
7	Asahimas Flat Glass Tbk.	AMFG	1995
8	Asia Pacific Fibers Tbk.	POLY	1990
9	Asiaplast Industries Tbk.	APLI	2000
10	Astra International Tbk.	ASII	1990
11	Astra Otoparts Tbk.	AUTO	1998
12	Barito Pacific Tbk.	BRPT	1993
13	Bentoel Internasional Investama Tbk.	RMBA	1989
14	Berlina Tbk.	BRNA	1989
15	Betonjaya Manunggal Tbk.	BTON	2001
16	Budi Starch & Sweetener Tbk.	BUDI	1995
17	Champion Pacific Indonesia Tbk.	IGAR	1990
18	Chandra Asri Petrochemical Tbk.	TPIA	1996
19	Charoen Pokphand Indonesia Tbk.	CPIN	1990
20	Citra Tubindo Tbk.	CTBN	1989
21	Darya-Varia Laboratoria Tbk.	DVLA	1994
22	Delta Djakarta Tbk.	DLTA	1983
23	Duta Pertiwi Nusantara Tbk.	DPNS	1990
24	Ekadharma International Tbk.	EKAD	1990
25	Eratex Djaja Tbk.	ERTX	1990
26	Eterindo Wahanatama Tbk.	ETWA	1997
27	Ever Shine Textile Industry Tbk.	ESTI	1992
28	Fajar Surya Wisesa Tbk.	FASW	1994
29	Gajah Tunggal Tbk.	GJTL	1990
30	Goodyear Indonesia Tbk.	GDYR	1980
31	Gudang Garam Tbk.	GGRM	1990
32	HM Sampoerna Tbk.	HMSP	1993
33	Holcim Indonesia Tbk.	SMCB	1977
34	Indah Kiat Pulp & Paper Tbk.	INKP	1990
35	Indal Aluminium Industry Tbk.	INAI	1994
36	Indo Acidatama Tbk.	SRSN	1992
37	Indo Kordsa Tbk.	BRAM	1990

APPENDIX 2: List of Companies IPO and Listed since 2005 (Cont'd)

No.	Company's Name	Ticker	Year of IPO
38	Indocement Tunggal Prakarsa Tbk.	INTP	1989
39	Indofarma (Persero) Tbk.	INAF	2001
40	Indofood Sukses Makmur Tbk.	INDF	1994
41	Indomobil Sukses Internasional Tbk.	IMAS	1993
42	Indo-Rama Synthetics Tbk.	INDR	1990
43	Indospring Tbk.	INDS	1990
44	Intanwijaya Internasional Tbk.	INCI	1990
45	Intikeramik Alamasri Industri Tbk.	IKAI	1997
46	Jakarta Kyoei Steel Works Tbk.	JKSW	1997
47	Japfa Comfeed Indonesia Tbk.	JPFA	1989
48	Jaya Pari Steel Tbk.	JPRS	1989
49	Jembo Cable Company Tbk.	JECC	1990
50	Kabelindo Murni Tbk.	KBLM	1992
51	Kalbe Farma Tbk.	KLBF	1991
52	Kedaung Indah Can Tbk.	KICI	1993
53	Kedawung Setia Industrial Tbk.	KDSI	1996
54	Keramika Indonesia Asosiasi Tbk.	KIAS	1994
55	Kimia Farma (Persero) Tbk.	KAEF	2001
56	KMI Wire and Cable Tbk.	KBLI	1992
57	Langgeng Makmur Industri Tbk.	LMPI	1994
58	Lion Metal Works Tbk.	LION	1993
59	Lionmesh Prima Tbk.	LMSH	1990
60	Lotte Chemical Titan Tbk.	FPNI	2002
61	Mandom Indonesia Tbk.	TCID	1993
62	Mayora Indah Tbk.	MYOR	1990
63	Merck Sharp Dohme Pharma Tbk.	SCPI	1990
64	Merck Tbk.	MERK	1981
65	Mulia Industrindo Tbk.	MLIA	1994
66	Multi Bintang Indonesia Tbk.	MLBI	1981
67	Multi Prima Sejahtera Tbk.	LPIN	1989
68	Mustika Ratu Tbk.	MRAT	1995
69	Nipress Tbk.	NIPS	1991
70	Nusantara Inti Corpora Tbk.	UNIT	2002
71	Pabrik Kertas Tjiwi Kimia Tbk.	TKIM	1990
72	Pan Brothers Tbk.	PBRX	1990
73	Panasia Indo Resources Tbk.	HDTX	1990
74	Pelangi Indah Canindo Tbk.	PICO	1996
75	Polychem Indonesia Tbk.	ADMG	1993

APPENDIX 2: List of Companies IPO and Listed since 2005 (Cont'd)

No.	Company's Name	Ticker	Year of IPO
76	Prasidha Aneka Niaga Tbk.	PSDN	1994
77	Prima Alloy Steel Universal Tbk.	PRAS	1990
78	Primarindo Asia Infrastructure Tbk.	BIMA	1994
79	Pyridam Farma Tbk.	PYFA	2001
80	Ricky Putra Globalindo Tbk.	RICY	1997
81	Sekar Bumi Tbk.	SKBM	1992
82	Sekar Laut Tbk.	SKLT	1993
83	Selamat Sempurna Tbk.	SMSM	1996
84	Semen Indonesia (Persero) Tbk	SMGR	1991
85	Sepatu Bata Tbk.	BATA	1982
86	Siantar Top Tbk.	STTP	1996
87	Sierad Produce Tbk.	SIPD	1996
88	Siwani Makmur Tbk.	SIMA	1994
89	SLJ Global Tbk.	SULI	1994
90	Sumi Indo Kabel Tbk.	IKBI	1990
91	Sunson Textile Manufacturer Tbk.	SSTM	1997
92	Suparma Tbk.	SPMA	1994
93	Supreme Cable Manufacturing & Commerce Tbk.	SCCO	1982
94	Surya Toto Indonesia Tbk.	TOTO	1990
95	Taisho Pharmaceutical Indonesia (PS) Tbk.	SQBI	1983
96	Tembaga Mulia Semanan Tbk.	TBMS	1990
97	Tempo Scan Pacific Tbk.	TSPC	1994
98	Tifico Fiber Indonesia Tbk.	TFCO	1979
99	Tiga Pilar Sejahtera Food Tbk.	AISA	1997
100	Tirta Mahakam Resources Tbk.	TIRT	1999
101	Toba Pulp Lestari Tbk.	INRU	1990
102	Trias Sentosa Tbk.	TRST	1990
103	Ultrajaya Milk Industry & Trading Co. Tbk.	ULTJ	1990
104	Unggul Indah Cahaya Tbk.	UNIC	1989
105	Unilever Indonesia Tbk.	UNVR	1981
106	Voksel Electric Tbk.	VOKS	1990
107	Wilmar Cahaya Indonesia Tbk.	CEKA	1996

APPENDIX 3: List of Companies with Complete Financial Statements

No.	Company's Name	Ticker	Year of IPO
1	Akasha Wira International Tbk.	ADES	1994
2	Alakasa Industrindo Tbk.	ALKA	1990
3	Alumindo Light Metal Industry Tbk.	ALMI	1996
4	Argha Karya Prima Industry Tbk.	AKPI	1992
5	Argo Pantes Tbk.	ARGO	1990
6	Arwana Citramulia Tbk.	ARNA	2001
7	Asahimas Flat Glass Tbk.	AMFG	1995
8	Asia Pacific Fibers Tbk.	POLY	1990
9	Asiaplast Industries Tbk.	APLI	2000
10	Astra International Tbk.	ASII	1990
11	Astra Otoparts Tbk.	AUTO	1998
12	Barito Pacific Tbk.	BRPT	1993
13	Bentoel Internasional Investama Tbk.	RMBA	1989
14	Berlina Tbk.	BRNA	1989
15	Betonjaya Manunggal Tbk.	BTON	2001
16	Budi Starch & Sweetener Tbk.	BUDI	1995
17	Champion Pacific Indonesia Tbk.	IGAR	1990
18	Charoen Pokphand Indonesia Tbk.	CPIN	1990
19	Citra Tubindo Tbk.	CTBN	1989
20	Darya-Varia Laboratoria Tbk.	DVLA	1994
21	Delta Djakarta Tbk.	DLTA	1983
22	Duta Pertiwi Nusantara Tbk.	DPNS	1990
23	Ekadharma International Tbk.	EKAD	1990
24	Eratex Djaja Tbk.	ERTX	1990
25	Eterindo Wahanatama Tbk.	ETWA	1997
26	Ever Shine Textile Industry Tbk.	ESTI	1992
27	Fajar Surya Wisesa Tbk.	FASW	1994
28	Gajah Tunggal Tbk.	GJTL	1990
29	Goodyear Indonesia Tbk.	GDYR	1980
30	Gudang Garam Tbk.	GGRM	1990
31	HM Sampoerna Tbk.	HMSP	1993
32	Holcim Indonesia Tbk.	SMCB	1977
33	Indah Kiat Pulp & Paper Tbk.	INKP	1990
34	Indal Aluminium Industry Tbk.	INAI	1994
35	Indo Acidatama Tbk.	SRSN	1992
36	Indo Kordsa Tbk.	BRAM	1990
37	Indocement Tunggal Prakarsa Tbk.	INTP	1989
38	Indofarma (Persero) Tbk.	INAF	2001

**APPENDIX 3: List of Companies with Complete Financial Statements
(Cont'd)**

No.	Company's Name	Ticker	Year of IPO
39	Indofood Sukses Makmur Tbk.	INDF	1994
40	Indomobil Sukses Internasional Tbk.	IMAS	1993
41	Indo-Rama Synthetics Tbk.	INDR	1990
42	Indospring Tbk.	INDS	1990
43	Intanwijaya Internasional Tbk.	INCI	1990
44	Intikeramik Alamasri Industri Tbk.	IKAI	1997
45	Jakarta Kyoei Steel Works Tbk.	JKSW	1997
46	Japfa Comfeed Indonesia Tbk.	JPFA	1989
47	Jaya Pari Steel Tbk.	JPRS	1989
48	Jembo Cable Company Tbk.	JECC	1990
49	Kabelindo Murni Tbk.	KBLM	1992
50	Kalbe Farma Tbk.	KLBF	1991
51	Kedaung Indah Can Tbk.	KICI	1993
52	Kedawung Setia Industrial Tbk.	KDSI	1996
53	Kimia Farma (Persero) Tbk.	KAEF	2001
54	KMI Wire and Cable Tbk.	KBLI	1992
55	Langgeng Makmur Industri Tbk.	LMPI	1994
56	Lion Metal Works Tbk.	LION	1993
57	Lionmesh Prima Tbk.	LMSH	1990
58	Lotte Chemical Titan Tbk.	FPNI	2002
59	Mandom Indonesia Tbk.	TCID	1993
60	Mayora Indah Tbk.	MYOR	1990
61	Merck Tbk.	MERK	1981
62	Mulia Industrindo Tbk.	MLIA	1994
63	Multi Bintang Indonesia Tbk.	MLBI	1981
64	Multi Prima Sejahtera Tbk.	LPIN	1989
65	Mustika Ratu Tbk.	MRAT	1995
66	Nipress Tbk.	NIPS	1991
67	Nusantara Inti Corpora Tbk.	UNIT	2002
68	Pabrik Kertas Tjiwi Kimia Tbk.	TKIM	1990
69	Pan Brothers Tbk.	PBRX	1990
70	Panasia Indo Resources Tbk.	HDTX	1990
71	Pelangi Indah Canindo Tbk.	PICO	1996
72	Polychem Indonesia Tbk.	ADMG	1993
73	Prasidha Aneka Niaga Tbk.	PSDN	1994
74	Prima Alloy Steel Universal Tbk.	PRAS	1990
75	Primarindo Asia Infrastructure Tbk.	BIMA	1994

**APPENDIX 3: List of Companies with Complete Financial Statements
(Cont'd)**

No.	Company's Name	Ticker	Year of IPO
76	Pyridam Farma Tbk.	PYFA	2001
77	Ricky Putra Globalindo Tbk.	RICY	1997
78	Sekar Laut Tbk.	SKLT	1993
79	Selamat Sempurna Tbk.	SMSM	1996
80	Semen Indonesia (Persero) Tbk	SMGR	1991
81	Sepatu Bata Tbk.	BATA	1982
82	Siantar Top Tbk.	STTP	1996
83	Sierad Produce Tbk.	SIPD	1996
84	Siwani Makmur Tbk.	SIMA	1994
85	SLJ Global Tbk.	SULI	1994
86	Sumi Indo Kabel Tbk.	IKBI	1990
87	Sunson Textile Manufacturer Tbk.	SSTM	1997
88	Suparma Tbk.	SPMA	1994
89	Supreme Cable Manufacturing & Commerce Tbk.	SCCO	1982
90	Surya Toto Indonesia Tbk.	TOTO	1990
91	Taisho Pharmaceutical Indonesia (PS) Tbk.	SQBI	1983
92	Tembaga Mulia Semanan Tbk.	TBMS	1990
93	Tempo Scan Pacific Tbk.	TSPC	1994
94	Tifico Fiber Indonesia Tbk.	TFCO	1979
95	Tiga Pilar Sejahtera Food Tbk.	AISA	1997
96	Tirta Mahakam Resources Tbk.	TIRT	1999
97	Trias Sentosa Tbk.	TRST	1990
98	Ultrajaya Milk Industry & Trading Co. Tbk.	ULTJ	1990
99	Unggul Indah Cahaya Tbk.	UNIC	1989
100	Unilever Indonesia Tbk.	UNVR	1981
101	Voksel Electric Tbk.	VOKS	1990
102	Wilmar Cahaya Indonesia Tbk.	CEKA	1996

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data

No.	Ticker	Multiplier	2005		2006	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	(100,509)	8,674	(109,505)	22,022
2	ADMG	Rp 1,000	302,797,802	35,754,754	(110,578,353)	24,572,144
3	AISA	Rp 1	49,657,487,287	24,937,678,284	48,570,987,954	33,801,440,316
4	AKPI	Rp 1,000	122,460,891	29,296,977	100,442,840	31,771,690
5	ALKA	Rp 1,000	5,683,952	176,789	6,508,852	262,962
6	ALMI	Rp 1	96,503,126,736	13,907,052,652	135,346,520,678	31,773,445,860
7	AMFG	Rp 1,000	434,803,290	7,774,069	138,471,641	11,110,899
8	APLI	Rp 1	10,597,432,297	8,743,279,484	15,477,603,172	7,416,224,159
9	ARGO	Rp 1,000	317,994	30,092,933	(1,154,908)	52,610,720
10	ARNA	Rp 1	89,714,379,527	16,458,035,801	85,253,709,296	19,318,987,447
11	ASII	Rp 1,000,000	8,061,483	421,844	6,972,772	760,726
12	AUTO	Rp 1,000,000	412,046	23,387	268,399	37,812
13	BATA	Rp 1,000	51,773,802	6,256,043	45,770,040	5,620,428
14	BIMA	Rp 1	(1,215,035,963)	40,997,800	1,863,966,081	66,317,244
15	BRAM	Rp 1	325,703,102	50,081,474	148,656,146	39,715,829
16	BRNA	Rp 1	49,768,369,704	23,937,313,956	45,084,943,809	23,314,327,610
17	BRPT	Rp 1	(151,693,890,377)	83,258,055,801	(154,981,033,008)	14,934,246,417
18	BTON	Rp 1	4,372,193,674	-	3,491,968,955	-
19	BUDI	Rp 1,000,000	144,232	59,409	129,159	58,504
20	CEKA	Rp 1	24,756,361,580	7,046,036,055	21,360,756,279	4,592,410,929
21	CPIN	Rp 1,000,000	360,921	129,655	426,837	145,323
22	CTBN	\$ 1	11,969,582	107,169	33,474,884	200,207
23	DLTA	Rp 1,000	93,274,141	-	209,773,872	-
24	DPNS	Rp 1	1,284,051,957	41,859,914	1,130,201,900	12,909,872
25	DVLA	Rp 1,000	91,641,384	-	94,117,043	-
26	EKAD	Rp 1	5,134,421,130	-	5,838,406,937	-
27	ERTX	Rp 1,000	31,139,881	21,081,196	14,343,489	14,764,762
28	ESTI	Rp 1	49,604,010,384	8,054,972,290	38,514,314,248	11,671,644,635
29	FASW	Rp 1	245,271,362,062	69,073,248,186	252,100,511,048	98,989,579,803
30	FPNI	Rp 1	(6,861,034,053)	17,577,602,332	(1,390,783,295)	19,691,510,483
31	GDYR	Rp 1,000	34,455,599	455,185	63,000,812	385,176
32	GGRM	Rp 1,000,000	3,593,841	520,855	2,837,722	602,353
33	GJTL	Rp 1,000,000	663,800	175,101	646,013	379,490
34	HDTX	Rp 1	51,185,002,494	8,839,076,010	62,173,541,087	2,716,577,060
35	HMSP	Rp 1,000,000	4,286,958	305,833	5,459,346	228,735
36	IGAR	Rp 1	42,040,502,415	4,971,363,650	30,342,513,273	5,212,603,542
37	IKAI	Rp 1	88,982,326,481	17,488,177,166	35,680,719,946	18,693,891,117
38	IKBI	Rp 1	68,479,951,332	464,934,524	100,832,611,392	427,984,526
39	IMAS	Rp 1	69,345,270,911	85,337,573,391	(79,653,873,045)	122,807,427,993
40	INAF	Rp 1	46,865,219,408	15,576,520,512	72,760,684,571	16,435,117,602
41	INAI	Rp 1	15,263,832,109	28,901,176,936	45,603,375,577	43,451,121,849
42	INCI	Rp 1	17,153,149,295	668,084,522	9,960,401,351	72,967,140
43	INDF	Rp 1	2,191,440,998,080	827,816,562,054	2,517,096	816,208
44	INDR	\$ 1	35,542,609	9,180,024	32,292,416	11,797,295
45	INDS	Rp 1	29,531,683,813	8,881,578,599	7,238,243,422	16,450,757,155
46	INKP	\$ 1	242,791,395	77,941,245	323,652,804	77,939,160
47	INTP	Rp 1	1,682,106,167,363	263,474,390,735	1,584,854,394,666	301,027,932,756
48	JECC	Rp 1,000	28,090,607	16,444,633	23,490,455	20,213,332
49	JKSW	Rp 1	10,929,694,323	18,713,347	8,733,224,176	18,182,037

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2005		2006	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
50	JPFA	Rp 1	325,785,163,106	47,559,295,255	410,289	63,941
51	JPRS	Rp 1	52,858,173,052	-	44,610,087,039	-
52	KAEF	Rp 1	114,441,056,067	Rp 8,197,997,696	90,541,855,883	10,977,923,592
53	KBLI	Rp 1	80,515,427,986	7,645,221,110	77,645,490,692	12,868,516,058
54	KBLM	Rp 1	14,938,679,794	11,632,071,301	31,500,322,791	11,603,980,333
55	KDSI	Rp 1	30,636,327,225	14,871,619,023	9,565,120,870	4,264,936,236
56	KICI	Rp 1	(2,598,574,042)	3,554,606,436	(8,951,705,815)	3,269,299,952
57	KLBF	Rp 1	1,235,234,675,042	92,975,053,874	1,220,766,516,651	70,529,166,485
58	LION	Rp 1	27,985,743,667	-	28,555,722,168	-
59	LMPI	Rp 1	26,091,173,498	10,231,284,167	30,496,880,016	8,430,080,189
60	LMSH	Rp 1	8,540,317,819	759,242,639	5,576,563,503	961,301,109
61	LPIN	Rp 1	(1,895,887,848)	2,301,034,419	(457,049,494)	770,268,022
62	MERK	Rp 1,000	89,006,266	608,302	126,197,378	373,307
63	MLBI	Rp 1,000,000	172,887	892	186,998	4,276
64	MLIA	Rp 1,000	348,949,913	536,294,556	(55,733,431)	665,974,188
65	MRAT	Rp 1	18,776,488,634	1,299,550,911	24,027,311,419	1,253,744,458
66	MYOR	Rp 1	171,944,773,395	35,830,000,000	252,016,101,801	40,656,241,661
67	NIPS	Rp 1	25,999,212,315	9,242,594,813	26,290,303,072	13,215,134,452
68	PBRX	Rp 1	32,826,898,007	3,778,968,245	35,494,775,536	11,680,358,425
69	PICO	Rp 1	37,539,437,727	20,639,118,221	34,754,229,242	20,370,807,482
70	POLY	Rp 1	8,583,522,975	16,640,842,742	(89,793,159,078)	112,614,055,420
71	PRAS	Rp 1	54,642,460,183	9,815,489,950	26,608,461,794	11,670,477,030
72	PSDN	Rp 1	38,889,967,222	9,119,008,670	43,445,566,684	16,667,231,394
73	PYFA	Rp 1	6,449,045,436	858,232,968	8,240,613,597	1,553,155,632
74	RICY	Rp 1	66,412,663,163	14,227,126,324	78,464,970,385	21,274,346,474
75	RMBA	Rp 1	27,600,243,291	34,535,067,934	206,457,941,849	43,727,632,411
76	SCCO	Rp 1	120,605,708,423	28,228,813,109	97,603,509,638	20,516,431,554
77	SIMA	Rp 1	7,871,308,953	628,858,719	5,157,245,349	569,413,326
78	SIPD	Rp 1	(46,632,798,262)	1,095,388,241	103,520,420,720	1,855,502,003
79	SKLT	Rp 1	(3,596,667,433)	1,684,228,206	4,954,972,125	975,140,712
80	SMCB	Rp 1,000,000	512,817	137,825	439,568	157,854
81	SMGR	Rp 1,000	2,005,204,846	157,039,210	2,224,903,042	80,490,497
82	SMSM	Rp 1	167,488,378,977	15,895,215,558	169,648,137,546	11,276,365,512
83	SPMA	Rp 1	111,369,503,863	38,805,841,728	120,233,633,399	51,218,335,488
84	SQBI	Rp 1,000	21,611,878	50,102	86,161,617	88,925
85	SRSN	Rp 1,000	61,785,629	38,433,290	67,155,433	18,842,239
86	SSTM	Rp 1	21,008,733,745	51,413,989,023	13,017,940,362	59,274,930,268
87	STTP	Rp 1	47,068,989,417	3,221,214,199	39,694,083,694	592,042,605
88	SULI	Rp 1	81,595,647,289	7,617,816,764	(8,537,978,665)	14,833,831,091
89	TBMS	Rp 1	25,382,801,003	11,833,092,580	36,987,042,289	21,775,892,126
90	TCID	Rp 1	166,638,258,688	12,499,957	182,052,736,645	123,075,000
91	TFCO	\$ 1	3,166,236	8,428,602	(10,432,352)	13,108,136
92	TIRT	Rp 1	82,902,162,611	36,831,872,772	23,941,191,794	35,010,164,693
93	TKIM	\$ 1	128,493,981	29,488,210	88,726,529	31,642,884
94	TOTO	Rp 1	130,367,450,389	11,115,747,261	155,782,462,706	18,543,938,602
95	TRST	Rp 1	159,858,539,548	33,912,407,757	136,700,684,304	57,388,144,221
96	TSPC	Rp 1	395,985,688,089	4,294,134,799	367,973,037,047	3,853,966,446
97	ULTJ	Rp 1	122,288,623,717	56,882,806,001	128,499,057,030	46,834,884,317
98	UNIC	\$ 1	29,345,148	15,285,870	22,482,907	2,876,878

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2005		2006	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
99	UNIT	Rp 1	(6,313,428,314)	-	(67,344,516)	-
100	UNVR	Rp 1,000,000	2,097,998	-	2,467,465	-
101	VOKS	Rp 1	57,011,652,559	26,935,388,640	48,166,557,258	2,160,199,273

No.	Ticker	Multiplier	2007		2008	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	(99,743)	31,984	(21,976)	3,472
2	ADMG	Rp 1,000	303,861,949	32,843,677	271,293,498	44,642,616
3	AISA	Rp 1	77,253,281,443	34,184,939,899	151,987,627,161	54,969,330,084
4	AKPI	Rp 1,000	148,278,953	37,046,075	203,464,052	37,563,963
5	ALKA	Rp 1,000	9,480,483	-	10,269,343	-
6	ALMI	Rp 1	105,609,397,351	33,550,930,968	138,372,632,266	61,735,210,178
7	AMFG	Rp 1,000	389,296,081	10,599,129	490,963	1,056
8	APLI	Rp 1	21,910,442,140	6,582,925,539	35,325,400,136	5,985,648,789
9	ARGO	Rp 1,000	46,289,584	54,288,189	(41,705,915)	49,150,565
10	ARNA	Rp 1	125,343,307,625	24,934,995,594	153,661,791,589	28,517,065,440
11	ASII	Rp 1,000,000	10,806,172	678,134	14,450	513
12	AUTO	Rp 1,000,000	477,634	31,293	560,620	23,059
13	BATA	Rp 1,000	71,826,617	1,093,143	68,235,029	1,213,804
14	BIMA	Rp 1	5,815,831,978	101,346,368	14,242,610,919	175,769,773
15	BRAM	Rp 1	165,443,320	32,390,922	213,981,419	29,477,343
16	BRNA	Rp 1	57,918,833,471	23,117,091,624	70,244,129,176	18,656,776,819
17	BRPT	Rp 1	(9,698)	16,928	(1,082,412)	321,751
18	BTON	Rp 1	14,246,533,630	-	26,882,234,083	-
19	BUDI	Rp 1,000,000	218,298	50,002	209,359	47,007
20	CEKA	Rp 1	54,624,899,023	4,935,679,758	99,009,523,750	14,263,655,693
21	CPIN	Rp 1,000,000	586,251	211,249	1,079,802	259,282
22	CTBN	\$ 1	32,025,261	1,049,420	37,392,835	1,677,298
23	DLTA	Rp 1,000	80,711,527	-	122,010,715	-
24	DPNS	Rp 1	1,660,141,483	107,462,780	(13,263,187,193)	57,595,290
25	DVLA	Rp 1,000	83,217,455	-	96,056,030	-
26	EKAD	Rp 1	7,219,169,302	-	10,955,699,071	1,616,312,764
27	ERTX	Rp 1,000	23,428,093	23,239,308	(21,085,218)	16,500,390
28	ESTI	Rp 1	31,672,075,979	12,101,034,673	35,905,452,491	10,307,787,044
29	FASW	Rp 1	554,470,409,837	179,407,765,010	532,570,410,064	226,567,061,927
30	FPNI	Rp 1	(9,878,757,130)	15,034,839,250	158,446,929,454	38,936,810,658
31	GDYR	Rp 1,000	86,677,449	247,122	82,236,047	4,959,119
32	GGRM	Rp 1,000,000	3,220,740	335,210	3,911,470	553,073
33	GJTL	Rp 1,000,000	961,893	411,503	901,640	462,994
34	HDTX	Rp 1	76,400,055,171	6,878,844,873	44,759,600,766	20,227,363,306
35	HMSP	Rp 1,000,000	5,870,646	180,968	6,666,370	166,846
36	IGAR	Rp 1	43,630,618,688	4,985,266,939	30,250,562,478	4,481,789,381
37	IKAI	Rp 1	56,248,710,062	22,814,315,517	70,180,551,919	23,500,390,647
38	IKBI	Rp 1	131,361,259,070	406,599,499	164,069,661,590	413,869,028
39	IMAS	Rp 1	90,677,181,767	110,917,542,334	314,708,068,498	139,991,088,050
40	INAF	Rp 1	54,885,692,369	16,116,382,401	72,739,942,408	30,270,237,305
41	INAI	Rp 1	49,560,345,261	42,827,165,885	53,410,686,210	34,339,392,312
42	INCI	Rp 1	6,326,858,520	319,751,703	2,662,956,689	280,669,176

**APPENDIX 4: Screening for Financial Distressed Firms – Raw Data
(Cont'd)**

No.	Ticker	Multiplier	2007		2008	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
43	INDF	Rp 1	3,486,214	710,045	5,047,594	1,157,562
44	INDR	\$ 1	38,533,293	13,336,952	37,666,250	9,242,208
45	INDS	Rp 1	82,861,570,859	17,399,146,948	201,273,947,986	16,373,376,594
46	INKP	\$ 1	444,786,957	74,072,383	531,642,749	85,745,918
47	INTP	Rp 1	2,142,702,988,230	195,648,740,269	3,058,616,460,551	123,633,778,495
48	JECC	Rp 1,000	64,114,619	19,431,585	69,533,770	13,930,169
49	JKSW	Rp 1	(23,737,974,645)	21,032,828	(6,147,830,512)	14,914,132
50	JPFA	Rp 1	592,575	104,388	798,061	202,267
51	JPRS	Rp 1	60,258,259,931	-	102,041,700,124	-
52	KAEF	Rp 1	106,179,402,617	6,795,088,424	132,008,931,750	16,873,686,055
53	KBLI	Rp 1	69,039,096,733	7,540,959,130	89,855,866,085	2,221,845,399
54	KBLM	Rp 1	17,566,329,494	3,855,491,232	16,664,068,766	7,494,567,367
55	KDSI	Rp 1	53,143,071,025	12,109,244,722	52,849,811,008	13,392,377,716
56	KICI	Rp 1	(8,628,334,364)	-	7,745,982,803	-
57	KLBF	Rp 1	1,294,844,967,065	56,354,725,106	1,321,126,466,833	52,045,670,252
58	LION	Rp 1	33,366,014,581	-	54,361,536,972	-
59	LMPI	Rp 1	32,133,418,256	9,241,767,963	37,116,398,789	10,360,233,651
60	LMSH	Rp 1	10,777,401,831	874,205,489	17,048,978,753	1,411,446,458
61	LPIN	Rp 1	6,940,051,868	1,737,040,893	7,065,445,155	3,188,622,086
62	MERK	Rp 1,000	131,338,696	489,237	146,108,207	289,632
63	MLBI	Rp 1,000,000	201,705	1,818	365,403	-
64	MLIA	Rp 1,000	166,724,508	640,616,055	407,233,520	5,208,295
65	MRAT	Rp 1	24,059,507,547	1,108,442,275	30,550,875,990	1,058,570,825
66	MYOR	Rp 1	332,209,523,892	43,313,286,100	459,528,143,947	59,713,903,297
67	NIPS	Rp 1	36,607,487,770	13,936,416,136	41,551,182,511	14,770,435,063
68	PBRX	Rp 1	66,987,854,625	26,102,177,874	88,892,733,595	31,989,023,753
69	PICO	Rp 1	44,783,966,659	23,217,980,970	67,248,379,867	28,602,277,972
70	POLY	Rp 1	103,116,230,386	192,900,780,885	12,680,228,112	47,163,560,518
71	PRAS	Rp 1	31,311,324,365	8,749,413,361	34,130,557,926	15,027,573,426
72	PSDN	Rp 1	39,609,195,398	12,932,265,930	73,505,786,289	10,552,059,000
73	PYFA	Rp 1	9,256,213,033	1,931,620,232	11,822,165,762	1,807,950,740
74	RICY	Rp 1	80,759,173,229	22,853,040,736	45,379,490,357	22,255,735,715
75	RMBA	Rp 1	409,385,018,467	92,041,639,241	505,540,176,920	176,770,182,758
76	SCCO	Rp 1	102,955,600,271	20,440,339,929	84,586,536,221	38,887,040,537
77	SIMA	Rp 1	(1,047,587,640)	1,751,441,734	(3,947,853,994)	3,084,016,604
78	SIPD	Rp 1	83,427,768,161	4,701,443,158	112,722,280,155	25,224,774,181
79	SKLT	Rp 1	5,387,329,597	1,092,373,815	14,341,408,816	2,004,043,660
80	SMCB	Rp 1,000,000	904,289	159,843	1,378,199	212,840
81	SMGR	Rp 1,000	2,838,322,475	11,625,211	3,861,277,121	26,192,484
82	SMSM	Rp 1	205,079,434,778	10,878,602,140	281,532,330,078	59,176,626,398
83	SPMA	Rp 1	167,436,472,782	55,209,620,471	158,093,289,059	57,928,015,277
84	SQBI	Rp 1,000	87,889,824	-	142,210,106	-
85	SRSN	Rp 1,000	71,596,825	15,778,694	91,272,818	10,933,077
86	SSTM	Rp 1	51,446,543,012	47,865,184,172	8,294,860,012	40,900,317,739
87	STTP	Rp 1	51,806,869,450	1,418,411,081	57,248,152,438	10,827,099,256
88	SULI	Rp 1	193,409,750,204	34,063,245,535	129,199,223,397	68,217,098,924
89	TBMS	Rp 1	57,037,260,467	28,577,319,143	89,041,270,296	22,092,774,703
90	TCID	Rp 1	203,509,229,303	-	229,712,027,973	-
91	TFCO	\$ 1	1,170,354	14,471,826	(8,771,135)	9,645,202

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2007		2008	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
92	TIRT	Rp 1	58,146,351,251	27,771,041,828	25,267,317,507	27,576,015,323
93	TKIM	\$ 1	118,963,643	26,115,235	164,605,294	33,744,567
94	TOTO	Rp 1	198,755,288,259	21,683,956,315	260,549,512,290	18,150,510,043
95	TRST	Rp 1	190,687,280,785	49,176,914,845	250,338,095,690	49,213,621,613
96	TSPC	Rp 1	382,562,456,343	3,063,091,277	428,349,799,789	3,056,903,416
97	ULTJ	Rp 1	141,443,197,840	40,842,495,164	6,429,892,685	36,119,089,518
98	UNIC	\$ 1	24,423,534	11,095,743	32,372,541	10,086,252
99	UNIT	Rp 1	18,624,909,261	-	19,307,022,160	-
100	UNVR	Rp 1,000,000	2,889,721	-	3,554,222	-
101	VOKS	Rp 1	104,788,919,201	6,702,015,932	158,508,925,865	17,009,898,372

No.	Ticker	Multiplier	2009		2010	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	19,819	1,525	44,028	5,962
2	ADMG	Rp 1,000	192,138,996	36,484,683	309,320,137	69,245,149
3	AISA	Rp 1	156,299,961,215	59,928,359,942	217,984,118,540	87,207,254,549
4	AKPI	Rp 1,000	247,215,879	27,813,680	136,331,698	16,041,501
5	ALKA	Rp 1,000	11,295,496	-	8,213,896	457,185
6	ALMI	Rp 1	30,659,708,284	52,309,219,957	140,924,074,960	53,918,688,482
7	AMFG	Rp 1,000	258,553	276	606,525	-
8	APLI	Rp 1	47,503,323,228	5,304,793,068	34,139,552,497	841,620,840
9	ARGO	Rp 1,000	(58,296,979)	42,816,665	55,075,001	49,448,270
10	ARNA	Rp 1	169,362,882,049	37,299,670,532	197,237,457,626	33,899,602,298
11	ASII	Rp 1,000,000	16,103	485	18,860	484
12	AUTO	Rp 1,000,000	546,084	14,931	700,348	27,954
13	BATA	Rp 1,000	93,321,184	4,980,268	105,330,187	4,390,307
14	BIMA	Rp 1	20,277,338,147	891,032,245	19,291,459,609	1,407,719,756
15	BRAM	Rp 1	217,242,756	12,194,308	284,022,384	422,114
16	BRNA	Rp 1	82,859,494,021	27,354,761,334	96,407,410,286	21,472,593,101
17	BRPT	Rp 1	1,980,599	265,035	1,268,805	492,807
18	BTON	Rp 1	18,944,518,231	-	13,259,147,132	-
19	BUDI	Rp 1,000,000	229,224	48,726	218,179	59,941
20	CEKA	Rp 1	105,984,384,360	23,943,639,828	61,087,886,045	16,744,588,589
21	CPIN	Rp 1,000,000	2,191,280	201,916	2,904,288	55,008
22	CTBN	\$ 1	28,667,831	3,731,318	37,738,596	2,705,145
23	DLTA	Rp 1,000	183,108,250	-	201,713,939	-
24	DPNS	Rp 1	9,004,727,255	6,552,517	9,703,924,580	118,151,110
25	DVLA	Rp 1,000	142,727,535	-	161,383,941	-
26	EKAD	Rp 1	30,487,368,709	3,865,742,737	42,395,958,693	5,285,612,120
27	ERTX	Rp 1,000	(30,154,296)	19,498,626	(44,433,739)	16,110,061
28	ESTI	Rp 1	28,908,467,330	7,580,667,181	33,920,513,551	7,154,735,747
29	FASW	Rp 1	569,607,147,252	177,289,271,360	658,366,344,224	151,792,773,684
30	FPNI	Rp 1	583,618,306,378	17,469,537,492	5,575	1,869
31	GDYR	Rp 1,000	201,037,648	15,863,863	21,399,975	1,258,208
32	GGRM	Rp 1,000,000	5,941,376	445,230	6,659,366	238,285
33	GJTL	Rp 1,000,000	1,499,543	420,280	1,660,778	365,552
34	HDTX	Rp 1	52,869,857,297	20,960,121,633	51,916,724,451	16,036,886,502
35	HMSP	Rp 1,000,000	7,827,869	166,606	9,260,866	36,762

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2009		2010	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
36	IGAR	Rp 1	54,446,824,326	1,337,046,420	67,836,379,986	467,814,538
37	IKAI	Rp 1	28,094,239,334	26,252,941,558	16,491,256,030	2,466,013,000
38	IKBI	Rp 1	99,519,005,356	464,410,831	34,159,309,763	524,177,405
39	IMAS	Rp 1	1,363,400,211,542	194,862,617,863	399,095,854,367	184,877,377,196
40	INAF	Rp 1	56,063,034,350	35,342,256,204	69,674,502,102	24,805,792,533
41	INAI	Rp 1	45,691,559,074	35,269,989,755	46,453,095,884	23,898,437,134
42	INCI	Rp 1	10,196,261,146	213,363,744	(11,538,219,331)	195,441,007
43	INDF	Rp 1	5,889,108	1,541,264	7,638,813	1,171,698
44	INDR	\$ 1	35,197,017	6,386,335	57,541,729	1,967,808
45	INDS	Rp 1	52,406,102,071	16,583,938,990	147,228,170,908	21,785,740,315
46	INKP	\$ 1	238,431,709	66,970,741	437,088	85,728
47	INTP	Rp 1	4,262,794,230,686	39,783,519,966	4,641,468,310,202	16,083,815,374
48	JECC	Rp 1,000	36,558,443	18,242,898	16,218,854	15,064,441
49	JKSW	Rp 1	10,872,368,312	25,326,542	1,858,917,216	17,584,847
50	JPFA	Rp 1	1,531,219	160,743	1,758,637	211,327
51	JPRS	Rp 1	22,334,698,013	633,515,438	40,433,549,639	1,772,670,505
52	KAEF	Rp 1	141,793,429,731	25,486,369,011	172,241,024,800	14,336,646,263
53	KBLI	Rp 1	48,150,866,793	2,009,703,699	75,038,424,307	2,921,244,163
54	KBLM	Rp 1	18,195,952,954	7,506,715,339	21,484,542,836	6,478,250,457
55	KDSI	Rp 1	47,468,030,495	14,642,238,413	48,569,789,114	15,262,139,019
56	KICI	Rp 1	(3,233,986,409)	-	3,522,629,308	403,262,846
57	KLBF	Rp 1	1,762,220,186,294	53,449,204,212	1,987,964,593,733	20,716,334,764
58	LION	Rp 1	47,336,050,711	-	50,352,254,343	-
59	LMPI	Rp 1	36,571,584,283	11,429,797,326	35,317,799,488	10,074,234,288
60	LMSH	Rp 1	5,032,114,881	967,602,946	13,067,453,201	1,563,188,635
61	LPIN	Rp 1	8,769,928,894	815,283,902	10,227,364,851	547,837,185
62	MERK	Rp 1,000	209,943,014	899,794	164,617,880	792,978
63	MLBI	Rp 1,000,000	615,448	-	709,263	-
64	MLIA	Rp 1,000	317,917,877	5,213,743	492,907,255	32,722,888
65	MRAT	Rp 1	47,694,260,050	1,042,804,327	44,463,234,161	825,988,342
66	MYOR	Rp 1	745,419,841,716	98,183,758,504	944,845,916,249	87,782,627,557
67	NIPS	Rp 1	12,999,428,069	12,635,252,297	31,974,983,998	9,733,202,844
68	PBRX	Rp 1	78,738,496,298	37,960,225,503	92,625,600,197	28,392,098,087
69	PICO	Rp 1	76,779,349,168	35,600,080,950	67,893,591,255	32,994,415,804
70	POLY	Rp 1	200,105,350,731	57,522,896,336	520,826,527,458	52,566,314,691
71	PRAS	Rp 1	11,939,170,489	27,732,029,519	40,763,238,019	23,016,273,182
72	PSDN	Rp 1	55,321,734,058	10,532,430,114	59,576,108,661	8,285,000,629
73	PYFA	Rp 1	12,816,228,292	1,963,214,497	11,284,402,825	1,344,497,696
74	RICY	Rp 1	25,791,969,676	27,840,288,205	37,253,038,635	20,422,581,638
75	RMBA	Rp 1	408,512,606,050	182,499,956,358	619,723	153,860
76	SCCO	Rp 1	49,281,171,837	29,353,200,541	116,321,396,869	18,950,776,794
77	SIMA	Rp 1	(10,512,222,775)	1,128,184,342	(6,540,851,811)	1,826,146,741
78	SIPD	Rp 1	111,364,603,110	33,169,335,299	188,073,963,135	48,767,869,899
79	SKLT	Rp 1	9,731,402,104	3,152,443,896	15,042,259,528	2,852,135,933
80	SMCB	Rp 1,000,000	1,839,914	444,887	1,875,458	232,820
81	SMGR	Rp 1,000	4,767,503,935	20,358,231	4,963,954,914	26,101,520
82	SMSM	Rp 1	266,090,597,857	9,206,276,862	304,935,876,324	23,829,567,079
83	SPMA	Rp 1	128,043,620,700	50,758,525,731	179,035,501,201	40,146,541,519

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2009		2010	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
84	SQBI	Rp 1,000	197,695,566	-	140,571,130	-
85	SRSN	Rp 1,000	59,875,238	14,695,214	35,191,729	8,353,985
86	SSTM	Rp 1	39,864,551,286	37,694,704,735	26,408,381,101	49,652,367,663
87	STTP	Rp 1	72,853,079,588	8,316,867,713	84,647,083,617	6,406,327,999
88	SULI	Rp 1	(31,291,397,800)	90,940,313,293	37,418,781,811	73,737,350,962
89	TBMS	Rp 1	35,947,979,078	7,802,719,793	43,014,853,839	5,669,425,093
90	TCID	Rp 1	242,628,004,486	-	234,246,785,317	-
91	TFCO	\$ 1	(18,512)	5,696,531	19,718,343	2,233,435
92	TIRT	Rp 1	24,122,929,256	27,478,594,436	22,974,704,802	20,677,420,644
93	TKIM	\$ 1	201,075,789	42,979,402	161,408	34,582
94	TOTO	Rp 1	266,905,663,828	9,317,307,417	313,628,382,155	8,109,640,548
95	TRST	Rp 1	265,283,810,251	40,863,646,816	277,505,293,490	15,436,088,456
96	TSPC	Rp 1	515,767,162,344	3,813,587,503	665,506,050,841	7,237,040,789
97	ULTJ	Rp 1	200,663,349,620	33,374,589,747	264,575,923,591	32,093,468,012
98	UNIC	\$ 1	13,926,977	5,659,633	16,064,885	5,650,309
99	UNIT	Rp 1	16,935,035,385	-	15,045,643,307	-
100	UNVR	Rp 1,000,000	4,384,606	-	4,729,360	29,927
101	VOKS	Rp 1	108,345,536,293	40,619,792,387	74,852,799,224	24,863,949,663

No.	Ticker	Multiplier	2011		2012	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	43,532	19,154	86,408	15,117
2	ADMG	Rp 1,000	732,187,025	85,307,161	36,870,315	8,448,700
3	AISA	Rp 1	366,939	117,901	539,218	123,772
4	AKPI	Rp 1,000	145,310,218	32,296,987	134,001,444	35,154,271
5	ALKA	Rp 1,000	19,330,143	138,685	8,615,338	1,778,142
6	ALMI	Rp 1	170,260,467,594	37,115,944,182	79,497,587,958	32,310,516,595
7	AMFG	Rp 1,000	587,928	-	611,477	-
8	APLI	Rp 1	29,331,263,095	274,733,878	20,448,861,479	869,987,961
9	ARGO	Rp 1,000	(13,232,482)	9,240,543	(1,576,643)	63,789,257
10	ARNA	Rp 1	200,054,386,365	20,634,976,309	277,667,675,537	13,251,326,556
11	ASII	Rp 1,000,000	22,602	710	25,803	1,021
12	AUTO	Rp 1,000,000	677,809	55,549	691,464	99,586
13	BATA	Rp 1,000	101,419,870	2,554,959	121,218,265	1,140,594
14	BIMA	Rp 1	17,896,988,675	3,643,614,252	20,658,102,594	4,309,928,152
15	BRAM	Rp 1	257,609,542	6,177,115	38,029,203	921,776
16	BRNA	Rp 1	120,294,909	24,964,807	155,212,341	28,500,144
17	BRPT	Rp 1	82,359	220,773	6,520	51,955
18	BTON	Rp 1	20,777,537,514	-	32,188,110,196	-
19	BUDI	Rp 1,000,000	278,803	61,136	188,972	70,890
20	CEKA	Rp 1	165,728,295,784	19,391,959,708	109,854,283,326	12,664,036,128
21	CPIN	Rp 1,000,000	3,181,096	63,009	3,711,822	119,566
22	CTBN	\$ 1	67,317,149	2,101,414	48,691,785	1,443,688
23	DLTA	Rp 1,000	224,732,193	-	300,467,783	-
24	DPNS	Rp 1	(5,755,221,093)	207,550,093	25,001,437,202	48,973,149
25	DVLA	Rp 1,000	185,385,017	-	225,263,131	-
26	EKAD	Rp 1	46,884,819,029	5,623,134,511	59,571,302,631	4,337,376,214
27	ERTX	Rp 1,000	1,922,788	13,437,986	(1,890,285)	9,007,917

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2011		2012	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
28	ESTI	Rp 1	41,948,512,919	6,800,306,618	(1,133,282)	1,161,303
29	FASW	Rp 1	610,710,263,376	179,439,034,432	522,964,878,453	131,107,701,318
30	FPNI	Rp 1	4,615	5,296	6,776	5,771
31	GDYR	Rp 1,000	26,060,763	856,869	22,624,334	1,009,453
32	GGRM	Rp 1,000,000	7,716,348	253,002	7,049,525	495,035
33	GJTL	Rp 1,000,000	1,409,655	346,810	2,116,838	387,761
34	HDTX	Rp 1	68,606,182,199	19,636,088,697	60,974,635,049	12,901,414,122
35	HMSP	Rp 1,000,000	11,160,733	21,673	13,813,002	34,684
36	IGAR	Rp 1	76,729,718,958	570,435,898	69,933,880,247	999,622,202
37	IKAI	Rp 1	(16,015,287,471)	12,121,539,027	(11,077,843,495)	12,392,250,235
38	IKBI	Rp 1	-	-	-	-
39	IMAS	Rp 1	1,130,681,568,028	210,332,227,696	1,315,745,243,159	327,250,971,716
40	INAF	Rp 1	102,611,294,103	21,276,945,453	94,969,533,367	20,925,936,771
41	INAI	Rp 1	53,051,993,888	12,586,605,322	56,182,545,874	20,577,692,830
42	INCI	Rp 1	(6,278,042,534)	143,523,344	2,153,368,911	164,066,872
43	INDF	Rp 1	7,831,448	936,060	7,998,653	1,082,297
44	INDR	\$ 1	37,106,824	2,112,148	48,054,564	2,065,039
45	INDS	Rp 1	201,161,664,939	35,328,852,256	265,831,604,951	33,999,515,183
46	INKP	\$ 1	327,687	74,675	319,414	94,859
47	INTP	Rp 1	5,082,331	23,848	6,650,083	32,424
48	JECC	Rp 1,000	74,511,144	11,352,468	93,593,390	12,152,053
49	JKSW	Rp 1	(2,914,952,524)	39,716,531	(17,160,195,131)	14,982,285
50	JPFA	Rp 1	1,333,397	331,404	1,950,988	437,531
51	JPRS	Rp 1	41,281,425,718	2,715,367,356	11,646,476,173	2,334,014,186
52	KAEF	Rp 1	250,136,809,122	12,059,178,398	315,853,344,571	6,872,403,387
53	KBLI	Rp 1	115,403,089,245	3,474,100,480	206,706,642,695	6,078,185,514
54	KBLM	Rp 1	56,106,629,141	12,728,620,772	80,306,648,319	20,118,183,724
55	KDSI	Rp 1	55,528,936,449	16,725,907,129	70,291,235,849	10,073,217,037
56	KICI	Rp 1	977,274,855	406,303,102	4,124,452,709	501,529,372
57	KLBF	Rp 1	2,165,383,278,276	13,172,498,498	2,618,398,605,785	17,513,612,249
58	LION	Rp 1	62,410,887,735	-	100,769,499,532	-
59	LMPI	Rp 1	44,645,161,504	15,341,990,065	55,923,544,056	23,360,909,410
60	LMSH	Rp 1	17,779,837,311	1,187,722,033	47,049,202,781	644,878,361
61	LPIN	Rp 1	11,820,184,264	287,364,013	12,156,188,917	954,954,427
62	MERK	Rp 1,000	289,646,047	422,810	152,083,348	382,781
63	MLBI	Rp 1,000,000	786,186	5,742	601,886	6,362
64	MLIA	Rp 1,000	890,215,676	258,914,149	671,349,342	229,163,339
65	MRAT	Rp 1	49,057,987,225	775,812,926	51,711,321,961	1,125,164,969
66	MYOR	Rp 1	955,800,725,532	123,856,315,729	1,428,013,051,513	223,360,619,855
67	NIPS	Rp 1	51,412,510,648	16,146,257,674	66,944,224,735	21,316,731,097
68	PBRX	Rp 1	139,903,267,549	29,212,953,895	194,868,676,004	34,894,964,875
69	PICO	Rp 1	67,566,442,442	34,515,092,464	64,303,559,140	34,800,576,897
70	POLY	Rp 1	611,539,364,715	142,803,764,229	63,687,832	18,245,491
71	PRAS	Rp 1	41,685,329,553	17,694,174,629	44,771,603,914	15,086,113,733
72	PSDN	Rp 1	65,971,029,504	11,633,675,196	90,913,197,959	17,023,982,788
73	PYFA	Rp 1	13,020,743,754	991,426,940	15,102,459,029	1,882,757,817
74	RICY	Rp 1	48,536,560,420	15,568,622,805	69,623,060,789	22,813,577,392
75	RMBA	Rp 1	779,910	160,183	(70,262)	227,848
76	SCCO	Rp 1	188,986,270,589	17,717,780,323	235,552,520,524	18,439,181,140

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2011		2012	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
77	SIMA	Rp 1	(5,079,176,414)	25,535,797,026	(4,496,538,452)	8,990,920
78	SIPD	Rp 1	197,753,486,997	87,790,617,495	242,914,247,328	122,557,991,175
79	SKLT	Rp 1	19,389,414,322	3,510,195,288	24,408,154,430	3,081,039,186
80	SMCB	Rp 1,000,000	2,322,603	192,445	2,609,672	181,992
81	SMGR	Rp 1,000	5,453,307,678	27,600,922	6,928,216,466	104,793,091
82	SMSM	Rp 1	386,471,855,752	28,401,310,609	474,639,975,802	29,597,455,959
83	SPMA	Rp 1	167,410,594,349	43,067,152,253	205,342,959,941	47,300,718,124
84	SQBI	Rp 1,000	171,744,348	-	182,711,009	-
85	SRSN	Rp 1,000	49,720,568	4,808,873	41,393,061	5,492,682
86	SSTM	Rp 1	4,533,791,749	34,880,071,626	8,807,854,914	30,820,023,321
87	STTP	Rp 1	105,877,326,714	9,864,831,055	170,892,246,251	26,866,970,612
88	SULI	Rp 1	(78,440,140,857)	100,356,382,226	(106,140,858,017)	120,254,379,995
89	TBMS	Rp 1	61,721,626,103	17,195,663,016	5,386,730	822,500
90	TCID	Rp 1	254,349,108,267	-	276,279,211,939	-
91	TFCO	\$ 1	50,248,768	1,131,291	22,310,797	692,643
92	TIRT	Rp 1	41,497,590,659	16,943,505,473	1,446,401,178	12,483,518,796
93	TKIM	\$ 1	187,741	34,493	169,889	60,331
94	TOTO	Rp 1	351,541,132,494	12,925,825,299	403,217,820,686	11,650,595,380
95	TRST	Rp 1	295,055,289,461	10,988,044,915	216,281,993,285	16,992,079,566
96	TSPC	Rp 1	761,039,952,737	8,632,340,549	846,868,316,448	6,925,496,960
97	ULTJ	Rp 1	294,599,603,347	27,643,885,877	550,413,965,076	11,948,954,781
98	UNIC	\$ 1	22,304,820	4,849,432	17,683,842	4,474,854
99	UNIT	Rp 1	16,460,714,229	-	30,413,898,204	11,219,982,289
100	UNVR	Rp 1,000,000	5,734,221	26,500	6,790,107	68,887
101	VOKS	Rp 1	198,080,385,212	20,296,966,622	250,644,074,310	19,048,656,469

No.	Ticker	Multiplier	2013		2014	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	75,051	10,905	77,185	8,530
2	ADMG	Rp 1,000	31,075,783	7,102,451	1,972,556	6,416,621
3	AISA	Rp 1	698,123	157,597	779,228	183,918
4	AKPI	Rp 1,000	145,244,782	40,536,654	165,228,236	48,501,307
5	ALKA	Rp 1,000	2,134,849	1,839,121	3,255,043	2,717,959
6	ALMI	Rp 1	142,275,533,399	47,051,082,345	124,183,776,697	87,477,557,573
7	AMFG	Rp 1,000	609,771	-	756,777	-
8	APLI	Rp 1	18,666,091,432	973,405,382	31,483,360,255	354,858,864
9	ARGO	Rp 1,000	222,949,364	69,831,384	(14,563,340)	9,249,672
10	ARNA	Rp 1	324,728,156,037	9,639,641,584	424,132,795,529	5,768,209,981
11	ASII	Rp 1,000,000	25,100	1,109	26,703	1,375
12	AUTO	Rp 1,000,000	972,979	87,265	837,923	97,384
13	BATA	Rp 1,000	88,368,055	1,756,324	138,057,173	4,374,404
14	BIMA	Rp 1	20,835,558,814	6,171,633,667	23,316,479,897	7,204,205,126
15	BRAM	Rp 1	23,911,001	1,113,501	35,316,025	2,137,801
16	BRNA	Rp 1	84,849,904	39,514,276	210,019,247	59,931,157
17	BRPT	Rp 1	85,575	28,902	109,854	38,224
18	BTON	Rp 1	30,017,440,742	-	8,642,939,424	-
19	BUDI	Rp 1,000,000	281,401	88,498	253,698	108,849
20	CEKA	Rp 1	109,148,850,695	11,693,768,315	116,604,363,181	40,843,574,289

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2013		2014	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
21	CPIN	Rp 1,000,000	3,909,986	148,329	2,828,873	284,227
22	CTBN	\$ 1	57,353,237	1,699,649	40,527,815	956,093
23	DLTA	Rp 1,000	353,513,168	-	374,539,093	-
24	DPNS	Rp 1	44,753,874,094	-	19,324,986,575	-
25	DVLA	Rp 1,000	199,490,595	-	130,223,450	-
26	EKAD	Rp 1	69,226,686,117	3,895,602,222	75,480,133,138	4,826,471,907
27	ERTX	Rp 1,000	2,439,098	1,156,966	4,365,160	1,087,300
28	ESTI	Rp 1	(2,237,969)	1,287,947	(2,471,832)	1,279,029
29	FASW	Rp 1	722,296,266,149	141,431,525,098	571,057,184,085	136,949,160,176
30	FPNI	Rp 1	10,083	8,452	8,813	3,457
31	GDYR	Rp 1,000	22,538,266	861,458	16,422,394	791,639
32	GGRM	Rp 1,000,000	7,799,774	755,518	10,070,989	1,371,811
33	GJTL	Rp 1,000,000	1,870,372	576,137	1,728,107	621,108
34	HDTX	Rp 1	(278,204,109)	15,936,644,270	(39,840,491,735)	8,812,691,244
35	HMSP	Rp 1,000,000	15,094,970	69,075	14,372,208	47,416
36	IGAR	Rp 1	58,394,684,518	1,193,957,849	86,989,780,392	1,418,078,545
37	IKAI	Rp 1	7,685,312,930	11,473,783,908	16,991,954,930	12,011,587,879
38	IKBI	Rp 1	8,348,650	66,148	4,794,575	52,870
39	IMAS	Rp 1	1,348,816,840,064	517,425,968,697	1,480,817,325,899	752,981,716,933
40	INAF	Rp 1	(20,620,241,403)	30,862,196,026	60,183,839,338	38,997,531,449
41	INAI	Rp 1	45,064,285,540	12,537,952,736	41,311,825,337	16,245,549,751
42	INCI	Rp 1	8,752,396,180	175,822,127	8,191,588,475	240,452,220
43	INDF	Rp 1	8,262,545	2,772,827	9,176,812	1,552,958
44	INDR	\$ 1	55,541,197	2,619,773	58,070,708	4,490,044
45	INDS	Rp 1	266,945,018,394	30,415,644,467	262,141,907,759	27,430,861,802
46	INKP	\$ 1	435,082	143,546	477,299	114,341
47	INTP	Rp 1	6,873,539	50,971	6,853,090	21,527
48	JECC	Rp 1,000	153,814,571	29,460,515	113,664,923	39,293,769
49	JKSW	Rp 1	(7,511,047,898)	21,951,672	(9,534,578,890)	17,197,715
50	JPFA	Rp 1	2,175,476	510,232	1,743,530	694,151
51	JPRS	Rp 1	12,486,850,089	916,609,306	(8,149,023,043)	1,670,268,290
52	KAEF	Rp 1	324,728,156,037	9,639,641,584	381,813,771,243	26,869,685,416
53	KBLI	Rp 1	200,348,341,517	10,254,472,750	140,405,494,409	10,246,034,489
54	KBLM	Rp 1	79,838,429,172	20,221,092,110	67,404,213,576	20,658,598,267
55	KDSI	Rp 1	65,060,197,867	16,570,055,763	106,670,443,493	32,126,172,848
56	KICI	Rp 1	12,456,143,928	595,908,528	7,475,700,071	818,231,648
57	KLBF	Rp 1	2,804,318,134,057	28,642,082,811	3,069,278,103,361	52,009,056,900
58	LION	Rp 1	78,927,623,763	-	62,552,399,872	-
59	LMPI	Rp 1	55,497,104,757	29,383,094,161	55,653,511,436	32,873,170,855
60	LMSH	Rp 1	19,980,822,991	531,606,916	10,928,783,574	601,083,060
61	LPIN	Rp 1	7,063,674,768	733,361,911	343,264,786	1,378,580,080
62	MERK	Rp 1,000	240,682,351	417,998	211,301,622	303,087
63	MLBI	Rp 1,000,000	1,677,603	6,646	1,305,386	80,032
64	MLIA	Rp 1,000	850,645,714	322,279,754	851,710,104	329,152,950
65	MRAT	Rp 1	1,894,702,719	1,558,774,630	21,524,502,130	2,688,038,171
66	MYOR	Rp 1	1,669,207,213,354	256,841,148,674	1,302,280,393,047	358,432,961,457
67	NIPS	Rp 1	92,854,820	31,279,066	126,637,589	37,471,094
68	PBRX	Rp 1	26,011,682	5,171,185	21,655,192	6,699,800
69	PICO	Rp 1	72,958,693,493	36,639,065,401	68,809,021,435	38,958,859,281

APPENDIX 4: Screening for Financial Distressed Firms – Raw Data (Cont'd)

No.	Ticker	Multiplier	2013		2014	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
70	POLY	Rp 1	35,830,523	16,616,447	(9,321,593)	14,848,320
71	PRAS	Rp 1	58,853,111,791	16,335,671,253	48,796,492,626	25,292,172,624
72	PSDN	Rp 1	77,866,941,803	15,038,748,966	14,565,432,601	11,689,228,786
73	PYFA	Rp 1	17,717,571,283	3,215,100,408	18,210,357,468	5,989,504,992
74	RICY	Rp 1	144,466,806,609	43,891,865,800	96,776,849,475	47,496,961,567
75	RMBA	Rp 1	(837,295)	314,393	(809,754)	734,596
76	SCCO	Rp 1	181,453,377,371	16,763,294,005	248,995,211,364	52,524,848,582
77	SIMA	Rp 1	(5,931,188,148)	6,993,352	3,585,331,108	9,239,820
78	SIPD	Rp 1	255,018,488,908	149,932,393,236	108,005,546,017	158,260,181,729
79	SKLT	Rp 1	34,193,071,695	5,178,831,215	43,747,769,968	6,627,654,733
80	SMCB	Rp 1,000,000	2,447,803	521,315	1,988,908	290,785
81	SMGR	Rp 1,000	6,972,384,811	340,168,567	8,216,307,932	382,919,122
82	SMSM	Rp 1	494,267,089,137	30,304,009,765	674,323	28,469
83	SPMA	Rp 1	215,743,022,490	53,413,758,519	222,986,561,873	67,705,278,417
84	SQBI	Rp 1,000	197,669,991	-	222,638,953	-
85	SRSN	Rp 1,000	50,320,317	7,271,993	50,531,330	9,969,083
86	SSTM	Rp 1	33,134,436,899	35,958,425,147	12,907,616,607	33,326,812,245
87	STTP	Rp 1	232,549,926,113	38,432,553,147	277,897,705,105	59,032,724,130
88	SULI	Rp 1	3,716	224,416	20,754	56,533
89	TBMS	Rp 1	(1,738,832)	707,386	9,028,981	1,164,837
90	TCID	Rp 1	295,972,549,034	-	328,498,620,079	-
91	TFCO	\$ 1	5,606,833	1,092,030	10,575,979	976,920
92	TIRT	Rp 1	(86,163,588,903)	15,773,336,118	82,213,289,712	17,577,310,060
93	TKIM	\$ 1	119,239	52,069	110,212	45,091
94	TOTO	Rp 1	395,637,370,566	15,002,417,990	460,510,882,712	15,434,350,502
95	TRST	Rp 1	221,437,394,748	24,523,864,571	252,726,652,529	42,873,980,558
96	TSPC	Rp 1	852,976,004,575	7,297,688,177	787,166,527,784	9,681,023,156
97	ULTJ	Rp 1	548,554,535,539	7,955,069,915	516,521,616,125	4,063,182,474
98	UNIC	\$ 1	29,713,291	5,003,517	10,970,848	3,679,254
99	UNIT	Rp 1	47,268,492,570	21,905,246,481	50,957,423,320	24,065,530,866
100	UNVR	Rp 1,000,000	7,621,491	20,107	8,116,782	96,064
101	VOKS	Rp 1	164,379,957,370	19,349,966,046	15,825,269,066	36,473,625,275

No.	Ticker	Multiplier	2015		2016	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
1	ADES	Rp 1,000,000	68,621	12,160	108,205	17,094
2	ADMG	Rp 1,000	4,848,357	5,397,567	(1,201,234)	4,977,003
3	AISA	Rp 1	866,888	228,393	1,409,734	368,337
4	AKPI	Rp 1,000	159,875,404	46,595,842	212,484,908	58,764,469
5	ALKA	Rp 1,000	8,334,370	6,041,224	5,980,389	4,306,218
6	ALMI	Rp 1	50,618,413,875	64,526,434,556	24,308,182,620	44,196,441,226
7	AMFG	Rp 1,000	640,593	-	582,453	12,483
8	APLI	Rp 1	19,973,007,969	2,312,700,365	51,323,699,931	1,498,614,645
9	ARGO	Rp 1,000	(669,707)	3,424,736	(16,601,227)	3,413,027
10	ARNA	Rp 1	178,093,834,109	8,484,909,022	241,246,489,330	19,166,879,525
11	ASII	Rp 1,000,000	23,816	1,370	23,766	1,745
12	AUTO	Rp 1,000,000	787,928	173,063	907,634	124,222

**APPENDIX 4: Screening for Financial Distressed Firms – Raw Data
(Cont'd)**

No.	Ticker	Multiplier	2015		2016	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
13	BATA	Rp 1,000	187,593,108	6,207,256	99,396,232	981,399
14	BIMA	Rp 1	23,610,644,612	7,521,754,761	26,692,684,442	6,439,187,229
15	BRAM	Rp 1	35,330,398	4,231,918	48,036,266	3,435,415
16	BRNA	Rp 1	200,437,479	77,407,160	240,393,969	91,057,484
17	BRPT	Rp 1	141,849	28,522	499,136	38,202
18	BTON	Rp 1	7,667,484,184	-	(8,687,139,354)	-
19	BUDI	Rp 1,000,000	227,720	108,735	279,498	118,829
20	CEKA	Rp 1	187,916,112,535	34,959,573,378	340,101,561,481	38,637,097,859
21	CPIN	Rp 1,000,000	4,173,620	642,227	5,185,155	647,186
22	CTBN	\$ 1	13,710,549	776,212	5,849,484	721,054
23	DLTA	Rp 1,000	245,230,036	-	313,064,527	-
24	DPNS	Rp 1	13,940,855,446	-	14,254,816,773	-
25	DVLA	Rp 1,000	165,432,020	-	244,002,752	-
26	EKAD	Rp 1	86,678,787,141	5,162,159,128	133,912,014,066	3,069,890,000
27	ERTX	Rp 1,000	7,050,351	1,101,096	4,174,388	1,086,940
28	ESTI	Rp 1	(2,530,188)	1,149,210	416,054	762,020
29	FASW	Rp 1	410,149,180,924	149,990,960,539	1,190,356,958,514	197,218,802,309
30	FPNI	Rp 1	20,613	10,232	16,735	132
31	GDYR	Rp 1,000	14,356,514	1,001,974	14,792,473	858,248
32	GGRM	Rp 1,000,000	11,812,437	1,429,592	12,207,607	1,190,902
33	GJTL	Rp 1,000,000	1,754,849	738,946	2,280,328	747,094
34	HDTX	Rp 1	(212,027,215)	28,393,824	22,556,464	298,678,166
35	HMSP	Rp 1,000,000	14,702,837	138,425	16,744,514	22,324
36	IGAR	Rp 1	76,104,442,574	1,274,042,286	103,519,138,937	780,144,091
37	IKAI	Rp 1	(14,920,559,426)	12,491,992,273	(153,648,297,132)	6,964,561,746
38	IKBI	Rp 1	5,085,878	34,323	7,008,902	16,692
39	IMAS	Rp 1	1,568,056,745,808	763,876,361,796	1,053,885,062,130	807,222,167,439
40	INAF	Rp 1	65,810,777,625	40,779,317,582	45,461,932,534	52,431,466,752
41	INAI	Rp 1	84,862,658,179	44,700,589,872	97,392,244,488	31,134,758,228
42	INCI	Rp 1	16,523,245,679	249,178,091	22,746,501,805	356,410,905
43	INDF	Rp 1	9,230,211	2,665,675	10,390,687	1,574,152
44	INDR	\$ 1	45,286,303	5,536,215	60,698,279	10,226,947
45	INDS	Rp 1	128,720,325,304	38,388,630,931	190,001,254,505	30,735,563,856
46	INKP	\$ 1	623,424	108,466	576,955	117,241
47	INTP	Rp 1	6,002,908	26,543	4,637,875	11,823
48	JECC	Rp 1,000	135,349,919	39,662,342	263,943,626	43,665,435
49	JKSW	Rp 1	(23,077,848,884)	18,642,125	5,621,769,628	27,624,363
50	JPFA	Rp 1	2,288,633	681,060	3,546,721	510,465
51	JPRS	Rp 1	(25,247,099,373)	2,500,953,988	(23,791,372,807)	225,613,420
52	KAEF	Rp 1	422,650,836,395	36,142,085,430	494,273,833,804	59,798,179,173
53	KBLI	Rp 1	195,039,752,107	20,207,975,018	429,996,373,811	16,817,006,684
54	KBLM	Rp 1	76,753,707,371	15,815,522,439	86,303,122,852	11,104,740,194
55	KDSI	Rp 1	78,534,167,043	40,384,643,352	132,446,781,060	42,475,454,115
56	KICI	Rp 1	3,890,730,520	949,388,878	4,254,965,193	946,288,728
57	KLBF	Rp 1	2,997,951,268,055	23,918,010,816	3,453,717,938,711	28,148,525,280
58	LION	Rp 1	62,311,914,299	-	60,158,194,750	2,046,041,664
59	LMPI	Rp 1	59,831,131,198	32,026,697,070	49,055,584,465	30,942,898,687
60	LMSH	Rp 1	4,073,709,066	488,106,850	9,995,176,716	253,661,528

**APPENDIX 4: Screening for Financial Distressed Firms – Raw Data
(Cont'd)**

No.	Ticker	Multiplier	2015		2016	
			EBITDA	Int. Exp.	EBITDA	Int. Exp.
61	LPIN	Rp 1	8,711,763,623	10,980,692,259	(48,819,764,636)	35,428,608,083
62	MERK	Rp 1,000	198,389,601	17,173	226,707,570	323,344
63	MLBI	Rp 1,000,000	1,135,134	43,976	1,568,370	77,143
64	MLIA	Rp 1,000	549,293,795	313,360,099	557,834,168	346,709,599
65	MRAT	Rp 1	13,944,142,294	3,665,411,293	7,595,820,812	4,747,208,360
66	MYOR	Rp 1	2,331,484,828,776	378,651,540,837	2,829,921,713,298	356,714,077,463
67	NIPS	Rp 1	111,276,613	42,913,801	155,015,055	45,580,276
68	PBRX	Rp 1	28,478,392	7,273,181	38,911,277	8,267,766
69	PICO	Rp 1	62,490,140,870	43,951,173,501	63,805,281,621	41,086,626,385
70	POLY	Rp 1	(11,092,183)	7,863,850	(692,695)	4,451,148
71	PRAS	Rp 1	93,985,206,369	32,099,080,257	77,615,274,295	44,247,927,621
72	PSDN	Rp 1	3,680,245,785	13,495,559,390	27,091,791,072	15,024,667,341
73	PYFA	Rp 1	20,140,882,432	5,586,440,483	19,679,098,511	3,470,406,779
74	RICY	Rp 1	137,929,005,223	53,291,912,699	107,982,058,499	61,345,447,564
75	RMBA	Rp 1	(635,252)	1,084,448	(466,043)	661,201
76	SCCO	Rp 1	251,140,416,735	43,021,086,172	439,642,078,953	30,367,887,708
77	SIMA	Rp 1	(739,787,342)	6,904,128	396,016,000	330,560,140
78	SIPD	Rp 1	(195,442,173,135)	129,243,720,389	139,543,380,803	106,578,193,545
79	SKLT	Rp 1	49,624,477,421	8,527,787,807	50,061,995,588	8,758,342,493
80	SMCB	Rp 1,000,000	1,245,218	563,661	1,405,142	386,018
81	SMGR	Rp 1,000	7,326,466,284	370,004,717	6,610,643,662	363,493,284
82	SMSM	Rp 1	718,130	25,420	777,475	15,438
83	SPMA	Rp 1	206,450,110,362	95,985,121,039	261,204,762,425	79,797,659,019
84	SQBI	Rp 1,000	193,102,120	-	215,353,852	-
85	SRSN	Rp 1,000	44,039,492	14,806,577	30,326,760	18,237,708
86	SSTM	Rp 1	12,065,739,152	30,999,649,750	12,287,017,948	29,791,603,689
87	STTP	Rp 1	353,529,403,012	69,213,223,652	334,309,946,280	86,645,961,692
88	SULI	Rp 1	7,283,363	3,695,635	9,770,467	6,151,720
89	TBMS	Rp 1	7,656,888	2,280,055	15,735,619	4,277,888
90	TCID	Rp 1	319,773,214,006	469,671,111	346,981,576,484	-
91	TFCO	\$ 1	14,890,139	435,483	19,680,256	101,319
92	TIRT	Rp 1	77,362,821,679	20,063,505,315	68,141,180,153	21,614,391,334
93	TKIM	\$ 1	102,492	40,186	99,419	37,252
94	TOTO	Rp 1	482,130,856,249	18,203,078,448	357,579,599,445	18,090,664,270
95	TRST	Rp 1	264,312,496,838	37,741,951,560	240,587,795,371	36,318,980,551
96	TSPC	Rp 1	825,592,528,323	5,803,931,529	833,263,412,847	8,026,998,259
97	ULTJ	Rp 1	845,785,086,435	2,314,561,134	1,040,743,320,140	2,057,013,064
98	UNIC	\$ 1	8,555,104	3,386,044	19,661,667	3,147,931
99	UNIT	Rp 1	51,314,056,063	30,779,722,250	46,279,838,459	24,571,993,369
100	UNVR	Rp 1,000,000	8,422,704	120,527	9,237,276	143,244
101	VOKS	Rp 1	145,958,151,450	52,909,798,958	335,207,517,905	69,994,185,988

APPENDIX 5: Screening for Financial Distressed Firms – Ratio

No.	Ticker	2005	2006	2007	2008	2009	2010
1	ADES	(11.59)	(4.97)	(3.12)	(6.33)	13.00	7.38
2	ADMG	8.47	(4.50)	9.25	6.08	5.27	4.47
3	AISA	1.99	1.44	2.26	2.76	2.61	2.50
4	AKPI	4.18	3.16	4.00	5.42	8.89	8.50
5	ALKA	32.15	24.75	#DIV/0!	#DIV/0!	#DIV/0!	17.97
6	ALMI	6.94	4.26	3.15	2.24	0.59	2.61
7	AMFG	55.93	12.46	36.73	464.93	936.79	#DIV/0!
8	APLI	1.21	2.09	3.33	5.90	8.95	40.56
9	ARGO	0.01	(0.02)	0.85	(0.85)	(1.36)	1.11
10	ARNA	5.45	4.41	5.03	5.39	4.54	5.82
11	ASII	19.11	9.17	15.94	28.17	33.20	38.97
12	AUTO	17.62	7.10	15.26	24.31	36.57	25.05
13	BATA	8.28	8.14	65.71	56.22	18.74	23.99
14	BIMA	(29.64)	28.11	57.39	81.03	22.76	13.70
15	BRAM	6.50	3.74	5.11	7.26	17.82	672.86
16	BRNA	2.08	1.93	2.51	3.77	3.03	4.49
17	BRPT	(1.82)	(10.38)	(0.57)	(3.36)	7.47	2.57
18	BTON	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	BUDI	2.43	2.21	4.37	4.45	4.70	3.64
20	CEKA	3.51	4.65	11.07	6.94	4.43	3.65
21	CPIN	2.78	2.94	2.78	4.16	10.85	52.80
22	CTBN	111.69	167.20	30.52	22.29	7.68	13.95
23	DLTA	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	DPNS	30.67	87.55	15.45	(230.28)	1,374.24	82.13
25	DVLA	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	EKAD	#DIV/0!	#DIV/0!	#DIV/0!	6.78	7.89	8.02
27	ERTX	1.48	0.97	1.01	(1.28)	(1.55)	(2.76)
28	ESTI	6.16	3.30	2.62	3.48	3.81	4.74
29	FASW	3.55	2.55	3.09	2.35	3.21	4.34
30	FPNI	(0.39)	(0.07)	(0.66)	4.07	33.41	2.98
31	GDYR	75.70	163.56	350.75	16.58	12.67	17.01
32	GGRM	6.90	4.71	9.61	7.07	13.34	27.95
33	GJTL	3.79	1.70	2.34	1.95	3.57	4.54
34	HDTX	5.79	22.89	11.11	2.21	2.52	3.24
35	HMSP	14.02	23.87	32.44	39.96	46.98	251.91
36	IGAR	8.46	5.82	8.75	6.75	40.72	145.01
37	IKAI	5.09	1.91	2.47	2.99	1.07	6.69
38	IKBI	147.29	235.60	323.07	396.43	214.29	65.17
39	IMAS	0.81	(0.65)	0.82	2.25	7.00	2.16
40	INAF	3.01	4.43	3.41	2.40	1.59	2.81
41	INAI	0.53	1.05	1.16	1.56	1.30	1.94
42	INCI	25.68	136.51	19.79	9.49	47.79	(59.04)
43	INDF	2.65	3.08	4.91	4.36	3.82	6.52
44	INDR	3.87	2.74	2.89	4.08	5.51	29.24

APPENDIX 5: Screening for Financial Distressed Firms – Ratio (Cont'd)

No.	Ticker	2005	2006	2007	2008	2009	2010
45	INDS	3.33	0.44	4.76	12.29	3.16	6.76
46	INKP	3.12	4.15	6.00	6.20	3.56	5.10
47	INTP	6.38	5.26	10.95	24.74	107.15	288.58
48	JECC	1.71	1.16	3.30	4.99	2.00	1.08
49	JKSW	584.06	480.32	(1,128.62)	(412.22)	429.29	105.71
50	JPFA	6.85	6.42	5.68	3.95	9.53	8.32
51	JPRS	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	35.26	22.81
52	KAEF	13.96	8.25	15.63	7.82	5.56	12.01
53	KBLI	10.53	6.03	9.16	40.44	23.96	25.69
54	KBLM	1.28	2.71	4.56	2.22	2.42	3.32
55	KDSI	2.06	2.24	4.39	3.95	3.24	3.18
56	KICI	(0.73)	(2.74)	#DIV/0!	#DIV/0!	#DIV/0!	8.74
57	KLBF	13.29	17.31	22.98	25.38	32.97	95.96
58	LION	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
59	LMPI	2.55	3.62	3.48	3.58	3.20	3.51
60	LMSH	11.25	5.80	12.33	12.08	5.20	8.36
61	LPIN	(0.82)	(0.59)	4.00	2.22	10.76	18.67
62	MERK	146.32	338.05	268.46	504.46	233.32	207.59
63	MLBI	193.82	43.73	110.95	#DIV/0!	#DIV/0!	#DIV/0!
64	MLIA	0.65	(0.08)	0.26	78.19	60.98	15.06
65	MRAT	14.45	19.16	21.71	28.86	45.74	53.83
66	MYOR	4.80	6.20	7.67	7.70	7.59	10.76
67	NIPS	2.81	1.99	2.63	2.81	1.03	3.29
68	PBRX	8.69	3.04	2.57	2.78	2.07	3.26
69	PICO	1.82	1.71	1.93	2.35	2.16	2.06
70	POLY	0.52	(0.80)	0.53	0.27	3.48	9.91
71	PRAS	5.57	2.28	3.58	2.27	0.43	1.77
72	PSDN	4.26	2.61	3.06	6.97	5.25	7.19
73	PYFA	7.51	5.31	4.79	6.54	6.53	8.39
74	RICY	4.67	3.69	3.53	2.04	0.93	1.82
75	RMBA	0.80	4.72	4.45	2.86	2.24	4.03
76	SCCO	4.27	4.76	5.04	2.18	1.68	6.14
77	SIMA	12.52	9.06	(0.60)	(1.28)	(9.32)	(3.58)
78	SIPD	(42.57)	55.79	17.75	4.47	3.36	3.86
79	SKLT	(2.14)	5.08	4.93	7.16	3.09	5.27
80	SMCB	3.72	2.78	5.66	6.48	4.14	8.06
81	SMGR	12.77	27.64	244.15	147.42	234.18	190.18
82	SMSM	10.54	15.04	18.85	4.76	28.90	12.80
83	SPMA	2.87	2.35	3.03	2.73	2.52	4.46
84	SQBI	431.36	968.92	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
85	SRSN	1.61	3.56	4.54	8.35	4.07	4.21
86	SSTM	0.41	0.22	1.07	0.20	1.06	0.53
87	STTP	14.61	67.05	36.52	5.29	8.76	13.21
88	SULI	10.71	(0.58)	5.68	1.89	(0.34)	0.51
89	TBMS	2.15	1.70	2.00	4.03	4.61	7.59

APPENDIX 5: Screening for Financial Distressed Firms – Ratio (Cont'd)

No.	Ticker	2005	2006	2007	2008	2009	2010
90	TCID	13,331.11	1,479.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
91	TFCO	0.38	(0.80)	0.08	(0.91)	(0.00)	8.83
92	TIRT	2.25	0.68	2.09	0.92	0.88	1.11
93	TKIM	4.36	2.80	4.56	4.88	4.68	4.67
94	TOTO	11.73	8.40	9.17	14.35	28.65	38.67
95	TRST	4.71	2.38	3.88	5.09	6.49	17.98
96	TSPC	92.22	95.48	124.89	140.13	135.24	91.96
97	ULTJ	2.15	2.74	3.46	0.18	6.01	8.24
98	UNIC	1.92	7.82	2.20	3.21	2.46	2.84
99	UNIT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
100	UNVR	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	158.03
101	VOKS	2.12	22.30	15.64	9.32	2.67	3.01
No.	Ticker	2011	2012	2013	2014	2015	2016
1	ADES	2.27	5.72	6.88	9.05	5.64	6.33
2	ADMG	8.58	4.36	4.38	0.31	0.90	(0.24)
3	AISA	3.11	4.36	4.43	4.24	3.80	3.83
4	AKPI	4.50	3.81	3.58	3.41	3.43	3.62
5	ALKA	139.38	4.85	1.16	1.20	1.38	1.39
6	ALMI	4.59	2.46	3.02	1.42	0.78	0.55
7	AMFG	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	46.66
8	APLI	106.76	23.50	19.18	88.72	8.64	34.25
9	ARGO	(1.43)	(0.02)	3.19	(1.57)	(0.20)	(4.86)
10	ARNA	9.69	20.95	33.69	73.53	20.99	12.59
11	ASII	31.83	25.27	22.63	19.42	17.38	13.62
12	AUTO	12.20	6.94	11.15	8.60	4.55	7.31
13	BATA	39.70	106.28	50.31	31.56	30.22	101.28
14	BIMA	4.91	4.79	3.38	3.24	3.14	4.15
15	BRAM	41.70	41.26	21.47	16.52	8.35	13.98
16	BRNA	4.82	5.45	2.15	3.50	2.59	2.64
17	BRPT	0.37	0.13	2.96	2.87	4.97	13.07
18	BTON	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	BUDI	4.56	2.67	3.18	2.33	2.09	2.35
20	CEKA	8.55	8.67	9.33	2.85	5.38	8.80
21	CPIN	50.49	31.04	26.36	9.95	6.50	8.01
22	CTBN	32.03	33.73	33.74	42.39	17.66	8.11
23	DLTA	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	DPNS	(27.73)	510.51	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	DVLA	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	EKAD	8.34	13.73	17.77	15.64	16.79	43.62
27	ERTX	0.14	(0.21)	2.11	4.01	6.40	3.84
28	ESTI	6.17	(0.98)	(1.74)	(1.93)	(2.20)	0.55
29	FASW	3.40	3.99	5.11	4.17	2.73	6.04
30	FPNI	0.87	1.17	1.19	2.55	2.01	126.78

APPENDIX 5: Screening for Financial Distressed Firms – Ratio (Cont'd)

No.	Ticker	2011	2012	2013	2014	2015	2016
31	GDYR	30.41	22.41	26.16	20.74	14.33	17.24
32	GGRM	30.50	14.24	10.32	7.34	8.26	10.25
33	GJTL	4.06	5.46	3.25	2.78	2.37	3.05
34	HDTX	3.49	4.73	(0.02)	(4.52)	(7.47)	0.08
35	HMSP	514.96	398.25	218.53	303.11	106.22	750.07
36	IGAR	134.51	69.96	48.91	61.34	59.73	132.69
37	IKAI	(1.32)	(0.89)	0.67	1.41	(1.19)	(22.06)
38	IKBI	#DIV/0!	#DIV/0!	126.21	90.69	148.18	419.90
39	IMAS	5.38	4.02	2.61	1.97	2.05	1.31
40	INAF	4.82	4.54	(0.67)	1.54	1.61	0.87
41	INAI	4.21	2.73	3.59	2.54	1.90	3.13
42	INCI	(43.74)	13.12	49.78	34.07	66.31	63.82
43	INDF	8.37	7.39	2.98	5.91	3.46	6.60
44	INDR	17.57	23.27	21.20	12.93	8.18	5.94
45	INDS	5.69	7.82	8.78	9.56	3.35	6.18
46	INKP	4.39	3.37	3.03	4.17	5.75	4.92
47	INTP	213.11	205.10	134.85	318.35	226.16	392.28
48	JECC	6.56	7.70	5.22	2.89	3.41	6.04
49	JKSW	(73.39)	(1,145.37)	(342.16)	(554.41)	(1,237.94)	203.51
50	JPFA	4.02	4.46	4.26	2.51	3.36	6.95
51	JPRS	15.20	4.99	13.62	(4.88)	(10.09)	(105.45)
52	KAEF	20.74	45.96	33.69	14.21	11.69	8.27
53	KBLI	33.22	34.01	19.54	13.70	9.65	25.57
54	KBLM	4.41	3.99	3.95	3.26	4.85	7.77
55	KDSI	3.32	6.98	3.93	3.32	1.94	3.12
56	KICI	2.41	8.22	20.90	9.14	4.10	4.50
57	KLBF	164.39	149.51	97.91	59.01	125.34	122.70
58	LION	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	29.40
59	LMPI	2.91	2.39	1.89	1.69	1.87	1.59
60	LMSH	14.97	72.96	37.59	18.18	8.35	39.40
61	LPIN	41.13	12.73	9.63	0.25	0.79	(1.38)
62	MERK	685.05	397.31	575.80	697.16	11,552.41	701.13
63	MLBI	136.92	94.61	252.42	16.31	25.81	20.33
64	MLIA	3.44	2.93	2.64	2.59	1.75	1.61
65	MRAT	63.23	45.96	1.22	8.01	3.80	1.60
66	MYOR	7.72	6.39	6.50	3.63	6.16	7.93
67	NIPS	3.18	3.14	2.97	3.38	2.59	3.40
68	PBRX	4.79	5.58	5.03	3.23	3.92	4.71
69	PICO	1.96	1.85	1.99	1.77	1.42	1.55
70	POLY	4.28	3.49	2.16	(0.63)	(1.41)	(0.16)
71	PRAS	2.36	2.97	3.60	1.93	2.93	1.75
72	PSDN	5.67	5.34	5.18	1.25	0.27	1.80
73	PYFA	13.13	8.02	5.51	3.04	3.61	5.67
74	RICY	3.12	3.05	3.29	2.04	2.59	1.76
75	RMBA	4.87	(0.31)	(2.66)	(1.10)	(0.59)	(0.70)

APPENDIX 5: Screening for Financial Distressed Firms – Ratio (Cont'd)

No.	Ticker	2011	2012	2013	2014	2015	2016
76	SCCO	10.67	12.77	10.82	4.74	5.84	14.48
77	SIMA	(0.20)	(500.12)	(848.12)	388.03	(107.15)	1.20
78	SIPD	2.25	1.98	1.70	0.68	(1.51)	1.31
79	SKLT	5.52	7.92	6.60	6.60	5.82	5.72
80	SMCB	12.07	14.34	4.70	6.84	2.21	3.64
81	SMGR	197.58	66.11	20.50	21.46	19.80	18.19
82	SMSM	13.61	16.04	16.31	23.69	28.25	50.36
83	SPMA	3.89	4.34	4.04	3.29	2.15	3.27
84	SQBI	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
85	SRSN	10.34	7.54	6.92	5.07	2.97	1.66
86	SSTM	0.13	0.29	0.92	0.39	0.39	0.41
87	STTP	10.73	6.36	6.05	4.71	5.11	3.86
88	SULI	(0.78)	(0.88)	0.02	0.37	1.97	1.59
89	TBMS	3.59	6.55	(2.46)	7.75	3.36	3.68
90	TCID	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	680.84	#DIV/0!
91	TFCO	44.42	32.21	5.13	10.83	34.19	194.24
92	TIRT	2.45	0.12	(5.46)	4.68	3.86	3.15
93	TKIM	5.44	2.82	2.29	2.44	2.55	2.67
94	TOTO	27.20	34.61	26.37	29.84	26.49	19.77
95	TRST	26.85	12.73	9.03	5.89	7.00	6.62
96	TSPC	88.16	122.28	116.88	81.31	142.25	103.81
97	ULTJ	10.66	46.06	68.96	127.12	365.42	505.95
98	UNIC	4.60	3.95	5.94	2.98	2.53	6.25
99	UNIT	#DIV/0!	2.71	2.16	2.12	1.67	1.88
100	UNVR	216.39	98.57	379.05	84.49	69.88	64.49
101	VOKS	9.76	13.16	8.50	0.43	2.76	4.79

APPENDIX 6: Sample of Financially Distressed Firms

No.	Ticker	2005	2006	2007	2008	2009	2010
1	ADES			[X]	[X]	[X]	
2	ADMG						
3	ARGO			[X]	[X]	[X]	[X]
4	BRPT			[X]	[X]	[X]	
5	ERTX						[X]
6	ESTI						
7	FPNI			[X]	[X]		
8	HDTX						
9	IKAI						
10	IMAS			[X]	[X]		
11	INCI						
12	JKSW					[X]	
13	JPRS						
14	KICI			[X]			
15	LPIN			[X]			
16	MLIA			[X]	[X]		
17	POLY			[X]	[X]	[X]	
18	RMBA						
19	SIMA					[X]	[X]
20	SIPD						
21	SSTM			[X]			
22	SULI						
23	TFCO			[X]	[X]	[X]	[X]
24	TIRT						[X]
No.	Ticker	2011	2012	2013	2014	2015	2016
1	ADES						
2	ADMG						[X]
3	ARGO			[X]			[X]
4	BRPT			[X]			
5	ERTX	[X]	[X]	[X]			
6	ESTI				[X]	[X]	[X]
7	FPNI						
8	HDTX					[X]	[X]
9	IKAI			[X]	[X]		
10	IMAS						
11	INCI		[X]				
12	JKSW			[X]	[X]	[X]	[X]
13	JPRS						[X]
14	KICI						
15	LPIN						[X]
16	MLIA						

APPENDIX 6: Sample of Financially Distressed Firms (Cont'd)

No.	Ticker	2011	2012	2013	2014	2015	2016
17	POLY						[X]
18	RMBA				[X]	[X]	[X]
19	SIMA	[X]	[X]	[X]			
20	SIPD						[X]
21	SSTM		[X]	[X]	[X]	[X]	[X]
22	SULI	[X]	[X]	[X]	[X]	[X]	
23	TFCO						
24	TIRT				[X]		

[X]: The year when firms categorized as financially distressed firm

APPENDIX 7: Sample of Successful Financially Turnaround Firms

No.	Ticker	2005	2006	2007	2008	2009	2010
1	ADES			[X]	[X]	[X]	[SFT]
2	ERTX						[X]
3	FPNI			[X]	[X]	[SFT]	
4	IKAI						
5	IMAS			[X]	[X]	[SFT]	
6	INCI						
7	KICI			[X]	[SFT]		
8	MLIA			[X]	[X]	[SFT]	
9	SIMA					[X]	[X]
10	SULI						
11	TFCO			[X]	[X]	[X]	[X]

No.	Ticker	2011	2012	2013	2014	2015	2016
1	ADES						
2	ERTX	[X]	[X]	[X]	[SFT]		
3	FPNI						
4	IKAI			[X]	[X]	[SFT]	
5	IMAS						
6	INCI		[X]	[SFT]			
7	KICI						
8	MLIA						
9	SIMA	[X]	[X]	[X]	[SFT]		
10	SULI	[X]	[X]	[X]	[X]	[X]	[SFT]
11	TFCO	[SFT]					

[X]: The year when firms categorized as financially distressed firm; [SFT]: The year when firms categorized as successful financial turnaround firm.

APPENDIX 8: Independent Variables – Raw Data

No.	Ticker	T0	T-1	Total Asset T0	Total Asset T-1	Total Liabilities
1	ADES	2007	2006	178,761	233,253	111,655
2	ADMG	2016	2015	380,847,522	420,010,232	135,389,017
3	ARGO	2016	2015	130,251,771	116,157,533	173,148,791
4	BRPT	2013	2012	2,321,070	2,120,461	1,261,910
5	ERTX	2010	2009	115,327,584	97,775,952	321,549,028
6	ESTI	2014	2013	69,644,499	73,651,605	46,135,188
7	FPNI	2007	2006	242,459,805,453	329,077,958,388	249,243,545,026
8	HDTX	2015	2014	4,878,367,904	4,224,585,356	3,482,406,080
9	IKAI	2013	2012	482,057,048,870	507,425,275,145	276,648,973,235
10	IMAS	2007	2006	4,907,499,956,145	4,418,691,931,106	4,505,911,554,456
11	INCI	2012	2011	132,278,839,079	125,184,677,577	16,518,960,939
12	JKSW	2013	2012	262,386,019,471	278,718,823,565	670,190,389,365
13	JPRS	2016	2015	351,318,309,863	363,265,042,157	43,106,380,598
14	KICI	2007	2006	80,262,032,305	140,214,464,449	17,423,572,109
15	LPIN	2016	2015	477,838,306,256	324,054,785,283	426,243,285,867
16	MLIA	2007	2006	3,822,944,317	3,780,131,499	8,026,246,883
17	POLY	2016	2015	231,149,516	232,495,236	1,168,715,677
18	RMBA	2014	2013	10,250,546	9,232,016	11,647,399
19	SIMA	2009	2008	53,430,159,699	66,266,072,436	33,201,635,679
20	SIPD	2016	2015	2,567,211,193,259	2,246,770,166,899	1,424,380,421,256
21	SSTM	2012	2011	810,275,583,968	843,450,156,961	525,337,311,071
22	SULI	2011	2010	1,695,019,360,412	1,955,535,689,750	1,654,048,778,442
23	TFCO	2007	2006	266,227,191	279,561,413	293,863,762
24	TIRT	2014	2013	713,714,873,924	723,177,125,785	631,560,510,887

No.	Ticker	Total Sales	EBITDA	Total Debt (IBL)
1	ADES	131,549	(99,743)	16,887
2	ADMG	279,954,690	(1,201,234)	11,739,303
3	ARGO	48,669,832	(16,601,227)	132,147,505
4	BRPT	2,518,996	85,575	552,925
5	ERTX	233,110,260	(44,433,739)	233,596,672
6	ESTI	47,215,086	(2,471,832)	37,193,912
7	FPNI	264,250,747,011	(9,878,757,130)	165,228,412,982
8	HDTX	1,401,541,455	(212,027,215)	2,836,142,331
9	IKAI	211,523,292,543	7,685,312,930	150,797,643,551
10	IMAS	5,084,057,100,076	90,677,181,767	3,760,754,814,212
11	INCI	64,628,362,916	2,153,368,911	632,084,553
12	JKSW	91,708,035,390	(7,511,047,898)	652,872,408,002
13	JPRS	120,691,469,840	(23,791,372,807)	-
14	KICI	64,063,800,191	(8,628,334,364)	-
15	LPIN	141,746,864,032	(48,819,764,636)	156,014,394,595
16	MLIA	2,775,877,452	166,724,508	4,913,278,392
17	POLY	360,480,752	(692,695)	1,082,427,657
18	RMBA	14,091,156	(809,754)	8,493,200
19	SIMA	1,714,617,864	(10,512,222,775)	22,375,152,432

APPENDIX 8: Independent Variables – Raw Data (Cont'd)

No.	Ticker	Total Sales	EBITDA	Total Debt (IBL)
20	SIPD	2,427,199,231,761	139,543,380,803	800,575,401,081
21	SSTM	554,471,435,919	8,807,854,914	282,173,770,252
22	SULI	408,728,907,592	(78,440,140,857)	980,771,394,455
23	TFCO	305,614,528	1,170,354	190,906,252
24	TIRT	814,572,005,112	82,213,289,712	428,247,352,198

T0: The year when firms categorized as financially distressed firm; T-1: One year before the firms categorized as financially distressed firm.

APPENDIX 9: Dependent and Independent Variables –Tabulation Data

No.	Ticker	Independent Var.					Dependent Var.
		PEARN	FASSETS	FSIZE	ASSETR	LOLEV	STATE
1	ADES	-0.5580	0.3754	11.7871	-0.2336	0.0945	1
2	ADMG	-0.0032	0.6445	19.4501	-0.0932	0.0308	0
3	ARGO	-0.1275	-0.3293	17.7006	0.1213	1.0146	0
4	BRPT	0.0369	0.4563	14.7394	0.0946	0.2382	0
5	ERTX	-0.3853	-1.7881	19.2670	0.1795	2.0255	1
6	ESTI	-0.0355	0.3376	17.6702	-0.0544	0.5341	0
7	FPNI	-0.0407	-0.0280	26.3002	-0.2632	0.6815	1
8	HDTX	-0.0435	0.2862	21.0608	0.1548	0.5814	0
9	IKAI	0.0159	0.4261	26.0776	-0.0500	0.3128	1
10	IMAS	0.0185	0.0818	29.2571	0.1106	0.7663	1
11	INCI	0.0163	0.8751	24.8919	0.0567	0.0048	1
12	JKSW	-0.0286	-1.5542	25.2419	-0.0586	2.4882	0
13	JPRS	-0.0677	0.8773	25.5165	-0.0329	0.0000	0
14	KICI	-0.1075	0.7829	24.8831	-0.4276	0.0000	1
15	LPIN	-0.1022	0.1080	25.6773	0.4746	0.3265	0
16	MLIA	0.0436	-1.0995	21.7442	0.0113	1.2852	1
17	POLY	-0.0030	-4.0561	19.7029	-0.0058	4.6828	0
18	RMBA	-0.0790	-0.1363	16.4611	0.1103	0.8286	0
19	SIMA	-0.1967	0.3786	21.2625	-0.1937	0.4188	1
20	SIPD	0.0544	0.4452	28.5178	0.1426	0.3118	0
21	SSTM	0.0109	0.3517	27.0413	-0.0393	0.3482	0
22	SULI	-0.0463	0.0242	26.7363	-0.1332	0.5786	1
23	TFCO	0.0044	-0.1038	19.5378	-0.0477	0.7171	1
24	TIRT	0.1152	0.1151	27.4259	-0.0131	0.6000	0

APPENDIX 10: Descriptive Statistics – STATE 0

	STATE	PEARN	FASSETS	FSIZE	ASSETR	LOLEV
Mean	0.000000	-0.020983	-0.188783	22.01583	0.061605	0.921940
Median	0.000000	-0.028626	0.286153	21.06084	-0.005788	0.534054
Maximum	0.000000	0.115191	0.877301	28.51776	0.474560	4.682803
Minimum	0.000000	-0.127455	-4.056103	14.73937	-0.093242	0.000000
Std. Dev.	0.000000	0.066754	1.305984	4.717169	0.151087	1.295894
Skewness	NA	0.331224	-2.243288	-0.052485	1.572331	2.170836
Kurtosis	NA	2.622634	7.122196	1.504485	5.270131	6.660416
Jarque-Bera	NA	0.314840	20.10767	1.217441	8.147964	17.46808
Probability	NA	0.854345	0.000043	0.544047	0.017010	0.000161
Sum	0.000000	-0.272785	-2.454178	286.2058	0.800870	11.98522
Sum Sq. Dev.	0.000000	0.053473	20.46713	267.0202	0.273927	20.15210
Observations	13	13	13	13	13	13

APPENDIX 11: Descriptive Statistics – STATE 1

	STATE	PEARN	FASSETS	FSIZE	ASSETR	LOLEV
Mean	1.000000	-0.112347	-0.006843	22.88591	-0.090081	0.625914
Median	1.000000	-0.040744	0.081832	24.88315	-0.049994	0.578620
Maximum	1.000000	0.043612	0.875120	29.25713	0.179509	2.025506
Minimum	1.000000	-0.557968	-1.788136	11.78713	-0.427577	0.000000
Std. Dev.	0.000000	0.194366	0.791787	4.865213	0.180350	0.602314
Skewness	NA	-1.384155	-1.179791	-0.959735	-0.281764	1.131438
Kurtosis	NA	3.598909	3.516909	3.459151	2.276595	3.694290
Jarque-Bera	NA	3.676857	2.674294	1.785293	0.385403	2.567878
Probability	NA	0.159067	0.262594	0.409570	0.824728	0.276944
Sum	11.00000	-1.235814	-0.075278	251.7450	-0.990896	6.885049
Sum Sq. Dev.	0.000000	0.377781	6.269260	236.7029	0.325263	3.627823
Observations	11	11	11	11	11	11

APPENDIX 12: Descriptive Statistics – All Sample

	STATE	PEARN	FASSETS	FSIZE	ASSETR	LOLEV
Mean	0.458333	-0.062858	-0.105394	22.41462	-0.007918	0.786261
Median	0.000000	-0.032059	0.200631	23.31369	-0.022986	0.556337
Maximum	1.000000	0.115191	0.877301	29.25713	0.474560	4.682803
Minimum	0.000000	-0.557968	-4.056103	11.78713	-0.427577	0.000000
Std. Dev.	0.508977	0.144612	1.082140	4.700758	0.178920	1.027916
Skewness	0.167248	-2.137068	-2.329209	-0.471090	0.170489	2.587217
Kurtosis	1.027972	7.558738	8.611938	2.281653	4.285660	9.888293
Jarque-Bera	4.000782	39.05032	53.19470	1.403726	1.769188	74.22335
Probability	0.135282	0.000000	0.000000	0.495661	0.412882	0.000000
Sum	11.00000	-1.508600	-2.529456	537.9508	-0.190026	18.87027
Sum Sq. Dev.	5.958333	0.480991	26.93362	508.2338	0.736284	24.30206
Observations	24	24	24	24	24	24