10-2021

Analysis of factors influencing the bailout of distressed enterprises by local asset management companies

Houwen LI
Singapore Management University, houwen.li.2016@ckdba.smu.edu.sg

ANALYSIS OF FACTORS INFLUENCING THEBAILOUT OF DISTRESSED ENTERPRISES BY LOCAL ASSET MANAGEMENT COMPANIES

LI HOUWEN

SINGAPORE MANAGEMENT UNIVERSITY

2022

ANALYSIS OF FACTORS INFLUENCING THE BAILOUT OF DISTRESSED ENTERPRISES BY LOCAL ASSET MANAGEMENT COMPANIES

LI HOUWEN

Submitted to Lee Kong Chian School of Business
in partial fulfillment of the requirements for the
Degree of Doctor of Business Administration

Dissertation Committee

CHENG Qiang (Chair)

Professor of Accounting
Singapore Management University

LIU Jing (Co-supervisor)

Professor of Accounting and Finance
Cheung Kong Graduate School of Business

WANG Rong

Associate Professor of Finance
Singapore Management University

SINGAPORE MANAGEMENT UNIVERSITY

2022

I hereby declare that this PhD dissertation is my original work
and it has been written by me in its entirety.
I have duly acknowledged all the sources of information
that have been used in this dissertation.

This PhD dissertation has also not been submitted for any degree
in any university previously.

LI Houwen

24March 2022

ANALYSIS OF FACTORS INFLUENCING THE BAILOUT OF DISTRESSED ENTERPRISES BY LOCAL ASSET MANAGEMENT COMPANIES

LI HOUWEN

· Abstract

In recent years, the number of distressed enterprises in China has gradually increased due to radical enterprise strategies, excessive expansion, poor management, and a trend of accelerating growth. Unable to adapt to fierce market competition, a large number of "zombie enterprises" disrupt the market order, reduce the use efficiency of social resources, and aggravate market risks. However, some enterprises are temporarily caught in financial distress due to a deterioration of their financial situation caused by factors such as debt structure or capital liquidity. If such enterprises can be bailed out in time, they can escape their distress, which not only protects the interests of creditors and the returns for investors, but also improves the efficiency of resource allocation in society as a whole. The key to distinguishing between "zombie enterprises" and enterprises with bailout value is to identify the factors that influence the bailout value of distressed enterprises.

After reviewing literature, I find that the existing research focuses mostly on the reasons for the bailout of distressed enterprises and the significance of reorganization and less on how local asset management companies (also known as "local AMCs")

evaluate distressed enterprises. In this thesis, I first analyze the methodology of GOHO Assets Management Co., Ltd. (hereinafter "GOHO Assets") in the bailout of distressed enterprises, and examine the analytical approach of GOHO Assets to establish a decision-making model for the bailout of distressed enterprises. The model contains control factors, including local government support, the judicial environment, debt status, employee situation, equity structure, and fundamental factors, including macroeconomic industry outlook and other macro-fundamental factors, as well as firm-fundamental factors such as gross margin, total asset turnover ratio, interest ratio, financing rate, equity concentration, corporate structure. Subsequently, I use the decision model to analyze three successful bailout cases of distressed enterprise and two cases without bailout value, and the results show that the decision model has good practical applicability.

In the subsequence large sample empirical analysis, I select listed companies that were subject to a risk warning (ST) or delisting warning (*ST) in the Shanghai and Shenzhen Stock Exchanges during the four years from January 2014 to the end of January 2018. Using logit model and probit model, I use the gross profit rate, total asset turnover ratio, leverage ratio, financing rate, equity concentration, and enterprise nature of the listed companies to predict whether the companies could successfully remove their warnings status.

The empirical results show that the model yields better predictions in both time fixed effect and industry fixed effect specifications. Two indicators — gross margin and enterprise nature —are significant, and the other indicators are not significant in predicting whether the companies could successfully remove their warnings status. Thus, the key factors proposed in my decision model—gross margin and enterprise nature—should be used as key factors in determining whether a distressed enterprise has bailout value. I also conduct a detailed analysis of the motivations and specific behavioral patterns of local government intervention in distressed enterprises, and find that local governments play an important role in the bailout outcomes of both private and state-owned listed enterprises.

Analysis of the indicators that are not significant reveals that their insignificance is mainly due to the fact that distressed enterprises often do not truly disclose their assets, liabilities, or income, leading to distorted indicators. Therefore, when conducting due diligence on the distressed enterprises, it is necessary to make adjustments to important indicators and use the adjusted indicators as the basis for bail-out decision-making.

Key words: local asset management company, distressed enterprises, decision-making models, influencing factor

Contents

.

· ACKNOWLEDGMENTS

I have been very fortunate to receive the careful guidance of Professor Liu Jing, Professor Cheng Qiang, Professor Wang Rong, and Professor Yao Wei. During my thesis research and writing, they give me meticulous guidance and made many meaningful suggestions, which helps me a lot. Thanks to their encouragement, patience, rigorous academic attitude and profound knowledge, I deepen my research from different perspectives and gain the strength to overcome obstacles in my study and research.

In addition, my thesis is the result of my team's efforts in the past seven years. I am very happy that my team and I have worked hard together, enabling GOHO Assets Management Co., Ltd. to make its own contribution in the field of local AMCs in China.

Finally, I would like to express my heartfelt thanks to my family for their support throughout my study and research.

· CHAPTER I: INTRODUCTION

1.1 Research Background

1.1.1 Establishment of local asset management companies

With China's economy entering a period of the "new normal," economic growth has gradually slowed. In addition, affected by the uneven growth and the changes in industrial policies in past years, a structural imbalance between supply and demand of China's economy has been formed, which makes the need for structural adjustment of China's economy extremely urgent.

When China Great Wall Asset Management Corporation, China Cinda Asset Management Co., Ltd., China Huarong Asset Management Co., Ltd., and China Orient Asset Management Co., Ltd. (the "four major asset management companies" [AMCs]) are established, non-performing assets are mostly disposed through administrative intervention. However, with the substantial growth of China's economic volume and the great changes in its economic environment, it becomes inappropriate to dispose of non-performing assets through administrative means. Against this background and seeing opportunities, more and more institutions begin to set foot in the field of non-performing asset disposal, and the management subject of non-performing assets gradually develops into a diversified model of "4 + 2 + banking system + N,"where"4" represents the four major AMCs; "2" refers to the AMCs authorized and established by the people's governments of provinces, autonomous regions and municipalities

directly under the central government according to law as needed, approved and announced by the China Banking and Insurance Regulatory Commission and filed with the Ministry of Finance, and qualified for the batch acquisition and disposal of financial non-performing assets, also known as local AMCs; “N” refers to unlicensed AMCs in various regions; and “banking system” refers to the specialized institutions of debt to equity swap that have been officially approved by the China Banking and Insurance Regulatory Commission.

Local AMCs have comparative advantages arising from being more acquainted with the local economic development environment and industrial policies, and closer ties with local governments and enterprises. Meanwhile, with their weaker hierarchies, higher decision-making efficiency, and more flexible mode of operation, it is more convenient and effective for local AMCs to dispose of local non-performing assets and prevent and resolve local regional risks.

1.1.2 Development trend of local AMCs disposing of non-performing assets

(1) Integration of business operation

In the practice of business development, local AMCs pay more attention to the management of non-financial non-performing assets while purchasing and disposing of non-performing assets in the banking industry. The supervisory organization (China banking and Insurance Regulatory Commission) has also issued relevant management

measures, providing an institutional foundation for local AMCs to carry out the non-performing assets business of non-financial institutions. Local AMCs provide various financial services and solutions by using their diversified business platform according to the needs of different customers. Their business practices include not only the batch acquisition of bank non-performing assets, but also debt to equity swap, the activating of existing real estate projects, private equity, and the reorganization of distressed enterprises.

(2) Diversified sources of funds

Local AMCs need sufficient financial support to diversify their funding sources when conducting their business. Specific financing measures include bank credit, the issuance of bonds, the introduction of strategic investors, and access to the capital market. They can also seek the connection of entrusted funds with other institutions, asset securitization, and third-party asset management businesses, and actively develop profit models from capital intensive to Resource intensive.

(3) Internationalization of business development

While developing the domestic market, local AMCs also conduct overseas business by using international market resources, introducing international strategic investors and overseas markets, and actively building international business platforms. With the advancement of globalization and the development of China’s economy, the

internationalization of local AMCs will further expand, and so will their international business.

1.1.3 Business models for local AMCs' participation in non-performing assets

"Acquisition–transfer" and "acquisition–recovery" were the early business models of local AMCs. Under these two models, local AMCs either earn the discount difference through transfer, or use litigation to realize the recovery of creditor's rights after they obtain non-performing assets.

With the gradual transformation of the concept of "non-performing" assets to "special opportunity" assets, local AMCs begin to deeply cultivate the field of non-performing assets. Therefore, the business practice of "restructuring, reorganization, and reconstruction" comes into being. This model improves a company's operation and reinvigorates the enterprise by introducing strategic investors, adjusting the business model, optimizing the business structure, perfecting the corporate governance structure, etc. In contrast to the first two methods, this model can fundamentally solve the debt problem of distressed enterprises, which is of great significance to enterprises and to wider society.

1.2 Research Significance

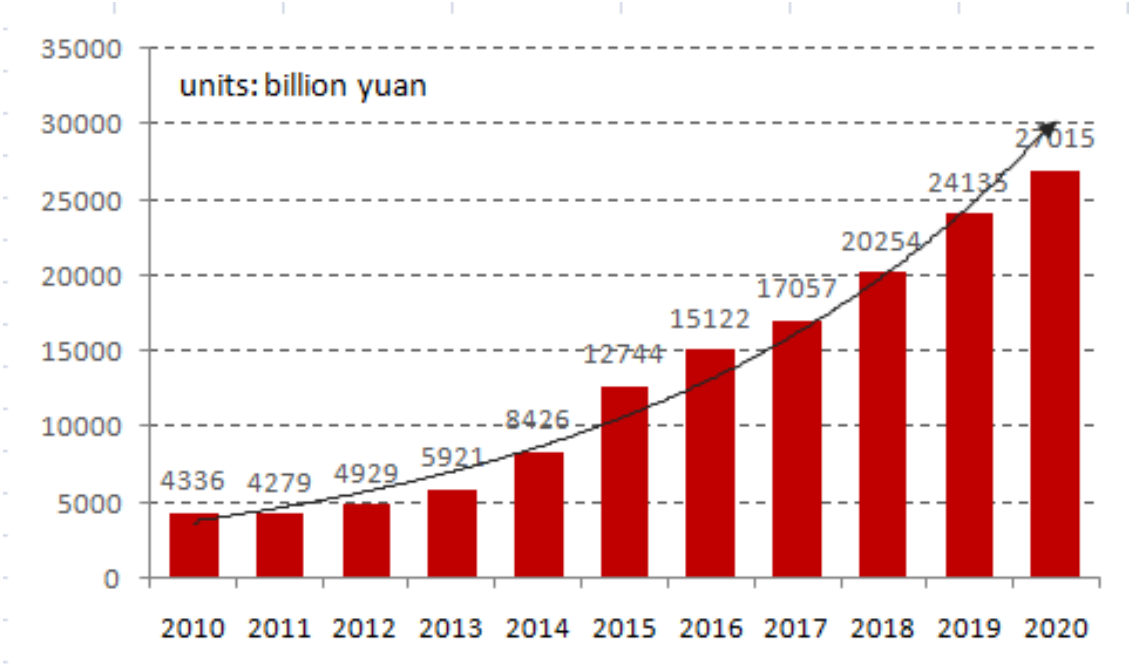

Fig. 1.1: Balance of non-performing loans of commercial banks from 2010 to 2020

For the past few years, the number of distressed enterprises in China has gradually increased due to radical enterprise strategies, excessive expansion, poor management and other reasons, and there has been a trend of accelerating growth. By the end of December 2020, the balance of non-performing loans of commercial banks was 2.7015 trillion yuan, with a year-on-year growth of 11.93%. From the perspective of external financing methods of Chinese enterprises, enterprise financing includes four main channels, namely bank loans, non-standard financing, bond financing, and equity financing, of which bank loans are the largest financing source. Considering that the proportion of various bank loans in the debt structure of distressed enterprises is approximately 30%, the cumulative debt of distressed enterprises is estimated at about

8.1 trillion yuan. If the average asset liability ratio of distressed enterprises is 70%, the asset scale of distressed enterprises involved is nearly 11.58 trillion yuan (The data is from the wind database).

With the in-depth promotion of structural reforms such as national overcapacity cutting and inventory reduction, regional and industrial risks will remain prominent in the next few years, and downward pressure on the economy will continue to increase. Therefore, the number of distressed enterprises and total assets will continue to rise.

Among the large group of distressed enterprises, some have suffered losses in successive years due to poor product competitiveness and overcapacity. Unable to adapt to fierce market competition, these zombie enterprises should have withdrawn from the market, but they continue to get external funds such as renewed loans and help from banks and governments so that they can continue to operate. The existence of a large number of such enterprises seriously disrupts the market order, which not only reduces the use efficiency of social resources, but also greatly aggravates market risk. However, some enterprises that have strong market competitiveness and advanced product technology nevertheless temporarily fall into financial difficulties due to a deterioration in their financial situation caused by factors such as debt structure or capital liquidity. If such enterprises cannot be bailed out in time, they will be confronted with asset seizure, equity auction, freezing of bank accounts, and finally bankruptcy

liquidation. If they can be bailed out in time, not only will the interests of creditors be guaranteed and investors get reasonable returns, but also the efficiency of resource allocation in society as a whole will be improved.

How to distinguish between zombie enterprises and enterprises with bailout value is the key to a successful bailout. In particular, the number of distressed enterprises needing restructuring, reorganization, and reconstruction is increasing. With non-performing asset management as the core and the intentions of serving the real economy, reshaping business value, and resolving financial risks, local AMCs still use traditional due diligence methods and material analysis processes before bailing distressed enterprises out, which is costly in terms of personnel, energy, and time. Moreover, individual differences exist in traditional analysis results due to the subjective judgments of the handling personnel, which affects the accuracy of the senior decision-making by a local AMC, and brings major risks and hidden dangers to the investment behavior of local AMCs.

Therefore, it is particularly important to identify the factors influencing the bailout value of distressed enterprises. However, the theoretical literature on the value evaluation of distressed enterprises is inadequate at present, and there are few research materials combined with typical practical cases for analysis. Therefore, in this thesis, I propose a research model for the bailout value evaluation of distressed enterprises

based on a combination of empirical methods and theoretical research.

1.3 Contents of Main Chapters

In Chapter 2, I summarize the research status in related fields in China and abroad. Research on distressed enterprises by scholars has begun to take shape in China and internationally, but most published studies have focused on the causes of distress and recovery methods. Few studies have focused on local AMCs' evaluation and judgments of distressed enterprises, and there is a lack of research on the evaluation of the bailout value of distressed enterprises from the perspective of local AMCs. In addition, scholarly research on evaluating the bailout value of distressed enterprises has mainly focused on the reasons for bailout, reorganization significance, and methods for evaluating distressed enterprises. However, China's bailout system for distressed enterprises has a history of not much more than10 years, and the associated laws and regulations are imperfect. Most of the existing models for evaluating the bailout value of distressed enterprises are based on quantitative studies, and there are relatively few case studies of real operations. This thesis attempts to solve these problems.

In the first part of Chapter 3, I describe the methodology that GOHO Assets uses for the bailout of distressed enterprises, introducing its analytical approach to distressed enterprises in its investment decisions and the decision-making model it is already used by GOHO Assets, which contains the following factors: (1) control factors, including local government support, the judicial environment, debt status, employee situation,

shareholder structure, etc.; and (2) fundamental factors, including macroeconomic and industry outlook and other macro-fundamental factors, as well as firm fundamental factors such as gross margin, total asset turnover ratio, leverage ratio, financing rate, equity concentration, and enterprise nature. In the second part, I analyze three cases of distressed business bailouts. The first is Lotus Health, a listed company in the upgraded consumption industry; the second is the unfinished building of real estate in Hefei, Anhui Province; and the third is the activation of Huana International (Tong ling) Electronic Materials Co., Ltd., a manufacturing enterprise. After analyzing the cases using the decision-making model of GOHO Assets, we decide to bail out these three distressed enterprises and achieve success. In the third part of the Chapter 3, I analyze two cases that, after using the decision-making model of GOHO Assets, we conclude that it does not have bailout value. One of these companies eventually declares bankruptcy and goes into liquidation, and the other is delisted.

In the first part of Chapter 4, to verify the conclusions obtained from the case study, I select listed enterprises that are subject to risk warning (ST) or delisting warning (*ST) in the Shanghai and Shenzhen A-share markets during the four years from January 2014 to the end of January 2018 as a sample. In the second part of Chapter 4, I describe in detail my methods to select explanatory and explain variables, present descriptive statistics of the sample data, analyze the characteristics and causes of the distribution of each explanatory variable, and introduce the methods for data standardization.

In Chapter 5, I adopt logit and probit models using the gross profit rate, total asset turnover ratio, leverage ratio, financing rate, equity concentration and nature of the enterprise to predict whether listed enterprises can successfully remove their warnings and return to normal operations. The final model demonstrates good prediction performance with 81.36% accuracy for predictions within the sample period.

· CHAPTER II: LITERATURE REVIEW

2.1 Research on Distressed Enterprises

The concept of financial distress was first put forward by Dewing in his book *Enterprise Financial Policy* (1938) during the Great Depression in the United States in the 1930s. Later, foreign scholars began to study problems related to financial distress, including its theoretical definition, prediction and causes of distress, and the influencing factors of recovery.

Most foreign studies have taken a company's bankruptcy application as a sign of entry into financial distress. For example, Deak (1972) noted that financial distress included the inability to repay debts owed, having experienced bankruptcy, or bankruptcy liquidation for the benefit of creditors, but in essence, financial distress was regarded as enterprise bankruptcy, that is, legal bankruptcy. Beaver (1966) argued that financial distress included not only company bankruptcy but also debt default, bank overdraft, failure to pay preferred share dividends, etc. Altman (1968) believed that it was inappropriate to simply equate financial distress with enterprise bankruptcy, arguing that difficulty in paying bonds, the excessive use of bank credit lines, and difficulty in cashing preferred shares were also important manifestations of financial distress.

Based on years of practice and academic research, Argenti (1976) summarized eight reasons for which enterprises can be caught in distress, including poor enterprise management, an inability to take appropriate measures to deal with changes in the

business environment, and factors restricting enterprises' responses to environmental changes. Amy Hing and Lingerie Lau (1987) proposed that the financial situation of enterprises could be divided into five states: 1) stable financial situation, 2) reduction or cancelation of dividends, 3) technical default or bond default, 4) under the protection of bankruptcy law, and 5) bankruptcy and liquidation. Enterprises in states 2–5 could be regarded as being in financial distress, with the severity of financial distress gradually increasing from state 2 to state 5.

Ross et al. (1993) defined four aspects of enterprises' financial distress: technical bankruptcy, accounting failure, enterprise failure, and legal bankruptcy. According to their definitions, technical bankruptcy occurs when the operating cash flow of an enterprise is insufficient to repay debts due; accounting failure means that the enterprise is insolvent and the book net assets are negative; enterprise failure means that the enterprise is still insolvent after liquidation; and legal bankruptcy refers to an application to the court for bankruptcy by the enterprise or creditors because the debtor is unable to execute the debt contract before expiration. Platt (2001) defined financial distress in terms of a series of events before enterprise bankruptcy, not including bankruptcy itself, but preceding it. Edward (2005) pointed out in his book *Corporate Financial Distress and Bankruptcy* that financial distress referred to debt-making enterprises caught in distress, corporate bankruptcy, yet undergoing considerable growth and evolution after credit loss. Altay and Murat (2010) pointed out that financial

distress is a long-term and dynamic process, often marked by the deterioration of financial structures.

In terms of research by domestic scholars, Gu Qi and Liu Shulian (1999) defined financial distress as an economic phenomenon in which enterprises were unable to pay due liabilities and expenses. Chen Jinwan (2000) argued that the absence of corporate governance was the main explanation for the poor operation of enterprises. Hu Ruyin (2003) pointed out that various factors, such as the company's own situation, industry, and policy, may cause listed enterprises in China to fall into financial distress, among which the industry factor was the most important, followed by the internal management factor. Jin Tian and Chen Benli (2006) argued that the main causes of enterprises' financial distress were the impact of the overall economic environment, the impact of national laws and regulations, an unreasonable corporate governance structure, internal control mechanisms, business management factors, diversified investment at the point of losing core competitiveness, and the negative effect of financial leverage. Tao Xingyu (2006) showed that unreasonable investment behaviors, a lack of internal control, weak risk awareness of management, poor asset liquidity, and other internal factors also increase the risk for an enterprise to fall into financial distress. Using Argenti's factor analysis theory for reference, Wei Shouzhi and Xu Baoguo (2008) argued that shrinkage of an enterprise's main business, high production costs and expenses, blind investment, and poor asset quality were among the internal factors

leading to financial distress, while fierce market competition, imperfect laws and regulations, and a significant reduction in market demand were the external factors causing financial distress.

Jiang Fuxiu et al. (2009) argued that over-confident managers would take radical expansion strategies resulting in an increase in the probability of financial distress. Yin Bin (2012) argued that management ability, profitability, and development ability had an impact on the financial distress of listed companies. Li Wanfu, Lin Bin, and Lin Dongjie (2012) proposed that enterprises with defects in internal control were more likely to fall into financial distress. Zhang Yaping and Li Jinghua (2015) documented that there had been extensive government intervention in China's market economy from the beginning, as reflected in a lack of enterprise experience and ability as well as weak anti-corruption measures running through the financial distress of enterprises, which made the dynamic changes in the causes of enterprise financial distress very complex. Meanwhile, as the market and industry mature, internal factors have an increasing impact on the profitability of enterprises. Sun Chengye (2007) and Ji Jinghua and Feng Siyao (2012) considered that the internal factors affecting financial distress included an unreasonable corporate governance framework, poor concept of company operation and management, high debt, high risk of debt, lack of key competitiveness, arrogant company managers, the main business experiencing trouble, high expenses, a serious lack of funds, low-quality assets, the negative effect of

operating leverage, and inadequacy of the company's internal control system. External factors included changes in national macroeconomic conditions, industrial depression, changes in accounting standards, fierce market competition, market mechanisms, and misleading business evaluation, among others.

From the point of view of scholars at home and abroad, failures of internal management have traditionally been a cause of the financial distress of enterprises, while the impacts of external environmental factors such as industrial policy have also gradually become prominent in recent years.

2.2 Research on the Value of Distressed Enterprises

Hotchkiss (1995) found that industry sector was also an indispensable factor in judging whether enterprises should be restructured. Cheng and McDonald (1996) and Ferris et al. (1997) concluded that the influence of industry factors was reflected in the common characteristics of an industry. Routledge and Gadenne (2000) noted that financial indexes frequently adopted by enterprises included total assets and liabilities, capital structure, liquidity of enterprise assets and inventories, the business cycle, profitability, etc. when enterprises used financial indexes to measure bailout value. Gilson (2000) tracked and investigated several bankrupt enterprises in the United States, and made an in-depth study of how the bailout value of distressed enterprises was evaluated, concluding that the bailout value evaluation of enterprises on the verge of bankruptcy was affected by many factors, and the uncertainty of the evaluation results was largely

due to the complexity of the evaluation process. Claessen (2000) argued that unreasonable corporate governance would lead to increased business risks. Barnivetal (2002) pointed out that enterprises need to consider the impact of non-financial information when deciding whether to restructure. He argued that non-financial criteria for the evaluation of bailout value should include the scale of enterprise assets, and the ability of senior management. Fisher and Martel (2004) considered that enterprise bailout value could also be measured by the structure of an enterprise reorganization application, existing financial indexes, and some other control variables. Baum (2009) proposed that credit investors had a strong binding force on a company, which increased the probability of financial distress of highly leveraged enterprises, and economic fluctuations would increase the probability of financial distress. Laitinen (2011) screened out 13 non-financial indexes and 5 financial indexes based on the information in enterprise statements, and studied the feasibility of bailing out Finnish enterprises in distress out through logistic regression analysis.

Yan Huahong (2010) argued that the value of bankrupt enterprises should not only be based on surface phenomena. Most bankrupt enterprises are insolvent, but some might still have potential value. These potential resources could help enterprises obtain income and turn losses into profits. Therefore, he concluded that bankrupt enterprises should choose the real option method to evaluate their bailout value. Yan Xiuchun and Xu Xi (2012) argued that enterprises in financial distress were those with low solvency,

abnormal main financial indexes, and facing bankruptcy. This definition was proposed on the basis of Wu Shilong and Lu Xianyi (2001), who had taken Chinese ST enterprises as a research sample of listed enterprises in financial distress. Hou Jing (2016) argued that the judgment of the bailout value of distressed enterprises should be based on a comprehensive consideration of various factors, including the external environment and internal factors. Wang Yiran (2017) pointed out that although China's bankruptcy law had improved, there was still a lack of research on models for judging the bailout value of distressed enterprises, and the influence of various stakeholders should be considered when evaluating bailout value.

2.3 Research on Value Recovery of Distressed Enterprises

Since the 1980s, foreign scholars have studied financial distress and issues related to its relief. Companies in financial distress wish to relieve their distress and carry out value recovery to eliminate the adverse effects of the distress, rebuild the company, and complete the company's value recovery by using various effective methods such as resource allocation, enabling the company to begin a process of healthy development as soon as possible.

White (1984) noted that the main factors affecting whether a company will be caught in financial distress were company size, profitability, the number of effective assets, and the responsibility of managers. Pearce Robbins (1993) considered that if a company improved its operating performance, it could strengthen liquidity and enhance the

confidence of external investors. Therefore, companies in financial distress should first strive to improve their experience and enhance the confidence of investors. Kruse and Denis (2000) argued that if normal production and operation were not restored in time, a company would face bankruptcy liquidation. Therefore, when its operational situation worsens, a company should be reorganized to improve performance and recover its core competence. Bergstrom et al. (2002) showed that the performance of distressed enterprises after reorganization was not significantly improved. In addition to these factors, the factors affecting the recovery of a company's financial distress included the liquidity of enterprise assets, solvency, etc. Bryanetal (2002) proposed that the greater the asset liquidity and the shorter the operational cycle, the faster the profit. Improved solvency would enable the distressed enterprise to obtain more investment, which would be conducive to overcoming the financial distress. Aimorn Jaikengkit (2004) proposed that it is vital to reduce daily expenses and improve the efficiency of asset use to solve financial distress.

Schwartz (2005) proposed that a company in distress could still be profitable, but could no longer meet the requirements of enterprise debt. If a company in financial distress continued to operate after a change of capital structure, it could create its own maximum social welfare. Dong-Kyoon Kim and Kwok (2008) found that the interests of management in the strategic choice of companies in financial distress were not always consistent with those of shareholders, and the methods to relieve financial

distress were often related to the motivation of a company's management. Garlappi and Hong Yan (2010) believed that potential shareholders could change the ownership structure of a company in recovery from financial distress, and the improvement of profitability could assist the company in slowly getting out of distress. Fan et al. (2013), studying the Chinese market, saw that favorable institutional norms and more individual shares could make it easier for enterprises in distress to return to normality. Huang Hui and Zhao Jing (2008) and He Lifen et al. (2013) pointed out that the factors affecting the recovery of financial distress included asset restructuring, manager replacement, ownership structure, dividend reduction, leverage capitalization, etc. He Lifen, Zhu Xueyi and Wang Chuanb (2014) believed that for ST companies, a favorable control environment, risk assessment, internal control activities, and internal supervision within the company were more significant than information and communication and external supervision for helping a company recover from financial distress.

From the 1930s, the *Bankruptcy Law* supplemented the bankruptcy reorganization system during the Great Depression, and gradually became mature in its reform and the global Bankruptcy Reform Movement in the 1970s. The reasons for and conditions of reorganization are the two angles that have attracted most researchers. Scholars have argued that to implement bailout strategies for enterprises on the verge of bankruptcy, companies in financial distress should be reorganized based on financial performance,

and reorganization behaviors should be selected according to the companies' bankruptcy risk, production efficiency, enterprise strategy, and competitive strategy. Gadenne and Routledge (2000) analyzed a budget model of whether companies approaching bankrupt crisis should choose bankruptcy liquidation or bankruptcy reorganization, and found that if bankruptcy reorganization could quickly improve the company's short-term solvency and create expected profits rapidly, a bailout would often be successful. Laitinen (2011) argued that decisions about whether a bankrupt company should be reorganized should be based on its financial performance. According to Daniel Bryan, Guy Dinesh, Fernando, and Arindam Tripathy (2013), enterprises should also consider and evaluate the bankruptcy risk, operating efficiency, and corporate strategy when choosing whether to be restructured. Hunsader, Delcoure, and Pennywell (2013) held the view that when enterprises chose to be restructured, the competitive strategy would also greatly affect the enterprises' decision-making. Dinesh Fernando and Arindam Tripathy (2013) considered that the bailout of companies in financial distress should be based on financial performance, and that the bankruptcy risk faced by the company, the production and operation efficiency, and the development strategy should be comprehensively considered.

As described by Wang Weiguo (2007), the enterprise reorganization system is a reconstruction debt liquidation system that can protect enterprises, ensure their continuity in business, and realize debt adjustment and enterprise consolidation to help

the company escape distress and move toward rejuvenation in accordance with the procedures prescribed by law when the enterprise is insolvent. Wang Xinxin (2011) argued that bankruptcy reorganization is a more powerful way to prevent bankruptcy compared with bankruptcy liquidation and bankruptcy reconciliation. Wu Yuyi (2012) considered that the most obvious difference between bankruptcy reorganization and liquidation or reconciliation is that its purpose is to help distressed enterprises resume normal continuous operation, rather than simply repay creditors' debts or challenge creditors' rights and debts. Wang Jianping (2011) proposed that successful reorganization means that the losses borne by debtors and creditors would be greatly reduced or even avoided. Hu Liling (2016) argued that it is effective for distressed enterprises to recover their value by taking measures for bankruptcy reorganization. According to Feng Liguo (2016), the bailout of distressed enterprises in China should be led by government with intervention as soon as possible due to the high social cost of direct bankruptcy liquidation. In this view, problems of social stability and financial risks should be resolved through resources and platform advantages, and for the value recovery of distressed enterprises, the design of measures in the process of reorganization is particularly difficult due to legal complexity, and dependent on fundraising for its success.

2.4 Summary of Literature Review

2.4.1 Theoretical significance

As indicated by the literature review, research on distressed enterprises has begun to take shape in China and internationally, but most studies have only addressed the causes of distress and recovery of such enterprises. Few papers have focused on local AMCs and distressed enterprises, and there is a lack of research on the factors that influence the bailout of distressed enterprises from the perspective of local AMCs. In this thesis, I examine the factors that influence the value of distressed enterprises by synthesizing current knowledge about bailout of distressed enterprises, statistically analyzing sample data, and performing financial analysis, which enriches and improves the research on distressed enterprises in China.

2.4.2 Practical significance

To date, scholarly research on distressed enterprises has mainly focused on the causes of bailouts, the significance of reorganization, the evaluation of bailout value, etc. Existing academic achievements can help us further understand and implement the bailout of distressed enterprises. Due to the early development and relative standardization of the market economy and legal environment in the West, the research history of the bailout of Western distressed enterprises is longer, and therefore richer than that of China. The bailout system for distressed enterprises in China has only a history of no more than 10 years. Moreover, although China's market economy is in a

process of gradual development, the degree of marketization is still insufficient compared with Western countries, and there is still much room for improvement with respect to the legal system and the legal environment.

This thesis presents methods for analyzing the influencing factors of distressed enterprises, and analyzes real-world cases in multiple industries and types, combining theory with practice to improve and supplement theories of distressed enterprises. It also provides a practical reference to help such enterprises resume production and operations. In addition, this research is conducive to improving the efficiency of resource allocation across society as a whole. If enterprises fall into financial distress due to a deterioration of their asset structure or financial situation, the possibility of a reasonable return for equity investors will be greatly reduced and the interests of creditors will be damaged. A large number of distressed enterprises emerging simultaneously in the capital market may lead to adverse selection, affecting the rational allocation of social resources. Studying the factors that influence the relief of financial distress in enterprises and then guiding companies in financial distress to resolve their distress can have a wider positive impact on the efficiency of resource allocation across society.

· CHAPTER III: DECISION-MAKING MODEL AND CASE STUDY

As China's strength grows and its economy continues to develop rapidly, it has become common for enterprises to expand blindly to achieve short-term interests. At the same time, ever more enterprises enter into distress due to excessively radical enterprise strategies, excessive expansion, poor management, etc. To ensure continuous smooth operation of the economy and market and reduce the loss of social capital, the state has issued successive policies to support the bailout of enterprises caught in short-term distress but that still have core competitiveness and activating value. However, the success rate of bailouts is not high. Therefore, it is of vital importance to determine the key factors that affect the bailout outcomes of distressed enterprises by examining some successful cases.

In this chapter, I introduce the methodology of GOHO Assets' bailout of distressed enterprises. I describe GOHO Assets' analytical approach to distressed enterprises when making investment decisions and the decision-making model it has built, which contains control factors including local government support, the judicial environment, debt status, employee situation, shareholder structure, etc., and fundamental factors, including macroeconomic and industry outlook and other macro-fundamental factors, as well as firm fundamental factors such as gross margin, total asset turnover ratio,

leverage ratio, and financing rate. As described below, I have used the decision-making model to analyze several cases of distressed enterprise bailouts, and the results of the analyses indicate that the model is well suited to such analysis.

3.1 Decision-making Model

The core of the methodological perspective on the construction of a bailout decision system for distressed enterprises is the division of the system construction relationship into generic modules and procedural processes. The purpose is to avoid inefficiencies and errors in decision making caused by practitioners' lack of personal investment knowledge and experience of non-performing assets, and thereby to effectively reduce the unknown risks of investment and enable the enterprise to occupy a competitive position in the market.

Based on view of existing projects and the decision-making system of GOHO Assets, I develop a reliable methodology to simplify complex issues, standardize simple issues, and refine standard issues, and establish a decision-making model containing control factors and fundamental factors. The decision-making process is as follows. First, analyze whether it is possible to control the future bailout process of the distressed enterprise. If the conditions are met, proceed to the next step of the fundamental analysis; if not, terminate the process. Second, analyze the macro-fundamental factors of the distressed enterprise and proceed to the next step of firm fundamental analysis if

the conditions are met, and terminate if not. Finally, analyze the firm fundamental factors of the distressed enterprise and decide to bail it out if the conditions are met, or terminate them if not.

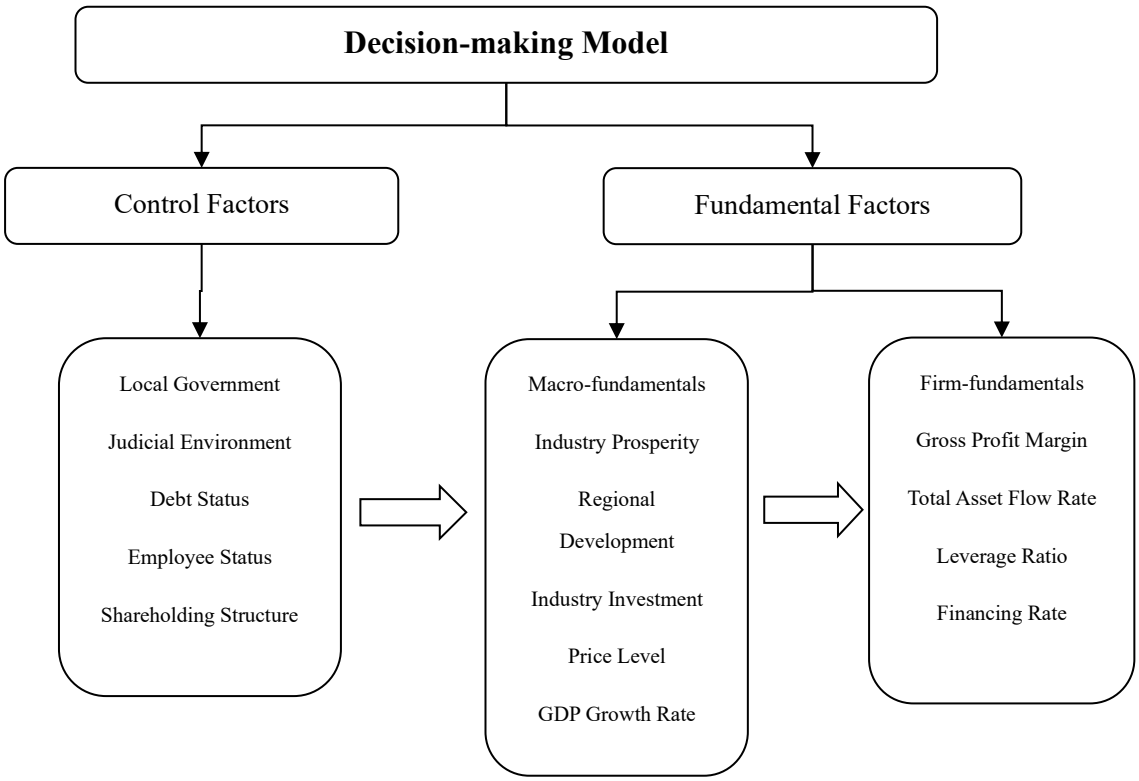

Fig 3.1: Decision-making model of GOHO Assets

3.1.1 Control factors

The control analysis examines whether GOHO Assets can control the future bailout process of distressed enterprises. It features various dimensions, including local government support, the judicial environment, debt status, employee situation, and equity structure. If the conditions are met, the analysis proceeds to the next step of

fundamental analysis; if not, it is terminated.

Taking manufacturing enterprises in distress as an example, we need to focus on the following factors: (1) whether the local government has the will to bail out the enterprise and can provide necessary help in the bailout process; (2) the local judicial attitude toward litigation, judicial reorganization, bankruptcy, liquidation, etc.; (3) whether illegal fund-raising, engineering payments, or debt disputes such as migrant workers' wages are involved; (4) whether a large number of employees are involved in placement, compensation, etc.; and (5) whether a controlling position can be obtained, etc.

3.1.2 Macro-fundamental factors

Fundamental analysis is divided into macro-fundamental analysis and firm fundamental analysis. Specifically, macro-fundamental analysis is the analysis of macro-information external to the distressed enterprise, including the impact of industry factors and the impact of time factors. Industry factors include dimensions such as the degree of industry prosperity, regional development, and industry investment growth rate, while time factors include price level, overall social investment growth rate, and GDP growth rate. The objective of macro-fundamental analysis is to form a macro-information base for the industry in which the distressed enterprise is located. If the conditions are met, the analysis proceeds to the next step of

firm fundamental analysis; otherwise, it is terminated.

Taking distressed manufacturing companies as an example, we need to focus on the following factors: (1) macro-fiscal and monetary policies; (2) the development status of the industry involved; and (3) the development status of the region involved.

3.1.3 Firm fundamental factors

Firm fundamental analysis involves the comprehensive collection, pre-processing, and fusion of multiple types of financial information about the distressed enterprise to form a micro-resource information base about the enterprise. If the conditions are met, the decision to bail out is made. If not, the analysis is terminated.

Taking distressed manufacturing enterprises as examples, I focus on analyzing financial factors such as gross margin, total asset turnover ratio, leverage ratio, and financing rate to determine whether the enterprise can restore its credit level and profitability after receiving a bailout and resolving its debt crisis.

3.1.4 Case study framework diagram

In the follow-up to this chapter, I analyze five cases of rescued distressed enterprises. GOHO Assets decides to bail out three of the companies after analyzing them using the GOHO Assets decision-making model, and achieves successful bailouts. The other two companies are not considered to have bailout value after applying the model. One of the two eventually goes into bankruptcy and liquidation, and the other is delisted. These

two cases demonstrate in reverse the practicality of the decision-making model I have refined. An overview of the use of the key elements of the decision-making model in the five cases is provided in Table 3.1.

Table 3.1 Application of the decision-making model in the case studies

			Listed company in the large consumer industry	**Real estate company**	**Manufacturing company**	**Listed company in the firefighting equipment category**	**Electronic components listed holding company**
Control Factors	Local Government		●	●	●	-	-
	Judicial Environment		●	-	-	-	-
	Debt Status		-	●	-	-	-
	Employee Status		●	●	-	-	-
	Shareholding Structure		●	-	●	○	-
Fundamental Factors	Macro-fundamentals	Industry Prosperity	●	-	-	-	-
		Regional Development	-	●	-	-	-
		Industry Investment	-	-	●	-	-
		Price Levels	-	-	-	-	-
		GDP Growth Rate	-	●	●	-	-
	Firm-fundamentals	Gross Profit Rate	●	●	-	○	○
		Total Assets Turnover Rate	-	-	-	○	-
		Leverage Ratio	-	-	●	○	○

		Financing Rate	-	-	●	-	-

Note: ● means the case meets the decision-making model-related factors, ○ means the case does not meet the decision-making model-related factors

3.2 Case Studies of Listed Company in the Large Consumer Industry

3.2.1 Condition before bailout

Lotus Health Industry Group Co., Ltd. ("Lotus Health" for short, stock code 600186), formerly known as Henan Lianhua Monosodium Glutamate Co., Ltd., was approved by the China Securities Regulatory Commission and listed on the Shanghai Stock Exchange in 1998. It is a main board listed company belonging to the upgraded consumption industry, and is once known as "the first public company of monosodium glutamate in China." Its main business covers the R&D, production, and sale of food and condiments. Its main products are monosodium glutamate and other amino acid condiments; flour and flour products; chicken essence and other compound condiments; and cooking wine and other liquid condiments.

Lotus Health is dragged down by a serious debt crisis in the company and its major shareholders, and by its heavy historical burden. The data show that the operating revenue of Lotus Health has declined since 2011, which is clearly reflected in its market share. The company once accounted for nearly one sixth of China's market share of monosodium glutamate. By 2017, Lotus Health's market share was less than 8%. From

2010 to 2017, its net profit showed a very regular pattern of profit in even-numbered years and loss in odd-numbered years. The net profit in profit years was not high, but the loss in loss years was hundreds of millions of yuan. For the eight consecutive years from 2010 to 2017, non-net profit was deducted with a loss, amounting to a total loss of 2.434 billion yuan.

The audited net profit of Lotus Health was negative for two consecutive fiscal years in 2017 and 2018, and the audited net assets at the end of 2018 were negative. In accordance with the listing rules of the Shanghai Stock Exchange, Lotus Health was warned on the publication of its 2018 annual report that if its net assets and net profit at the end of 2019 continued to be negative, the company would be confronted with a serious delisting risk.

3.2.2 Enterprise analysis

In August 2017, the stock pledge of Zhejiang RECON Investment Co., Ltd. (hereinafter "Zhejiang RECON"), the controlling shareholder of Lotus Health at that time, exploded, and it sought help from GOHO Assets.

According to an analysis by GOHO Assets' due diligence personnel, the assessed value of Lotus Health's assets was about 400 million yuan, its total debt was expected to exceed 1.9 billion yuan, its net assets were negative, the scale of corporate debt far exceeded its liabilities, and the enterprise was essentially bankrupt.

However, considering the low concentration of equity in Lotus Health—with the then controlling shareholder of Lotus Health, Zhejiang RECON, only holding11.78% of the shares—if the controlling shareholder could pledge all of its equity to GOHO Assets, even in the event of a debt default, GOHO Assets could obtain Zhejiang RECON's equity through judicial auction and end up controlling the listed company. In addition, Lotus Health monosodium glutamate is a well-known domestic brand in the condiment sub-sector. The domestic monosodium glutamate industry is essentially an oligopoly and Lotus Health's market share was more than 40% at that time. As Asia's original and largest monosodium glutamate manufacturer, Lotus Health had a strong brand influence. It also had the advantage of a large sales network of more than 1,000 primary distributors, providing a certain degree of protection because similar enterprises would need to spend considerable time and effort to develop such a network. In the event that Zhejiang RECON could not repay the loan on time, GOHO Assets had a proven solution to obtain control of Lotus Health through judicial means. It could thus enter the consumer goods industry, a high-growth industry with stable cash flow, to rediscover the value of Lotus Health and obtain an exit platform from the capital market for future industrial development without a control premium.

In summary, even if Zhejiang RECON defaulted, the underlying assets had value, and GOHO Assets, as a local AMC, had the advantages of a professional team and capital, and could provide strong disposal solutions and capabilities for post-event risks.

Therefore, GOHO Assets decided to provide financial support to Zhejiang RECON.

After the explosion of Zhejiang RECON's stock pledge in August 2017, GOHO Assets quickly intervened by purchasing creditor's rights to the stock pledge and restructuring its debt with a loan extension and risk control measures such as adding a new position closing line and early warning line to the pledged shares. This transaction was a stock pledge amounting to the control of the listed company. Zhejiang RECON held a 100% pledge of the stock rights of Lotus Health. The purpose of the transaction was to provide liquidity for the controlling shareholders of the listed company.

3.2.3 Bailout process

(1) Default once more of Zhejiang RECON

On January 30, 2018, GOHO Assets took resolute risk control measures in response to Zhejiang RECON, the controlling shareholder of the listed company, breaking the contract again. To look for a plan to bail the listed company out, GOHO Assets sent personnel to Lotus Health to supervise the enterprise's operation and management, followed up the solvency of Lotus Health, and immediately filed a lawsuit.

While intervening in the listed company, we gradually learn that the problems and challenges it faces at the level of operation and governance are mainly due to the heavy manpower burden and historical debt from when it is a state-owned enterprise. To solve these two problems, we choose to cooperate with the local government of Zhoukou

City to jointly promote the bankruptcy reorganization of the listed company.

(2) Bankruptcy reorganization

1. Application and acceptance of bankruptcy reorganization

As the single largest creditor of the listed company, GOHO Assets applied to Zhoukou Intermediate People's Court for bankruptcy reorganization of Lotus Health on July 3, 2019.

As Lotus Health could not pay off its due debts and solvency was no longer a possibility, Zhoukou Intermediated People's Court made a civil ruling to accept the reorganization of the company on October 15, 2019, and appointed Jindu Law Firm as the bankruptcy administrator.

2. Scheme of bankruptcy reorganization

After discussions involving GOHO Assets, the bankruptcy administrator, and Zhoukou municipal government, it was proposed that GOHO Assets be responsible for searching for reorganization investors for Lotus Health, and a scheme for the bankruptcy reorganization was determined. By introducing capital injection from reorganization investors, the interests of creditors of all parties are coordinated. After the professional operation of non-performing assets by GOHO Assets, the scheme was deliberated and passed at the second creditors' meeting of Lotus Health on December 16, 2019.

3. Assets, debts, and solvency

According to the solvency analysis report issued by the appraisal agency, the value of Lotus Health's assets was approximately 426 million yuan and the total debt was over 1.95 billion yuan. If the appraised value could be realized, the liquidation rate for general creditors would be 0.00% according to the order of liquidation under the bankruptcy law.

4. Scheme of bankruptcy reorganization

After discussions involving GOHO Assets, the bankruptcy administrator, and the municipal government, it was proposed that GOHO Assets be responsible for seeking reorganization investors for Lotus Health, and the scheme of bankruptcy reorganization is as follows.

1) Lotus Health coordinated with the government to "leave the city and enter the park (The enterprise gives up the land in the city and develops in the development zone),"and the government purchased and stored 20 parcels of Lotus Health with a total price of 438 million yuan.

2) Taking the existing share capital of Lotus Health as the base, 2.99 shares were converted for every 10 shares (a way to convert capital reserve into shares), with a total of 318 million shares converted, accounting for 23.04% of the total share capital after the conversion (including 5% required by the government and the remaining 18.04% jointly held by the consortium of reorganization investors). The shares were

conditionally converted by the reorganization investors at a transfer price of 1.7 yuan/share, totaling 544 million yuan. The transfer condition was that the reorganization investors provided a loan of 260 million yuan to Lianhua, and the interest would be performed in accordance with LPR. Based on the requirements of the exchange, the administrator, and other regulatory agencies for the reorganization investors, the part converted from capital reserve to share capital was invested in the reorganization by means of a consortium formed by Xiangcheng state-owned Assets Holding Management Group Co., Ltd., Shenzhen Runtong No. 2 Investment Enterprise (limited partnership), and Wuhu Liantai Investment Management Center (limited partnership).

3) It was agreed that if the creditor's rights were secured by property and the secured property was a business asset, it would not be paid off immediately, and instead the reorganized Lotus Health would pay it off gradually according to its business situation. If the secured property was a non-business asset, it would be paid off in full within the realizable value of the secured property.

4) The creditor's rights of employees would be fully paid off according to the employee resettlement scheme.

5) The tax creditor's right would be paid in full without adjustment.

6) The ordinary creditor's rights below 100,000 yuan would be paid off in full, and the

ordinary creditor's rights above 100,000 yuan would be paid off according to a proportion of 17.48% (For the ordinary creditor's rights 100,000 yuan, a maximum of 17.48% would be paid off).

5. Scheme of reorganization investment for Lotus Health

Implementing the reorganization scheme completely solved the resettlement problem of about 7,000 redundant employees and Lotus Health's historical debt of nearly 2 billion yuan. Lotus Health went forward with its burdens discarded, and the company's production and operation were fundamentally improved, making it a listed company with stable management, standardized operation, and excellent performance. In 2020, Lotus Health continued to reform, strengthened its management, and actively took effective measures, which removed the threat of delisting, and its production and operation were on track for sustainable development.

3.2.4 Bailout results

The results of the bailout of Lotus Health were as follows.

(1) *Social benefits.* The bailout solved the problem of historical salary arrears for more than 7,000 employees and kept the main body of the only local listed company in Xiangcheng City, which has been highly praised by the local government.

(2) *Economic benefits*. The original creditor investment from GOHO Assets has been paid off and the investment income of partners has been basically maintained at more

than 70%.

(3) *Demonstration benefits*. Lotus Health became an exemplar of bankruptcy reorganization in the capital market in 2019.

(4) *Other benefits.* The win-win business philosophy of GOHO Assets and its partners has maintained a cooperative relationship between them. The controller of GOHO Assets has obtained the control right of the listed company, which enriches the withdrawal channels of GOHO Asset's other investment projects under special opportunities.

3.2.5 Decision-making model analysis

(1) Analysis from the perspective of control

1. The company's shareholding structure was originally relatively decentralized, and it has obtained the status of controlling shareholder.

Lotus Health's top 10 shareholders held 18.93% of the shares, representing a low concentration of equity. Zhejiang RECON, the then controlling shareholder of Lotus Health, only held 11.78% of the shares, and all of them were pledged to GOHO Assets. Later, GOHO Assets obtained the equity of Zhejiang RECON through judicial auction, and the remaining shares were distributed among a small number of individuals and local state-owned enterprises.

2. Local governments support the rapid implementation of market-based bankruptcy

restructuring of enterprises

Lotus Health was originally a state-owned enterprise holding. Even after it became a private enterprise holding, the local state was still its second largest shareholder, so the company's financial governance was relatively standardized, and the local government was expected to give a high level of support in terms of justice, taxation, land acquisition, and storage.

3. Aim to maintain the stability of personnel and daily operations, and enhance the influence of employees

From 2018 to 2019, GOHO Assets gradually provided approximately 50 million yuan to Lotus Health, injected liquidity through various channels, paid personnel salaries and maintained daily operation and production, and enhanced the brand reputation of GOHO Assets among employees of Lotus Health.

(2) Analysis from the perspective of fundamentals

1. Industry factors maintain stable and healthy development

Lotus Health belongs to the condiment industry, within the large consumer goods industry, which is expected to continue to grow steadily and healthily under the influence of various aspects such as China's demographic dividend, economic development, and tax reform. Lotus Health is a well-known domestic brand of monosodium glutamate, accounting for more than 40% of the market share in consumer

terminals.

2. Stable gross margin of core products: enterprise business development is guaranteed

Lotus Health's biggest problem is the burden of more than 7,000 personnel from the old state-owned system. Most of them do not even work in the company, but every year Lotus Health still has to bear the cost of their salaries and social security, leading to serious erosion of the company's net profit. Despite these difficulties, as the former largest monosodium glutamate manufacturer in Asia, the company has maintained a huge sales network of more than 1,000 primary distributors and the gross margin and total asset turnover ratio of the company's main business are maintained at a good level.

Therefore, we believe that the value of Lotus Health may have been underestimated, and there is room for further improvement of its value, so obtaining its control rights could not only enable GOHO Assets to intervene in a consumer goods company with high growth potential and stable cash flow, and exploit the latent value of Lotus Health, but also obtain a withdrawal platform of capital market for future industrial development without a premium on control rights.

3.3 Case Study of a Real Estate Enterprise

3.3.1 Condition before bailout

The "Guokai Residence project," a group of unfinished buildings in Hefei, Anhui Province, is located at east of Chongqing Road, south of Dalian Road, west of Liaoning

Road, and north of Yan'an Road in the Baohe industrial zone. It is developed and constructed by Anhui Guokai Real Estate Co., Ltd. (hereinafter "Guokai Real Estate") and contracted by Anhui Zhongli Construction Group Co., Ltd. (hereinafter "Zhongli Construction").

The land area of the project is 63193.99 m^2. The land is allocated for commercial and residential purposes (of which commercial land accounts for 10%), with a transfer period of 40 years for commercial and 70 years for residential use, a plot ratio equal to or less than 3.0, a building density equal to or less than 25%, and a greening rate equal to or larger than 40%. The total construction area of the project is 220,000 m^2, including 13 high-rise residential buildings (1,782 residential units) and 9 commercial buildings (two floors). With the project having started in September 2011, the completion date agreed in the contracts for buildings #3 and #5 was December 31, 2014, the date for building #6 was December 31, 2015, and the date for buildings #4 and #7 was May 31, 2015. Due to a funding problem with Guokai Real Estate and a dispute with Zhongli Construction over payment, the project was in a state of shutdown. The main works for buildings #3 to #7 have been completed, but the water and electricity installation, community greening, and construction of other infrastructure have not been carried out. As a result, it was not possible to finish the completion acceptance procedures and meet the delivery conditions and the real estate project remained unfinished.

The project was halted four times during the construction period. Since the fourth shutdown in January 2016, ancillary works had been at a standstill except for the slow progress of some civil works. Due to the failure to deliver housing, nearly 600 house buyers were unable to obtain their real estate. As a result, petitions occurred frequently, and the owners were upset, which led to many incidents. We learn from the government that the owners had organized to petition in Beijing in the second half of 2016, which posed a great test to the government's maintenance of stability.

(1) Stagnation of the project

The Guokai Residence project shut down in April 2016. The following is based on information provided by the district government and the public data of the Hefei Real Estate Bureau:

1. The first phase of Guokai Residence consisted of residential buildings #8 to #13. In total, 793 houses were completed and delivered in this phase. However, only 203 housing-ownership certificates had been handled as of the beginning of 2017. The remaining housing-ownership certificates had not been handled as the developer Guokai Real Estate misappropriated the funds for handling them.

2. The second phase of Guokai Residence consisted of residential buildings #3 to #7. Most of the 629 houses in the second phase were sold. The contract stipulated that the houses would be delivered in June 2014, but the completion and delivery conditions

had not been met. The main body of the five residential buildings in the second phase has been completed. Due to the rupture of the developer's capital chain, the outdoor drainage, landscaping, garage, fireproofing, power supply, and other projects had not been completed.

3. The third phase included residential buildings #1and #2 and eight commercial facades denoted S1–S8. The external main works for the residential buildings and commercial facades had been basically completed, but the outdoor drainage, landscaping, garage, fireproofing, power supply, and related ancillary works had not been completed.

(2) Illegal sales

Between November 2015 and March 2016, a total of 22 commercial properties (with a construction area of 2,099.25 m^2) in building #2 of the properties were sold, which was illegal due to the project being suspended, and the total sales contract payment was 14,387,260 yuan. As of June 30, 2016, payment of 5,309,320 yuan had been received. The remaining 9,077,940 yuan had not been collected. Among the properties that were sold illegally, 3 sets of properties (of which the buyers of 2 sets of properties had paid) had been signed for online and filed, and 19 sets of properties could not be signed and filed due to their illegal sale.

3.3.2 Enterprise analysis

Since the suspension of construction, the finances of Guokai Real Estate had been in an unmanaged state. According to the analysis of available information, the remaining assets of Guokai Real Estate included the following physical and monetary assets:

(1) Residential buildings #1 and #2, the whole commercial street, and the kindergarten and underground garage of the saleable part of Guokai Residence were in an unfinished state: the main structure had been sealed, but the internal water, electricity, doors, and windows had not been installed.

(2) The monetary assets of 41.61million yuan of book value monetary funds, were bank housing mortgage deposits in a seized state.

(3) The remaining house payments and price difference payable by the owners of the properties sold in the previous period of the project amounted to approximately 5,968,600 yuan.

(4) Car parking spaces, kindergartens, and other common facilities, the assets of which could not be sold.

According to the preliminary appraisal results, the total value of the assets of Guokai Real Estate was approximately 431,067,800 yuan, based on residential property valued at 0.85 million yuan/m^2 and commercial property valued at 0.85 million yuan/m^2. The accumulated debt of Guokai Real Estate was approximately 996,692,900 yuan,

comprising the total priority claims and expenses and common interest debts of approximately 336,480,300 yuan and total general claims of approximately 660,021,260 yuan, meaning the scale of corporate debt far exceeded liabilities.

According to the regional industry environment analysis (The data is from the wind database) and 2015 Hefei real estate data, in 2015, the construction of new residential commercial housing in Hefei amounted to77,800 sets, while sales amounted to 90,400 sets, corresponding to a supply-to-sales ratio of 86.08%. The land area of new residential commercial housing was 8,071,400 m^2, while the corresponding sales area was 9,477,300 m^2, with an area supply-to-sales ratio of 85.17% (Because of the housing stock, the new data and sales data will be inconsistent). The sales of Hefei residences in 2015 showed an oversupply for the fourth consecutive year, while new real estate additions fell for the second consecutive year, with residential commercial properties falling below 80,000 units for the first time in three years. This provides a good external environment for the successful reorganization of Guokai Residence and the remaining saleable residences.

Analysis of the characteristics of real estate enterprises suggests that they key to the revitalization of unfinished building projects lies in the remaining saleable property value and the project company’s liabilities. To accurately measure the true liabilities of the project, we send our professional staff to hold several meetings with Junhua

Technology Company, the main creditor of Guokai Real Estate, and Zhongli Construction, the general contractor of Guokai Residence, to verify the overall claims of the main creditors and understand the demands of all parties. In addition, to assess the saleable value, we send a professional real estate team with experience in implementing unfinished real estate projects to make calculations based on the existing construction of Guokai Residence and the amount and duration of various types of work such as late construction, supporting engineering fees, design fees, landscaping, and mechanical parking spaces, and to focus on the remaining unsold property area, parking spaces, and commercial value and cash flow payback cycle in detail. According to the results, the project has a controlled return on input and output, and investors would have a certain profit margin.

Analyzed from the perspective of follow-up construction, the bankruptcy restructuring of Guokai Residence requires a number of administrative agencies such as local courts, taxation departments, and real estate management departments, which would require the main leaders of local governments and street authorities to hold many coordination meetings. To realize the smooth implementation of the debt restructuring of the Guokai Residence project and maintain social stability, we propose jointly establishing a Baohe GOHO ASSETS Company with the Hefei Baohe District Urban Construction Investment Company as the main body for the implementation of the debt restructuring of the project, which is approved by local government leaders.

3.3.3 Bailout process

(1) Implementation subject and process of reorganization scheme

1. Implementation subject

To realize the smooth implementation of debt restructuring of Guokai Residence, help the local government solve practical problems, maintain social stability, and protect the legitimate rights and interests of creditors, GOHO Assets communicated frequently with all parties involved in the Guokai Residence project with the support of the local government, and proposed the joint establishment of Baohe GOHO Assets Company with Hefei Baohe Urban Construction Investment Company as the implementation subject of debt reorganization of the Guokai Residence.

2. Process of reorganization scheme

In the first step of the reorganization, Baohe GOHO Assets invested 10 million yuan into the Guokai Residence project for the purchase of the project payments formed by the general contractor construction unit and subcontracted construction units after 2017, and another 2 million yuan for daily operations. While completing the initial investment, Baohe GOHO Assets signed a multi-party agreement with Junhua Technology and Zhongli Construction, which agreed the following:

1) Junhua Technology and Zhongli Construction would unconditionally and irrevocably support the debt reorganization of Baohe GOHO Assets aiming at the

Guokai Residence project under the reorganization scheme, including but not limited to lifting the sealing-up restrictions on the real estate of Guokai Residence when necessary, so that its real estate could be sold.

2) After the implementation of the reorganization scheme, the distribution order of residential properties of Guokai Residence would be as follows: (1) the funds and income newly invested by Baohe GOHO Assets (creditor's rights from project funds); (2) wages of migrant workers; (3) taxes receivable by the government; and (4) creditor's rights of Junhua Technology. The distribution order of commercial properties would be as follows: (1) creditor's rights for project funds of Zhongli Construction (2); and other creditor's rights of Junhua Technology and Baohe Urban Investment.

3) During the implementation of the reorganization scheme, Junhua Technology and Zhongli Construction would not hinder its implementation with compulsory measures such as judicial auction except as agreed by all parties. Moreover, to ensure the smooth implementation of the reorganization scheme and the smooth disposal and distribution of the project assets of Guokai Residence, Baohe GOHO Assets reserved the right to apply to the court with jurisdiction for the bankruptcy of Guokai Real Estate, and complete the reconstruction, asset disposal, and distribution of Guokai Residence through judicial means; furthermore, after Guokai Real Estate entered bankruptcy proceedings, the parties to the agreement agreed that the scheme of bankruptcy

reorganization and distribution method would be organized and implemented in accordance with the multi-party agreement, otherwise the breaching party would bear the liability for breach of contract and compensation to the observant party.

In addition, the creditor's rights of the project funds of Zhongli Construction need to be confirmed through judicial proceedings, and after the residential properties of Guokai Residence were sold, Zhongli Construction would organize the auction of the remaining commercial part of Guokai Residence through litigation or bankruptcy procedures, and the proceeds would be used to repay the project funds of Zhongli Construction. If the auction failed, the remaining commercial properties would be a debt payment to Zhongli Construction. In the course of carrying out the above-mentioned work, the Project Department of Guokai Real Estate, the general contractor, and the subcontractor cooperated with the working group sent by Baohe GOHO Assets to complete the calculation of the remaining quantities. After the calculation of the remaining quantities was completed, the principals of Baohe GOHO Assets, the construction unit (general contractor or subcontractor), the supervision unit, and the Project Department of Guokai Real Estate would jointly sign sales contracts for project funds.

The second step was to choose an opportunity to apply for bankruptcy reorganization. As Guokai Real Estate would not cooperate in the debt reorganization of the Guokai

Residence, Baohe GOHO Assets needed to start bankruptcy proceedings after investing 10 million yuan to complete the project operation, solve relevant problems to obtain the maximum income with the minimum investment capital, and ensure that some of the reconstructed houses of Guokai Residence could reach a saleable state and be sold.

The third step was that Baohe GOHO Assets invested in the Guokai Residence project as a mutually beneficial creditor. As Baohe GOHO Assets invested in the reconstruction of Guokai Residence (including direct investment and indirect investment by transferring project funds to construction parties), it had the right to obtain investment income. After negotiation and confirmation by all parties involved in GOHO Assets, the rate of return on investment was tentatively determined as 20% of the invested principal after one year, with the specific collection method of investment income to be separately determined by all parties through negotiation.

3.3.4 Bailout results

The reorganization of Guokai Residence by GOHO Assets effectively reflects the requirements of the state to increase financial services for the real economy, faithfully implements the social responsibility of GOHO Assets, gives full play to GOHO Assets bailout function for distressed enterprises, and achieves the following results:

(1) Effectively and efficiently activate non-performing assets

GOHO Assets effectively resolved the shutdown faced by Guokai Real Estate, actively

promoted negotiation by the joint parties to solve creditor's rights and debt disputes, gradually put the unfinished project on the right track to restore its original vitality, and effectively activated the non-performing assets.

(2) Maintain social stability and protect the interests of all parties

With the goals of solving social problems and maintaining social stability, GOHO Assets ensured that the Guokai Residence project could smoothly resume construction, finish the completion filing procedures, deliver the properties to their owners and complete all housing-ownership certificates, and finally pay the wages owed to migrant workers.

(3) Improve the social influence of GOHO Assets

The complexity, social concerns, and need for extensive involvement in the project kept some investors away, but GOHO Assets was not afraid to face these difficulties. After fully investigating the project, it conducted a professional analysis, explored the possibility of cooperation, took over the parts of the project that others could not, put forward a revised and improved scheme design, and comprehensively considered the possible legal and financial risks so that risks could be prevented as far as possible. During this process, the professionalism, risk-response ability, and project implementation ability of GOHO Assets were recognized by all parties, and rich experience was accumulated. Moreover, positive impacts arose from both the

strengthening of social influence and the professionalism.

The project was finally successfully resolved in the form of bankruptcy reorganization, and on January 22, 2020, the *People's Court Newspaper* published "Unfinished Buildings for Six Years, But Rebirth Ten Months after Execution to Bankruptcy." Comrade Zhou Qiang, President of the Supreme People's Court, issued special instructions, and asked local courts to learn from this bankruptcy case. Meanwhile, Anhui Higher People's Court asked Hefei Railway Transportation Court to undertake the bankruptcy cases in Hefei based on the smooth implementation of the Guokai case.

3.3.5 Decision-making model analysis

(1) Analysis from the perspective of control

The debt involved in this restructuring is large and complex. All restructuring participants need to fulfill their responsibilities and actively cooperate in the implementation of the plan to realize comprehensive control of the Guokai Residence project through closed operation, including but not limited to the following aspects:

Control of debt expenditure. Baohe GOHO Assets deploys professional financial personnel to manage the finances of the Guokai Residence.

Control of site personnel. Baohe GOHO Assets deploys professional project managers to supervise the progress, quality, cost, cost, approval, sales plan, and other work on site of the Guokai Residence project, to keep fully abreast of the subsequent

construction situation in real time.

2. Obtain local government support

The Guokai Residence project involves the rights and interests of migrant workers and house buyers who have repeatedly sought help from the local government for disputes with Guokai Real Estate, the development and construction unit of the Guokai Residence project. The leaders of the Baohe economic development zone and the relevant authorities at the street level hold many coordination meetings and form a working group with special responsibility for the promotion of the national development residence project. Baohe GOHO Assets Company has always maintained close communication with governments at all levels, regularly reporting on the restructuring progress and follow-up work arrangement to the government and street-level authorities of the Baohe economic development zone. This reporting has been recognized by Baohe GOHO Assets and supported by leaders at all levels, and will provide assistance in follow-up developer coordination, construction coordination, project planning adjustment, tax policy support, and real estate sales coordination.

(2) Analysis from the perspective of fundamentals

1. Strengthen the attention given to local industry factors and time factors

In 2016, a total of 134 plots were sold in Hefei, with a land area of 11055.42 mu and a transaction value of approximately 114,806 billion yuan. Month on month, the area

of land sold increased by 25.63%, the transaction value increased by 128.33%, and the land price increased by 81.79%. The total value of land sales doubled compared with the previous year and 22 “land king” (Land transaction price is the highest in a certain area) event took place during 2016. The floor price in Binhu District exceeds 20,000 yuan/m^2. The floor price of all plots in all regions except for the economic development zone exceeded 10,000. As a result of the boom in great estate market and continually rising land price, house prices in Hefei soared in 2016. During the restructuring period, it was necessary to pay close attention to the real estate market, accelerate the realization of existing house sales, flexibly adjust the sales price and sales progress, and prevent market risks.

2. Focus on the measurement of future gross margin indicators of the project

An investor’s ability to successfully exit depends on the real estate industry’s accurate figures on the size of the project’s liabilities, and on judgments about remaining assets and gross margins. Therefore, pre-project due diligence requires a high level of detail and accuracy. For the Guokai Residence project, GOHO Assets did the following to measure the future gross margin index of the project enterprise.

In terms of liabilities, Baohe GOHO Assets held several communication meetings with Junhua Technology Company, the main creditor of Guokai Real Estate, and Zhongli Construction, the general contractor of Guokai Residence, to verify the overall debt

amount of the main creditors and understand the demands of all parties to accurately calculate the real liabilities of the project.

To effectively calculate the amount of funds to be invested when follow-up projects met their completion conditions, Baohe GOHO Assets dispatched a professional real estate team with experience in the implementation of uncompleted real estate projects to assess the construction situation of Guokai Residence and the requirements for later project funds, supporting engineering costs, design costs, landscaping, mechanical parking spaces, etc., and to calculate the remaining unsold real estate area, parking space, and commercial value.

3.4 Example of a Manufacturing Company

3.4.1 Condition before bailout

Huana International (Tongling) Electronic Materials Co., Ltd. (hereinafter “Huana”), located in the PCB Industrial Park of Tongling Economic and Technological Development Zone, Anhui Province, was among the first batch of enterprises introduced into the industrial park and has financing guarantees and mutual insurance with PCB (Printed circuit boards) industry chain enterprises such as Tongling Haorong Electronic Technology Co., Ltd. and Tongling Haorong Huake Composite Substrate Co., Ltd. (hereinafter “Haorong Electronics”). Due to the bankruptcy of Haorong electronics, Huana applied for bankruptcy liquidation by its creditors.

Huana is a manufacturing enterprise producing copper foil, copper clad laminate, and PCB products in the electronic information and integrates circuit basic industries encouraged by China. It is also an important support for the copper-based new material industrial base and strategic emerging industry in Tongling, Anhui Province.

On April 22, 2015, Tongling Dajiang Investment Holding Co., Ltd. filed an application for the bankruptcy liquidation of Huana with Tongling Intermediate People's Court. On May 15, 2015, Tongling Intermediate People's Court ruled to accept the application and appointed Anhui Lantian Certified Public Accountants as the manager. On April 15, 2016, the second bankruptcy meeting of Huana's creditors was held under the leadership of the Municipal Intermediate People's court, which announced the bankruptcy liquidation ruling and passed the asset disposal plan by auction.

3.4.2 Enterprise analysis

The total asset value of Huana was 316 million yuan, and there were 14 creditors including banks, guarantee companies, and suppliers. The company itself had no problems other than the capital chain rupture caused by mutual insurance. Before the exposed of mutual insurance, Huana had been preparing for a listing of Hong Kong H shares. The corporate governance structure met the requirements of modern corporate governance, and the downstream customers were stable. If the debt crisis could be solved, the company could run normally and turn its losses into profits.

Preliminary due diligence indicates that the company has high production capacity and profitability according to its corporate financial statements. It appears to be able to achieve sustainable profitability on its own with the settlement of its debt burden and reduction of its financing cost and leverage ratio, and therefore has value in terms of restructuring and revitalization.

In addition, GOHO Assets fully negotiated and discussed the preliminary design of debt restructuring with the local government, which has a positive attitude toward the bailout of distressed enterprises. The proposal to enhance the control of the project by GOHO Assets received strong support from the local government, which laid the foundation for the subsequent restructuring process as well as the company's reorganization.

3.4.3 Bailout process

(1) Overview of debt restructuring ideas and schemes.

To balance the interests of all parties in the debt restructuring process, GOHO Assets AMC actively assisted the local government in designing solutions. After discussion and consultation with the government of Tongling Economic Development Zone, it was finally determined to solve the debt problem of Huana through judicial channels. A Tongling Xinrong copper-based new material industry development fund (limited partnership) (hereinafter "the private fund") was jointly raised and established by GOHO Assets holding fund management company and Tongling Dajiang Investment

Holding Co., Ltd., an urban investment company subordinate to the local government, which is used to invest in Huana's equity and creditors' rights, inject liquidity into the company, and ensure its normal operation. The specific scheme is as follows:

1. The debt restructuring party held a meeting with all creditors of Huana to communicate and determine the debt restructuring plan, which was agreed by all creditors. As all assets of Huana had been mortgaged to creditors, it was suggested that all creditors bring a lawsuit to the people's court with jurisdiction where the company is domiciled. After the lawsuit was concluded, the people's court would conduct a judicial auction of all of Huana's assets.

2. After the private equity fund invested in Huana, it planned to conduct capital operation on the company and consider the demands of suppliers. Therefore, it was finally determined that the private equity fund, the management of Huana (except the original shareholders), and some suppliers would jointly invest to establish a new company, which would undertake all of the assets of the original Huana Company in the form of judicial auction.

3. The new company was controlled by private equity funds. The controlling shareholders conducted market-oriented recruitment, established the management of the new company, and appointed directors, supervisors, and legal representatives to the new company. All employees of the original enterprise of Huana were re-employed in

the new company, and the new management was responsible for the operation and management of the company. The new company financed the bank with assets, and the controlling shareholder injected part of the working capital into the new company to ensure its daily operation. GOHO Assets AMC assisted the local government to actively introduce strategic investors and transfer part or all of the shares of the new company held by private equity funds to the strategic investors.

(2) Reorganization effect and exit mode.

On July 21, 2016, the new company held the first shareholders' meeting, the first session of the board of directors, and the first session of the board of supervisors, deliberated and approved the proposals related to the company's operation and management, elected the company chair and the chair of the board of supervisors, and reshaped the decision-making supervision and management mechanism.

In September 2016, due to an increase in the market price of copper foil, the price of copper-clad laminate increased by 10%. The new company seized this development opportunity, increased self-service orders, improved its profit margin, and added 30 million yuan of debt investment to the new company from the private fund. To encourage the employees of the new company to sprint to achieve the sales target, the private fund convened a shareholders' meeting to review and approve the management measures for employee reward and assessment in 2016.

Between September and December 2016, the new company sold 1.2798 million PCBs, accounting for 40% of annual sales. The sales revenue was 63.05 million yuan and the output value was 185 million yuan, accounting for 55% and 38%, respectively, of the whole year. The new company exceeds expectations and achieves the goal of turning losses into profits.

After the establishment of the new company, GOHO Assets AMC jointly discussed the capital market planning objectives of the company with the Management Committee of Tongling economic development zone and other shareholders, and sought an exit path for private equity funds. In 2017, GOHO Assets led the relevant parties to communicate with Zhejiang Huazheng New Materials Co., Ltd., Jiangxi Shengxiang Electronic Materials Co., Ltd (listed on the New Third Board: 833836), Shenzhen Feishang Group, Wuhu Chujiang New Materials (stock code: 002171), Wuhan Lianhengxin, Shandong Jinbao Company, and other companies to introduce strategic investors and realize the safe exit of private equity held by private equity funds in new companies.

3.4.4 Bailout results

After several rounds of negotiations and comprehensive consideration of the operation of the new company, the withdrawal of private funds, the interests of minority shareholders, and the demands of the local government, all parties finally agreed to

determine the strategic investors of the new company by means of entry bidding transaction. In August 2017, GOHO Assets transferred all of the equity of the new company held by the private fund.

The success of Huana's debt restructuring quickly resolves the debt crisis in the guarantee chain, effectively prevents the spread of risks, enabled the enterprise to achieve new development, and turns losses into profits. It plays an important role in promoting the healthy and stable development of the local economy and helping industrial transformation and upgrading, and wins high praise from the Tongling municipal government and wide recognition from across society.

3.4.5 Decision-making model analysis

(1) Analysis from the perspective of control

1. Reliance on local government consultation and cooperation to enhance project control

Under the active organization of the local government and after multiple discussions, GOHO Assets took up the due diligence responsibility. After due diligence and the preliminary design of debt restructuring, it fully negotiated with the local government to finalize a reasonable solution, and received strong support to enhance project control and lay the foundation for the subsequent restructuring process and company reorganization.

2. Private equity funds achieve equity control of the new company

The private equity fund, the management of Huana (in addition to the original shareholders), and some suppliers jointly contributed to the establishment of the new company. The private equity fund had equity control of the new company, with the original key management personnel of the company as the core management team, and continued to gradually introduce and train new talent for the management team. At the same time, we continued to use the intangible assets and customer resources of Huana, improved its research ability and technical advantages, and enhanced its core competitiveness as a leading enterprise in the strategic emerging new material industry.

(2) Analysis from the perspective of fundamentals

1. Accurate judgment of the impact of time factors

In 2013–2014, domestic price level maintained high, and although China's economic growth generally showed a downward trend, the annual GDP was 6,767.08 billion yuan, an increase of 6.9%, which ranked top of the world's major economies. China's economic operation remains in a reasonable range, and industrial restructuring accelerated, with clear results from transformation and upgrading. Based on the relationship between price level and demand for commodities, as well as the macroeconomic growth rate, we judge that Huana's future production of copper foil and copper-clad sheet products would have a broad market space. Reflecting the

accuracy of this analysis, starting from September 2016, the domestic copper foil market sees a price increase in line with expectations and the price of copper-clad sheets increased by 10%. The new company seizes this development opportunity to increase self-service orders and improve profitability.

2. Judgment of corporate financing interest rate and leverage ratio

Without considering Huana's financing guarantee and mutual insurance debt, the company's financial indicators such as financing interest rate and leverage ratio are better, showing that the company had high production capacity and profitability. The company is predicted to be able to achieve sustainable profitability on its own with the resolution of its debt burden, lower financing rates, and lower leverage, and it therefore has reorganization and revitalization value.

3.5 Summary of Successful Reorganization Cases

From the above analyses of a listed company, a real estate enterprise, and a manufacturing enterprise in major consumer industries, it is clear that distressed enterprises are not limited to a single industry, can encounter difficulties for a variety of reasons, and face diverse market conditions. With good due diligence, the practitioner, using the GOHO Assets methodology, can fully understand the macro- and firm-fundamentals of the company and the control of the company after the distressed asset investment. The detailed case studies show that the key influencing factors for the success of distressed enterprise bailouts are gross margin, total asset turnover ratio,

leverage, financing rate, equity concentration, enterprise nature, industry impact, and time factor impact.

The firm fundamental factors affecting Lotus Health are the legacy of a state-owned enterprise system, namely personnel burden and a large debt burden, and the serious erosion of the enterprise's net profit. Even in distress, however, it has a sales network of more than 1,000 primary distributors and dose not die out, indicating that its products are still competitive in the market, and the enterprise could escape distress if its main business gross margin could be guaranteed to improve.

In the case of Huana, based on real financial statements, I consider that if the company settled its financing guarantee and mutual insurance debt, the company's financing interest rate, leverage ratio, and other financial indicators would perform better, significantly reducing its financial costs; therefore, it has reorganization and revitalization value.

Analysis of macro-fundamental factors indicates that the impact of industry factors and time factors in each industry have a close correlation, affecting the confidence of entrepreneurs to invest. In cyclical industries, investors who intervene in the cyclical trough of the invested enterprises and exit in the cyclical peak often have considerable returns, which requires observing and analyzing the trend of the GDP deflator and relies on professionals to accurately judge the future situation. For non-cyclical industries,

indicators such as industry prosperity and regional investment growth rate have an important impact on the expansion and development of enterprises. When industry prosperity and regional investment growth rates are high, the enterprises in the industry are generally good. However, when those indicators are low, the leading enterprises have a stronger ability to resist risk, while smaller-scale have a weaker ability to operate under such conditions.

Another major determinant of the effectiveness of rescue for enterprises is the control factor. The cases above show that equity concentration has an impact on bailing out distressed enterprises. First, when an enterprise has a low concentration of equity, the amount of capital needed to control the listed company can be reduced. Second, when collecting equity from minority shareholders, the investor's premium capacity is greater due to the larger number of shareholders, such as in the case of Lotus Health, in which GOHO Assets achieves control of the listed company with a small equity stake. In addition, given China's current stage of development, local governments have concerns about the impairment of state-owned assets and asset loss from state-owned enterprises, facility at the implementation of market-based bankruptcy restructuring decisions by enterprises and governments.

In the next part of this chapter, I present the cases of a holding company of a listed electronic components company and a listed firefighting equipment company. These

two companies are deemed to have no bailout value after the key impact factor analysis by the GOHO Assets team. One company subsequently goes into bankruptcy and liquidation and the other is delisted. These two cases vindicate the importance of the key influencing factors from the reverse perspective.

3.6 Case Study of a Listed Firefighting Equipment Company

3.6.1 Condition before bailout

This firefighting equipment company was listed in November 2010. As of March 2020, its share capital was about 2.5 billion yuan. The business scope of the company and its subsidiaries included production and sales of firefighting equipment, fire engineering, garden engineering, and cultivation and sales of edible fungi. The largest shareholder of the company and its persons acting in concert held 17.77% of the shares, and the second largest shareholder and its persons acting in concert held 16.87%.

(1) The listed company had many regulatory problems

Due to illegal operations and other problems, the listed company, company executives, and shareholders have successively received multiple decisions on administrative supervision measures since 2019. For example, the company recognized 42.833 million yuan of revenue in advance in 2016 and 128.0483 million yuan of project revenue in advance in 2017, resulting in false records in the annual reports for 2016 and 2017, and a shareholder failed to fulfill his commitment to provide 120 million yuan of financial

assistance to the company.

(2) The profits of the company's three main businesses decreased

1. *Engineering construction business*. The company's engineering projects were mainly obtained through bidding to provide landscaping and ecological restoration services. After the completion of the project, the employer was responsible for arranging and completing the completion acceptance and handover, and the project was then to enter a maintenance period or warranty period. The construction period of most projects was 3 to 5 years, and greening projects required a maintenance period of 6 to 12 months after completion. From 2016 to 2018, the total recognized revenue of the engineering construction business was 5.044 billion yuan, of which the cumulative recognized revenue of fully funded projects was 2.419 billion yuan. According to the corporate bond rating report in 2019, the cumulative collection amount of the company's main construction projects under construction was only 1.298 billion yuan by the end of March 2019, of which the cumulative collection amount of fully funded projects was only 642 million yuan. A large number of engineering projects undertaken by the company entered shutdown in 2018. The company was highly dependent on its top five customers. The downstream customers were mainly small and local real estate developers. The customer quality was average, and the uncollected project funds of the company had a high collection risk.

2. *Firefighting business*. The business mainly adopted the production mode of "production based on sales" and had a moderate stock of conventional products. In terms of product sales, the company focused on distribution, supplemented by direct sales. Therefore, the concentration of the top five customers of the company's firefighting products was low, and the downstream customers were mainly private distribution enterprises.

At the end of March 2019, the production plant area of firefighting products was 212,700 m^2, including 89,400 m^2 in its Tianjin production base, covering almost the entire area of that base (96,900 m^2). In terms of production capacity, the output and capacity utilization rate of the company's firefighting products (except for sprinklers) had decreased significantly.

3. *Edible fungi business*. The company's edible fungi business was focused on R&D and the industrialized planting and sale of edible fungi. Its products included *Flammulina velutipes*, *Pleurotus eryngii*, *Agaricus blazei*, and other edible fungi. The company's customers were mainly private dealers and self-employed households, and customer concentration was high.

(3) Analysis of comparable companies

Table 3.2 Analysis of the listed company and comparable companies

	2016	2017	2018

	Engineering business	Edible fungus business	Engineering business	Edible fungus business	Engineering business	Edible fungus business
Orient Landscape	29.33	/	45.96	N/A	31.51	/
PB Holdings	24.04	/	26.87	N/A	26.95	/
Techand	28.53	/	32.84	/	32.28	/
Xuerong Biotechnology	/	9.85	/	13.18	/	17.86
Junesun Fungi	/	5.85	/	7.39	/	9.26

Comparison with comparable companies shows that (1) in terms of engineering business, the business revenue of the listed companies increased by nearly 1 billion yuan year-on-year in 2017 and decreased by 1 billion yuan year-on-year in 2018, with sharp fluctuations. However, the garden engineering businesses of comparable companies did not change significantly, except for Oriental Landscape. (2) In terms of edible fungus business, the business segment of the listed companies fell in 2018, but that of comparable companies continued to rise and there was no decline in revenue.

(4) Debt defaults, departure of venture capitalists, depletion of company liquidity

In December 2019, the listed company issued an announcement of corporate bond default, stating that it could not pay the principal and interest of 1.2 billion yuan in corporate bonds issued in 2016, resulting in material default. The company was also sued by creditors and filed for bankruptcy reorganization. Due to the deterioration of business conditions and the feasibility of project resumption, the strategic investors introduced by the listed company in 2019 also quickly chose to withdraw, further

increasing the pressure to resolve the debt.

3.6.2 Decision-making model analysis

(1) Distressed asset investors had unstable control over the company

The company had no real controller for a long time, and the control rights were unstable, leading to the risk of unstable control and operation. The first and second largest shareholders have been replaced. The ranking of the largest and second largest shareholders has been shifting. In addition, the first and second largest shareholders planned to transfer part of the company's shares they held to a third party in 2018, and to entrust all the voting rights of the company's shares that has not been transferred to the third party to exercise, indicating that the main shareholders lacked confidence in the development of the company.

(2) The main business income of the listed company fluctuated greatly with low gross margin

The company's main business income increased significantly in 2016 (the first year of asset restructuring), and decreased significantly in 2018 when the performance betting period expired and the company suffered a net profit loss for the first time. According to the most recent announcement at the time when we contacted the listed company, the net profit attributable to the company's shareholders was expected to be −2.158 billion yuan to −3.047 billion yuan in 2019. The fluctuation of the company's business

income was in sharp contrast to that of other companies in the same industry. The garden construction business, which accounted for the largest proportion of the company's business income, had a cumulative recognized income of 5.044 billion yuan from 2016 to 2018, whereas the cumulative collection was only 1.298 billion yuan. A large number of projects fell into shutdown or disputes in 2018.

(3) Large difference between net assets and test value of listed companies, low total assets turnover ratio, and high leverage ratio

According to the analysis and compression of the main assets of the listed company, its total assets decreased by 3.8 billion yuan in 2018, the actual asset scale was approximately 5 billion yuan, and the total liabilities were about 4.5 billion yuan, of which the balance of interest-bearing liabilities was about 1.7 billion yuan (including the loan contract disputes and guarantee balance not included in the financial statements), and the current ratio decreased significantly in 2018. The net assets of the company were worth approximately 500 million yuan, the total share capital was 2.492 billion yuan, and the net asset per share was approximately 0.20 yuan. As the listed company belongs to the manufacturing industry with hard assets, the market value should be close to the net book value. Therefore, there was a risk of overestimation of the stock price.

3.6.3 Results after abandoning bailout

According to the decision-making model, the listed company does not have bailout value, so GOHO Assets does not invest in this enterprise. Ultimately, the company was delisted by the Shenzhen Stock Exchange in July 2020 because the daily closing price had remained below 1 yuan for 20 consecutive trading days from April 9, 2020 to May 11, 2020. As of now, the company is still performing poorly compared with its peers. This case study illustrates the practicality of assessing the key influencing factors I have distilled from the reverse perspective.

3.7 Case Study of a Holding Company of Listed Electronic Company

3.7.1 Condition before bailout

This case involves a civil dispute between a financial leasing company and the holding company (hereinafter “the Holding Company”) of a listed electronic components company (hereinafter “the listed company”). In June 2020, after the application of the financial leasing company, Hefei Intermediate People's Court ruled to auction 18 million shares of the listed companies held by the Holding Company. This would affect the Holding Company’s holding position in the listed company and arouse the attention of relevant local departments where the listed company is located. GOHO Assets AMC was entrusted by the local government to carry out due diligence on the Holding Company and judge whether there is rescue value and if so how to rescue it.

(1) Basic overview

The Holding Company was established in 1981 with a registered capital of 482.31 million yuan, an asset scale of more than 3 billion yuan, and more than 2,100 employees. The predecessor of the company was a small garment factory established in 1952. It switched to manufacturing electronic products in 1975. In 2007, it was reorganized by a private enterprise in Zhejiang and transformed from a state-owned enterprise to a private holding enterprise. It was nationalized in 2011 and is now a wholly owned subsidiary of a private enterprise. A core enterprise controlled by the company was listed on the Shanghai Stock Exchange in June 2000. It was the first listed company of this type of enterprise in China.

(2) Information of subordinate holding and participating companies

The Holding Company has two subsidiaries: an injection molding part branch and an import and export branch. There are nine subordinate holding and participating companies, and the registered capital and equity ratio are as shown in Table 3.3.

Table 3.3 List of holding and participating companies of the Holding Company

No.	**Company name**	**Registered capital**		**Equity ratio**
1	An electronic limited liability company	564 million yuan		16.76%

2	A chemical limited liability company	39 million yuan		46%
3	A photoelectric technology limited liability company	50 million yuan		100%
4	A new energy technology limited liability company	40 million yuan		100%
5	A lattice power electronics limited liability company	30 million yuan		100%
6	An electronics limited liability company	40 million yuan		100%
7	A trading limited liability company	5.1 million yuan		100%
8	An information Technology limited liability company	3 million yuan		100%
9	A real estate limited liability company	50 million yuan		45%

(3) Main assets and liabilities of the Holding Company

The main assets of the Holding Company are its stock holdings of listed companies. According to the closing price on July 6, 2020, the market value of listed companies held was 381 million yuan. Its financial personnel reported that it had long-term equity investments in nine enterprises, and the ending balance of book assets was 323 million yuan. However, according to information obtained from other channels, the enterprise's

accounts were seriously inconsistent with the real situation, in which case the audit report and asset evaluation report should prevail. In addition, the enterprise had a small number of real estate holdings such as network houses and land (of unknown value).

The financial personnel of the enterprise reported that the loan principal of financial institutions was 507.74 million yuan (of which 397.71 million was overdue), and the guarantee provided by the enterprise for the loans of subsidiaries of 155.6 million yuan was overdue. In addition, the person in charge of the enterprise reported that the enterprise's contingent liabilities were between 5 billion and 6 billion yuan.

3.7.2 Decision-making model analysis

(1) High leverage ratio indicator

The auditor was commissioned to conduct an inventory of the debtor's assets, liabilities, and owner's equity as of June 30, 2020, and issue an asset inventory report. After the audit and inventory, the total assets valued at 246,920,700,000 yuan, total liabilities at 7,177,465,800,000 yuan, and total net assets at −693,053,800,000 yuan. The holding enterprise is insolvent, which directly leads to a negative leverage ratio indicator.

(2) Low gross margin indicator

The profitability of all subsidiaries of the holding enterprise, except for the subsidiaries of the core listed enterprise, is weak. If the core listed enterprise lost control in the future, resulting in an inability to be consolidated, the gross margin index of the holding

enterprise would be seriously affected.

3.7.3 The result after abandoning bailout

Based on an analysis of the key factors summarized in the successful cases described above, the holding enterprise does not have rescue value. However, to prevent a negative impact on the listed enterprise after its shares held by the holding enterprise are bought by others, GOHO Assets AMC proposed to implement bankruptcy liquidation for the holding enterprise and auction the equity of the listed enterprise held by the holding enterprise, under a scheme for local municipal state-owned platform companies to undertake an equity auction. These suggestions were accepted and quickly implemented by the leaders of the municipal Party committee and the municipal government, which ultimately ensured the sustainable and stable production and operation of the listed enterprise.

· CHAPTER IV: DATA PROCESSING

To verify the conclusions obtained from the case analyses, in this chapter I use the distressed listed companies in Shanghai and Shenzhen A shares as the sample, and use risk warning (ST) or delisting warning (*ST) as the evaluation standard. I use gross margin, total asset turnover ratio, leverage ratio, financing rate, equity concentration, and corporate nature as explanatory variables, and whether the distressed listed enterprise emerges from distress within three years as explanatory variable.

4.1 Sample Selection

4.1.1 Basic sample selection

The data are from the WIND database. The statistical scope is listed companies in Shanghai and Shenzhen A-shares during the period from January 2014 to the end of January 2018. We use a risk warning (ST) or delisting warning (*ST) as a marker of listed companies in distress, and denote this subsample, totaling about 260 companies, as the baseline sample.

The market economic environment, legal policies, and other factors have changed considerably over the years, which reduces the timeliness of past data. There are also some missing data in the sample, which may have a negative impact on the accuracy of the model results. The start time of data collection is chosen to be January 2014 as this is the latest time that allowed sufficient valid data to be collected.

Furthermore, on December 31, 2020, the Shanghai and Shenzhen Stock Exchanges released the newly revised *Stock Listing Rules of Shanghai Stock Exchange*, *Stock Listing Rules of Shenzhen Stock Exchange*, and many other rules. These revisions introduce new provisions for the removal of caps and delisting of companies. Therefore, only data up to 2018 are used (Companies that were listed by ST or*ST in 2018 may be delisted by 2020 under the old rules, but the new rules make it possible to avoid delisting).

4.1.2 Baseline sample screening

Between 2010 and 2018, approximately 260 listed companies were ST or *ST. Eight companies are deleted from the sample due to missing data, and listed companies that repeatedly implement ST or *ST twice or more in a continuous period of time and those with extreme values of some financial indicators are also removed from the sample. The remaining sample of 220 companies includes 176 enterprises that have extricated themselves from distress, 22 enterprises that are classified as ST or *ST for three years, and 22 that are delisted.

Table 4.1 reports the number of newly distressed listed companies by year, and shows whether the distressed enterprises are extricated from distress or delisted.

Table 4.1 Number of listed companies in distress by year

Year	No. of newly distressed enterprises	Emerging from distress	Not out of distress (but still listed)	Not out of distress(delisted)
2014	35	31	2	2
2015	39	31	5	3
2016	57	52	1	4
2017	56	36	14	6
2018	33	26	0	7
Total	**220**	**176**	**22**	**22**

Table 4.2 Number of distressed listed companies by industry

S/N	Industry	Number
1	Chemical raw materials and chemical products manufacturing	24
2	Computer, communication and other electronic equipment manufacturing	15
3	Information transmission, computer services and software	14
4	Wholesale and retail trade	13
5	General equipment manufacturing	13
6	Electrical machinery and equipment manufacturing	12
7	Special equipment manufacturing	11
8	Electricity, gas and water production and supply	9
9	Agricultural and food processing	9
10	Non-ferrous metal smelting and rolling processing	8
11	Ferrous metal smelting and rolling processing	24
12	Real estate	15
13	Wine, beverage and refined tea manufacturing	14

14	Chemical fiber manufacturing	13
15	Coal mining and washing	13
16	Accommodation and catering	5
17	Mining	4
18	Textiles	4
19	Non-metallic mineral products	4
20	Construction	4
21	Transportation, storage and postal	4
22	Railroads, ships, aerospace and other transport equipment manufacturing	4
23	Other financial industries	3
24	Petroleum, coal and other fuel processing	3
25	Food manufacturing	3
26	Pharmaceutical manufacturing	3
27	Non-ferrous metal mining	3
28	Public facilities management	2
29	Radio, television, film and sound recording production	2
30	Furniture manufacturing	2
31	Paper and paper products	2
32	Comprehensive utilization of waste resources	1
33	Ferrous metal mining	1
34	Wood processing and wood, bamboo, rattan, palm, grass products	1
35	Leather, fur, feathers and their products and footwear	1
36	Business services	1
37	Oil and gas extraction	1
38	Health	1
39	Culture, education, industry, sports and recreational goods manufacturing	1
40	Research and experimental development	1
41	Instrument manufacturing	1

42	Capital market services	1
Total		**220**

Table 4.3 reports the reasons for listed companies being subject to a risk warning or delisting warning. It can be seen that the most common reason for a warning is that the audit revealed negative net profits for the two most recent fiscal years.

Table 4.3 Reasons for the implementation of risk or delisting warnings

S/N	Reason for warning classification	Number
1	The audit results of the last two fiscal years show that the net profit is negative	178
2	The certified public accountant issues an audit report that cannot express an opinion or expresses a negative opinion	14
3	The enterprise's production and operation activities have been seriously affected and it is expected that they will not return to normal within three months	2
4	Fraudulent issuance	2
5	Failure to disclose periodic reports according to law within the statutory time limit	2
6	The audit results of the latest fiscal year showed that its shareholders' equity was negative	2
7	Special treatment to be carried out due to other abnormal conditions	20
8	**Total**	220

4.2 Variable Selection

4.2.1 Choice of explained variable

Starting from when the listed enterprise gets into distress and ST or *ST is applied, I observe the previous 3 years and determine whether the following three situations occur: elimination of ST or *ST, delisting, or retention of ST or *ST without delisting. As listed companies have a certain shell value and financing price, to avoid delisting, the

controller of the company will typically implement various bailout measures in an attempt to improve the company's financial statements and eliminate the causes of risk warnings. Considering that the financial statements of the previous year must be audited, the latest disclosure period is before April 30 of the next year, and it will take some time for a company's reports to enter the WIND database and for the cap to be removed with the approval of the regulatory authorities. To ensure data accuracy, I take whether the listed company is still ST or *ST, or is delisted, after 3years as the basis for judging the bailout results of distressed enterprises. Therefore, whether the listed enterprise is still ST or *ST after 3 years is the explained variable. If the company is still ST or *ST or is delisted, the value of the explanatory variable is 0; otherwise, it takes a value of 1.

4.2.2 Selection of explanatory variables

The explanatory variables are defined in Table 4.4.

Table 4.4 Explanatory variables

S/N	Indicator type	Indicator name	Symbol	Formula
1	Fundamental analysis	Gross margin	GRM	(Operating profit + finance costs)/Operating income*100%
2		Total assets turnover ratio	TATR	Sales revenue/total assets*100%
3		Leverage ratio	LR	Total liabilities/total assets*100%
4		Financing cost	FIR	Financial expenses/total liabilities*100%
5	Control	Equity concentration	PFSH	Percentage of shares held by the first largest

	level analysis			shareholder
6		Enterprise nature	STATE	Dummy variable, equal to 1 for state-owned enterprises and 0 for private enterprises

(1) Selection of fundamental analysis indicators

Based on the results of the above case studies, we find that in practice, the fundamental indicators that play a key role in the process of restructuring and revitalization of distressed enterprises are gross profit margin, total asset turnover ratio, leverage ratio, and financing cost. The values of the fundamental analysis indicators are extracted from the financial statements of the year prior to the listed enterprise being classified as ST or *ST.

Gross margin (GRM) is used to examine whether the main business of a distressed enterprise is profitable. Considering that distressed enterprises often face higher financing costs, but that disadvantage can be addressed in the bailout process, GRM does not fully reflect the profits generated from the sales of listed companies.

Total asset turnover ratio (TATR) is used to examine the asset liquidity and turnover efficiency of the distressed enterprises.

Leverage ratio (LR) is used to examine the leverage level and debt burden of distressed enterprises. Considering that the relevant financial indicators of some distressed listed enterprises are poor and their net assets are negative in the year of interest, which directly leads to the leverage ratio indicator becoming negative, I select the gearing

ratio as the leverage ratio indicator.

Financing cost (FIR) is used to examine the financing cost of distressed enterprises. As the interest expense and interest-bearing liabilities of each listed enterprise are not available, they are substituted with financial expense and with total liabilities, respectively, in the calculation of financing cost.

(2) Selection of control-level indicators

Based on the results of the case studies, we select two control-level indicators, namely, equity concentration and enterprise attributes.

Equity concentration (PFSH), the percentage of the first largest shareholder's shareholding in the shareholder structure of the listed enterprise, is extracted from the financial statement of the year prior to the listed enterprise being classified as ST or *ST, and is used to assess the future control of the controlling power of the listed enterprise.

Enterprise nature (STATE) is a dummy variable that indicates whether the enterprise is state-owned or privately held. This indicator is also extracted from the financial statement of the year prior to the listed enterprise being classified as ST or *ST. If the distressed enterprise is a state-owned one, it can be assumed that its financial governance is relatively standardized and it can receive strong support from the local government or state-owned capital, which can be used to measure the level of support

from the local government.

4.2.3 Descriptive statistics

(1) General descriptive statistics

Table 4.5 Descriptive statistics of explanatory variables

Variable	Obs.	Mean	Std.Dev.	Min.	Max.	25th percentile	75th percentile
Whether the enterprise is ST or *ST after 3 years	220	0.8000	0.4009	0	1	-	-
Gross profit rate	220	-0.4325	1.1395	-12.7886	0.4462	-0.43093	-0.06099
Total assets turnover ratio	220	0.4894	0.4712	0.0033	4.6899	0.22649	0.600917
Leverage ratio	220	0.6988	0.3695	0.0308	4.0260	0.447639	0.869695
Financing costs	220	0.0312	0.0288	-0.0913	0.2445	0.017705	0.045093
Equity concentration	220	0.3019	0.1470	0.0355	0.6742	0.416225	2.348525
Enterprise nature	220	0.5136	0.5010	0	1	0.181675	0.408375

The values of GRM shows that between 2014 and 2018, the average gross margin of the distressed listed companies was −43.25%, the highest gross profit margin was 44.62%, and the lowest was −1,778.86%, with a standard deviation of 1.1395. A total of 177 listed companies have negative GRM and 43 have positive GRM, showing that the business conditions of the overall sample of companies are generally poor. Gross profit margin is influenced by the unit cost of sales, unit price of sales, and quantity of sales. A negative GRM reveals that there are serious problems with the operation and

pricing of the enterprise and the management of goods.

Between 2014 and 2018, the average TATR of the distressed listed enterprises was 0.4894, with a standard deviation of 1.1395. The distribution of TATR in the sample varies widely, with light-asset distressed enterprises in the general equipment manufacturing, information transmission, computer services, and software industries having a higher TATR, and hard-asset enterprises in industries such as real estate, chemical raw materials, and chemical products having a lower TATR. It should also be noted that a large percentage of the financial statements of distressed listed enterprises show restricted monetary funds, long-term accounts receivable, and some uncollectible inventory, and some companies have large invalid assets such as goodwill and other intangible assets. Because of the impact of these factors on the authenticity of the total assets, it is necessary to make a separate analysis according to the actual situation of each enterprise. However, when counting the total assets indicators of hundreds of companies, targeted analysis and adjustment are impossible, so there is inevitably some discrepancy between the situation implied by the TATR indicator and the real situation.

Between 2014 and 2018, the average LR of the sample was 0.6988, indicating that the leverage of distressed listed enterprises was generally high. Thirty of the companies, most of which are in traditional industries such as real estate, mining, chemical raw

materials, and chemical products manufacturing, have LR over 1.0.

Between 2014 and 2018, the average FIR of the distressed listed enterprises was 0.0312. This value is relatively low for enterprises in financial distress. The WIND database does not tabulate financial data on interest expense indicators separately, but instead replaces interest expenses by financial expenses. This treatment does not take interest income into account, which has an impact on the overall FIR. In addition, among the distressed enterprises, there is a local government intervention factor in the financing of some state-owned enterprises due to government subsidies, tax incentives, and other means of direct intervention to reduce financial costs; additionally, government-directed local banks lend to distressed enterprises at low interest rates, which also influences the indicator. Most distressed enterprises also lose their on-balance sheet financing function and choose to provide liquidity to their businesses through off-balance sheet financing at high interest rates, the cost of which is not reflected in their financial statements. Furthermore, some companies in the sample have negative financing cost data because even though they are classified as ST or *ST, their accounts are idle and contain large amount of funds. For example, Swellfun, a listed enterprise in the liquor category, was given a risk warning in 2014 due to negative net profit, but had sufficient cash flow and a small loan balance, and invested heavily in financial products to obtain interest income, leading to negative annual finance costs.

Between 2014 and 2018, the average value of PFSH in the distressed listed enterprises was 0.3019. Most (90%) of the sample companies have an equity concentration below 0.51, 64% have an equity concentration below 0.33, some have even smaller PFSH values, and some companies effectively have no controlling shareholder.

The STATE indicator reveals that 97 (48.5%) of the companies in the sample are private enterprises and 123 (51.5%) are state-owned.

(2) Comparative analysis of descriptive statistics

Table 4.6 Descriptive statistics: bailout failure

Variable	Obs.	Mean	Std.Dev.	Min	Max
Gross margin	44	-0.66049	2.003558	-12.7886	0.446197
Total assets turnover ratio	44	0.468824	0.808184	0.022488	4.689936
Leverage ratio	44	0.696963	0.578527	0.092347	4.025975
Financing cost	44	0.032018	0.033679	-0.0913	0.092793
Equity concentration	44	0.281839	0.154483	0.0899	0.6364
Enterprise nature	44	0.340909	0.479495	0	1

Table 4.7 Descriptive statistics: bailout success

Variable	Obs.	Mean	Std. Dev.	Min	Max
Gross margin	176	-0.37553	0.788773	-8.11748	0.406044
Total assets turnover ratio	176	0.494585	0.342367	0.003297	1.870659
Leverage ratio	176	0.699269	0.29774	0.030806	1.649887
Financing cost	176	0.031034	0.027496	-0.05836	0.244537

Equity concentration	176	0.306917	0.145094	0.0355	0.6742
Enterprise nature	176	0.556818	0.498179	0	1

The GRM indicator shows that the average gross profit margin of the successfully bailed out enterprises is higher than that of the failed enterprises, suggesting that the products of the successful enterprises are more accepted by the market during the enterprises' periods of distress, and that enterprises with competitive products are more likely to be bailed out successfully.

The average TATR of bailout successes is higher than that of bailout failures, indicating that the bailout successes have better asset turnover.

The average LR values of bailout successes and bailout failures are very similar. However, the standard deviation and the maximum and minimum values are smaller for successes than for failures, indicating that the LR distribution of bailout successes fall within a narrower range.

The average FIR of the successfully bailed out enterprises is slightly lower than that of the failed firms. As described above, one reason may be distortion due to the financing cost indicator. Another reason may be the effect of some extreme values in the data of successful bailout firms.

Finally, the STATE indicator shows that more state-owned enterprises are successfully bailed out whereas more private firms are unsuccessfully bailed out.

4.2.4 Data standardization processing

Conventional data processing is performed using the advection–standard deviation transformation and the advection–polar deviation transformation for data standardization, with the aim of eliminating the effect of the magnitude on the regression model. The descriptive statistics of the listed companies in distress do not show clear data distribution patterns for each indicator, and there are many extremely large or small values, which has an impact on the stability of the model. Therefore, I standardize the four indicators of fundamental analysis (GRM, TATR, LR, and FIR) and select the average indicator across a single industry as the denominator, and the financial indicators of listed companies as the numerator. This standardization by industry averages eliminates the influence of magnitude on the model stability and the influence of industry factors on the standardization.

Whether the control indicators (equity concentration and enterprise nature) are standardized or not only has an impact on the indicator weights, it does not affect the model results, so they are not standardized.

· CHAPTER V: EMPIRICAL RESEARCH

5.1 Research Method

I adopt logit and probit models to predict whether the listed companies can be successfully lifted out of distress under time fixed effect or industry fixed effect scenarios by using the gross profit rate, total asset turnover ratio, leverage ratio, financing rate, equity concentration and the enterprise nature of the listed companies.

The model takes the specific form of

$$\mathrm{P}(Y_{it}=1)=F(a_0+a_1\mathrm{G}RM_{it}+a_2\mathrm{TATR}_{it}+a_2\mathrm{LR}_{it}+a_2\mathrm{FIR}_{it}+a_2\mathrm{PFSH}_{it}+a_2\mathrm{STATE}_{it}+\lambda_i+\varepsilon_{i+}\eta_i)$$

where

(1) *Y* is the dependent variable, equal to 1 when the enterprise in distress is successfully rescued, and 0 otherwise;

(2) a_0 is a constant term;

(3) GRM, TATR, LR, etc. are independent variables, and a_1, a_2, a_3, etc. are regression coefficients;

(4) η_i denotes the industry fixed effect for the industry to which enterprise I belongs and λ_i denotes the time fixed effect.

5.2 Empirical Results

For this thesis, I use Stata software to analyze the following four scenarios: (1) no

consideration of time fixed effects or industry fixed effects; (2) no consideration of time fixed effects, but consideration of industry fixed effects; (3) consideration of time fixed effects, but not industry fixed effects; (4) consideration of both time fixed effects and industry fixed effects.

Table 5.1 Coefficient estimation results of probit model and logit model

Variable	(1)		(2)		(3)		(4)	
	Probit	Logit	Probit	Logit	Probit	Logit	Probit	
Gross margin	0.0174* (1.93)	0.0299* (1.87)	0.0236** (1.85)	0.0415** (1.83)	0.0202** (2.12)	0.0339** (2.04)	0.0249* (1.92)	0.0437** (1.97)
Total assets turnover ratio	-0.0049 (-0.04)	0.0014 (0.01)	0.0447 (0.26)	0.0993 (0.34)	-0.0480 (-0.38)	-0.0877 (-0.37)	0.0273 (0.16)	0.0384 (0.13)
Leverage ratio	-0.0319 (-0.24)	-0.0753 (-0.32)	0.0668 (0.37)	0.1362 (0.45)	-0.0446 (-0.31)	-0.0995 (-0.40)	0.0574 (0.22)	0.0970 (0.30)
Financing costs	-0.0029 (-0.81)	-0.0049 (-0.86)	-0.0001 (-0.02)	-0.0003 (-0.05)	-0.0015 (-0.43)	-0.0024 (-0.42)	0.0014 (0.35)	0.0025 (0.39)
Equity concentration	-0.1225 (-0.16)	-0.3498 (-0.25)	-0.3307 (-0.37)	-0.7717 (-0.51)	-0.0602 (-0.08)	-0.2340 (-0.17)	-0.1802 (-0.19)	-0.3835 (-0.24)
Enterprise nature	0.5059** (2.25)	0.9134** (2.26)	0.5029* (1.89)	0.8600* (1.87)	0.5897** (2.48)	1.0207** (2.44)	0.6291** (2.18)	1.0604** (2.14)
Industry effect	No	No	Yes	Yes	No	No	Yes	Yes
Time effect	No	No	No	No	Yes	Yes	Yes	Yes

Log-likelihood	-103.85	-103.69	-84.02	-83.93	-96.00	-96.23	-75.66	-75.51
Pesudo-R^2	0.0576	0.0581	0.1435	0.1444	0.1280	0.1250	0.2287	0.2303

Note: *,**, and* denote 1%, 5%, and 10% significance levels, respectively; Z values are within brackets; probit is the predicted result of the probit model; logit is the predicted result of the logit model**

As the probit and logit models are nonlinear, it is necessary to calculate the average marginal effect of each variable in the model over the sample period. Table 5.2 presents the average marginal effects of each model variable and the rate at which the model accurately predicts them.

Table 5.2 Average marginal effects of the model variables and the percentage of accurate model predictions

Variable	(1)		(2)		(3)		(4)	
	Probit	Logit	Probit	Logit	Probit	Logit	Probit	Logit
Gross margin	0.0046*	0.0045*	0.0064*	0.0066*	0.0049**	0.0047**	0.0061**	0.0062**
	(1.96)	(1.91)	(1.89)	(1.97)	(2.17)	(2.09)	(1.97)	(2.05)
Total assets turnover ratio	-0.0013	0.0002	0.0122	0.0158	-0.0116	-0.0122	0.0067	0.0054
	(-0.04)	(0.01)	(0.26)	(0.34)	(-0.38)	(-0.37)	(0.16)	(0.13)
Leverage ratio	-0.0084	-0.0113	0.0183	0.0217	-0.0108	-0.0138	0.0141	0.0137
	(-0.24)	(-0.32)	(0.37)	(0.45)	(-0.31)	(-0.40)	(0.30)	(0.30)
Financing costs	-0.0008	-0.0007	-0.0000	-0.0000	-0.0004	-0.0003	0.0003	0.0004
	(-0.82)	(-0.87)	(-0.02)	(-0.05)	(-0.43)	(-0.42)	(0.35)	(0.39)
Equity concentration	-0.0323	-0.0524	-0.0905	-0.1230	-0.0147	-0.0325	-0.0443	-0.0543
	(-0.16)	(-0.25)	(-0.37)	(-0.51)	(-0.08)	(-0.17)	(-0.19)	(-0.24)
Enterprise nature	0.1333**	0.1369**	0.1376*	0.1371*	0.1427**	0.1419**	0.1548**	0.1502**
	(2.23)	(2.31)	(1.94)	(1.94)	(2.56)	(2.53)	(2.28)	(2.24)

Correctly classified	81.36%	81.36%	75.72%	76.30%	79.55%	79.09%	76.88%	77.46%

Note: *,**, and * denote 1%, 5%, and 10% significance levels, respectively; Z values are within brackets; probit is the predicted result of the probit model; logit is the predicted result of the logit model**

5.3 Result Analysis

According to the results in Table 5.2, the percentage of accurate predictions within the sample period of the probit model is 81.36%, which is a good prediction performance. Two indicators—GRM and STATE—are significant during the sample period. Four indicators—TATR, LR, FIR, and PFSH—do not pass the significance test.

5.3.1 Indicators that do not pass the significance test

(1) Total asset turnover ratio (TATR)

The average marginal effect of TATR is −0.0013, indicating that the total asset turnover rate has a negative effect on the probability of the firm being removed from ST and restored to a normal listed enterprise during the sample period, but the indicator fails the significance test. In the decision-making model of GOHO Assets, we consider that the total asset turnover rate has a positive effect. This deviates from the results of the empirical analysis, for which there are several possible reasons. In the financial statements of distressed listed companies, a large percentage of monetary funds are often restricted, accounts receivable and inventory are uncollectible, there are large-scale goodwill, intangible assets, and other invalid assets, and there may even be

fraudulent situations such as inflated revenue, all of which lead to distortion of figures such as total assets and operating income. Therefore, during the empirical analysis, using the TATR indicator extracted from the financial statements does not reflect the actual total assets turnover rate of the listed companies. This eventually leads to a discrepancy between the empirical analysis results and the decision-making model, requiring in-depth analysis and impairment testing of the financial statements of the distressed enterprises.

(2) Leverage ratio (LR)

The average marginal effect of leverage is −0.0084, indicating that LR has a negative effect on the probability that the enterprise will be removed from ST and restored to a normal listed enterprise during the sample period, which is consistent with the findings of the GOHO Assets decision-making model. However, the indicator does not pass the significance test. Because of factors such as inflated assets or revenues, in-depth analysis and impairment testing of financial statements should be used as the basis for decision making with adjusted financial statements.

(3) Financing cost (FIR)

The average marginal effect of financing cost is −0.0008, indicating that the FIR has a negative effect on the probability that the enterprise is removed from ST and restored to a normal listed enterprise during the sample period, which is consistent with the

decision-making model for the country's thick assets. However, this indicator does not pass the significance test. In the empirical analysis, due to the unavailability of interest expenses and interest-bearing liabilities of each listed enterprise, I use financial expenses instead of interest expenses and total liabilities instead of interest-bearing liabilities, and choose "financial expenses/total liabilities*100%" as the financing cost indicator. As a result, this indicator does not accurately reflect the financing cost of distressed enterprises. In addition, in the descriptive statistics above, the protective measures taken by local governments and local banks for some state-owned enterprises, as well as the off-balance-sheet financing behavior of distressed firms, generate noise in the data underlying the FIR indicator, causing the indicator to fail the significance test.

(4) Equity concentration (PFSH)

The average marginal effect of PFSH is 0.0130, indicating that equity concentration has a positive effect on the probability of the enterprise being removed from ST and reverting to a normal listed enterprise during the sample period, which is consistent with the findings of the GOHO Assets decision-making model, but this indicator fails the significance test. Based on the audited financial statements of the listed companies, I use the percentage of shares held by the largest shareholder as an indicator of equity concentration. In practice, cross-shareholding or agreement arrangements between the

largest shareholder and other shareholders, forming substantially concerted parties, are common in the market and lead to distortion of equity concentration indicators due to incomplete information in the public realm. According to the results of the case studies, the PFSH is one of the important influencing factors when judging the rescue of distressed enterprises. In their actual investigations, the relevant personnel of local AMCs should pay attention to the controlling shareholders' direct shareholding ratio, in addition to indirect shareholding and concerted parties, and make relevant adjustments to the equity concentration index.

5.3.2 Indicators that pass the significance test

(1) Gross margin (GRM)

The average marginal effect of GRM is 0.0046, which is significant at the 10% level, indicating that for each percentage point increase in gross margin during the sample period. The probability of the enterprise returning to normal listing increases by 0.0046. This indicates that even under the difficult at-risk situation, the enterprise's products are still accepted by the market and have a certain degree of competitiveness, which has a positive effect on the bailout result. GRM is a profitability indicator, and the results of the theoretical analysis of this indicator are consistent with the real-life situation.

(2) Enterprise nature (STATE)

The average marginal effect of the STATE indicator is 0.1403, significant at the 5% level, indicating that the probability of state-owned enterprises reverting to a normal listed company during the sample period is 0.1403 higher than that of non-state-owned enterprises. This result suggests that if a distressed enterprise is state-owned, it can expect to receive more support from the local government and state-owned capital in the bailout process, enhancing the likelihood of its bailout success. Although STATE is a non-financial indicator, the results of the theoretical analysis are consistent with practice.

5.4 Further Analysis

Below, I further analyze the two significant indicators. GPMS measures the market competitiveness of the products produced by a distressed enterprise, and is an important indicator of whether the distressed enterprise can operate autonomously and sustainably after it has emerged from financial distress. The results of STATE indicate that state-owned enterprises have more standardized financial governance and are also expected to receive greater support from local governments. Furthermore, analysis of the motives and specific behavioral approaches of local government intervention in distressed enterprises shows that local governments play an important role in the outcome of bailouts.

(1) Motivation of local governments to intervene in distressed enterprises

1. Promotion of the local economy by distressed enterprises

If a distressed enterprise can improve its situation and achieve good development, it will bring direct economic benefits to the government in terms of tax revenue and GDP. This is especially true for listed companies, which can attract more investment and drive the development of the whole industrial chain around them, in addition to their own economic benefits to the local government. Large listed companies can also promote the development of surrounding cities and drive the rise of the surrounding service industry, which usually attracts the attention of provincial and municipal governments.

2. Social responsibility of distressed enterprises

Another major motivation for local government intervention in distressed enterprises is that the enterprises take on some of the local social responsibility. State-owned enterprises provide more jobs than private enterprises do, and due to institution problems, they also assume more basic livelihood protection for employees, such as that related to internal retirement and work-related injuries. Therefore, the local government will intervene to a certain extent in such enterprises.

3. Promotion motivation of local government officials

The appraisal system for local officials in China is still centered on economic assessment, and local government officials will try to avoid economic downturns during their own tenure. Local officials have ample incentive to intervene in enterprises

that are in dire need by making direct or indirect government intervention to get them out of distress, especially in third- and fourth-tier cities where there are fewer listed companies and where delisting, if it occurs, has a significant impact on officials' prospects for promotion.

(2) Specific form of local government intervention in distressed enterprises

1. Direct means

The most direct way for local governments to intervene in distressed public companies is to grant government subsidies, which can contribute to the relevant accounts in the financial statements. There are various types of subsidy. In general, subsidies are most often granted for science and technology R&D and environmental protection, and the size of the subsidy is usually related to the degree of political affiliation between the company and the government, with state-owned enterprises more likely to receive higher amounts and more multi-project subsidies.

2. Indirect means

Indirect intervention usually involves intervening in corporate strategy, business decisions, personnel management, and other matters to help distressed enterprises get out of distress. It usually takes the form of government-led M&A restructuring or the replacement of management.

Government-led M&A restructuring of state-owned enterprises may involve the

integration of better-run state-owned enterprises into less financially sound enterprises to prevent a range of social problems associated with corporate bankruptcy; the merging of poorly operated enterprises into an enterprise with high-quality assets and the replacement of poor quality assets, to achieve corporate “bloodletting”; or bankruptcy restructuring of distressed listed companies by coordinating various channels such as courts, tax departments, and social financial resources to facilitate conditions in which distressed enterprises can avoid delisting.

Alternatively, after a major liability incident or ongoing losses, the local government may directly replace the management, which usually brings positive results.

· CHAPTER VI: CONCLUSION

In this thesis, I first describe the background of local AMCs, the means of dealing with non-performing assets, and the future development trend. After analyzing the causes of distressed enterprises, the existing means to rescue enterprises, and the existing problems, I present a model to analyze the influencing factors of the bailout value of enterprises in distress. In my literature review, I find that scholars have analyzed enterprises in distress, but few analyses have included typical real-life cases.

Therefore, in my research, I combined real case analysis with empirical verification. Before presenting the case studies, I describe GOHO Asset's methodology for the bailout of distressed enterprises and introduce GOHO Asset's analytical approach to distressed enterprises in its investment decisions and the decision-making model it has built, which contains the following factors: (1) control factors, including local government support, judicial environment, debt status, employee situation, shareholder structure, etc.; and (2) fundamental factors, including macroeconomic and industry outlook and other macro-fundamental factors, as well as firm fundamental factors, such as gross profit margin, total asset turnover ratio, leverage ratio, financing rate, equity concentration, and enterprise nature. In the case study section, I analyze three cases in which distressed enterprises are successfully rescued and two cases in which distressed enterprises do not have rescue value, to assess whether my decision-making model is

practical. For the empirical analysis, I select 220 distressed listed companies as my sample and applied logit and probit models using the gross profit rate, total asset turnover ratio, leverage ratio, financing interest rate, equity concentration and enterprise nature of the listed companies to predict whether listed companies could be successfully rescued from distress.

The following conclusions can be drawn from my results:

1. The three case studies of successful bailouts of distressed enterprises show that the companies validated by the GOHO Assets decision-making model are successfully bailed out. After analyzing two other cases using the decision-making model of GOHO Assets, it is concluded that they did not have bailout value. Ultimately, one of these companies eventually goes into bankruptcy and liquidation, and the other is delisted. These two cases demonstrate the practicality of the decision-making model for identifying companies that are unlikely to be bailed out successfully.

2. The results of the empirical analysis show that the final model has a prediction accuracy of 81.36% in the sample period, demonstrating good prediction performance. The gross margin and company attributes indicators, and the empirical verification results, are significant influential factors in determining the bailout value of distressed enterprises. The larger the value of these indicators, the greater the bailout value of the distressed enterprise. Local AMCs should focus on these indicators when conducting

due diligence on a distressed enterprise. In addition, I analyze the motivations and specific behavioral patterns of local government intervention in distressed enterprises and find that local governments play an important role in the outcome of rescue of both private and state-owned distressed listed enterprises.

3. The predictive value of the total asset turnover ratio, leverage ratio, financing cost, and equity concentration of distressed enterprises is not found to be significant due to the distortion of these indicators caused by imperfect public information. However, based on the results of the case studies, these indicators are among the influencing factors in judging the rescue value of distressed enterprises. Therefore, when assessing distressed enterprises, local AMCs should not only focus on the data listed in the audit reports provided by the companies, but should conduct impairment tests on total assets, use interest-bearing liabilities for the calculation of leverage ratio, and pay attention to the indicators of equity concentration. They should also focus on the voting rights of shares directly and indirectly controlled by controlling shareholders. The above indicators need to be adjusted for use in practice.

Looking ahead, China's economy is transitioning from high-speed growth to high-quality development, and is in an important period of transforming its mode of economic development, optimizing its economic structure, and transforming the driving force of growth. In this era of great economic change, new economic situations

and new economic problems are constantly emerging. With the changes of the domestic economic development and policy environment, the influencing factors of the bailout value of distressed enterprises may also change. Therefore, future research should focus on collecting more data about distressed enterprises and expanding the scale of data collection. In addition, it is important to summarize and analyze more real-life cases, extract the factors that have a key impact on the bailout results, and test whether and how these new changes affect the rescue outcomes of distressed enterprises.

· REFERENCES

A. Salski. (2007). Fuzzy Clustering of Fuzzy Ecological Data. Ecological Informatics,2(3):262-269

Aim-on Jaikengkit. (2004). Corporate Governance and Financial Distress: An Empirical Analysis—The Case of Thai Financial Institutions. U.S.A. Case Western Reserve University.

AliHusseinzadehKashan, BehroozKarimi, MasoudJenabi. (2008). A Hybrid Genetic Heuristic for Scheduling Parallel Batch Processing Machines with Arbitrary Job Sizes. Computers & Operations Research,35(4):1084-1098

Altman. Financial Ratios. (1968). Discriminate Analysis and the Prediction of Corporate Bankruptcy. Journal of Finance (September), 589-610.

Amy Hinn-Linn Lau. (1987). A Five-state Distress Prediction Model. Journal of Accounting Research, (Spring):24-37.

Andy C.W. Chui, K.C. John Wei. (1998). Book-to-market, Firm Size, and the Turn-of-the-year Effect: Evidence from Pacific-Basin Emerging Markets. Pacific-Basin Finance Journal, (6):275-293

Balcaen S, Ooghe H. (2006). 35 Years of Studies on Business Failure: An Overview of the Classic Statistical Methodologies and Their Related Problems. The British Accounting Review, 38(1):63-93.

Beaver W.H. (1996). Financial Ratios as Predictions of Failure. Journal of Accounting Research (Supplement), 71-111.

Black Fischer, Jensen Michel C., Scholes Myron. (1972). The Capital Asset Pricing Model: Some Empirical Tests. In M.C. Jensen (ed.) Studies in the Theory of Capital Markets (New York: Praeger), 79-121.

Blume L, Easley D. (1994). O' Hara M. Market Statistics and Technical Analysis: The Role of Volume. Journal of Finance, 49:153-181.

Brown D, Jennings R H. (1989). On Technical Analysis. Review of Financial Studies, (2):527-551.

Bryanetal.S. Tiras, C. Wheatley. (2002). The Interaction of Solvency with Liquidity and Its Association with Bankruptcy Emergence. Journal of Business Finance and Accounting, (29):935-965.

CeraldA.Feltham, JameA.Ohlson. (1995). Valuation and Clean Surplus Accounting for Operating and Financial Activities. The Contemporary Accounting Research, (11):689-731

Chang Joseph. (2001). Focus Shifts to Free Cash Flow in Return to Value Investing. Chemical Market Reporter, 259(12):1-17

Chang-Chun Lin, Yi-Ting Liu. (2008). Genetic Algorithms for Portfolio Selection Problems with Minimum Transaction Lots. European Journal of Operational Research, 185(1):393-404

Chao-Ton Su, Chien-Hsin Yang. (2008). Feature Selection for the SVM: An Application to Hypertension Diagnosis. Expert Systems with Applications, 34(1):754-763

Chengxiong Zhou, Lean Yu, Tao Huang, Shouyang Wang, Kin Keung Lai. (2006). Selecting Valuable Stock Using Genetic Algorithm. Lecture Notes in Computer Science,4247:688-694

Clyde W C, Osler C L. (1997). Charting: Chaos Theory in Disguise? Journal of Future Markets, 17:489-514.

Daniel Bryan, Guy Dinesh Fernando, Arindam Tripathy. (2013). Bankruptcy Risk, Productivity and Firm Strategy. Review of Accounting and Finance, 309-326.

Deakin E.B.A. (1972). Discriminant Analysis of Prediction of Business Failure. Journal of Accounting Research (Spring), 167-169.

Dennis Olson, Charles Mossman. (2003). Neural Network Forecasts of Canadian Stock Returns Using Accounting Ratios. International Journal of Forecasting,19(3):453-465

Dong-Kyoon Kim, Chuck C.Y. Kwok. (2008). The Influence of Managerial Incentives on the Resolution of Financial Distress. Review of Quantitative Finance and Accounting, (10).

E. Fama, K. French. (1993). Common Risk Factors in the Returns on Stocks and Bonds. Journal of Financial Economics, 33(2):3-56

E. Fama, K. French. (1992). The Cross-Section of Expected Stock Returns. Journal of Finance, 47(2):427-465.

E. Fama. (1991). Efficient Capital Market: I. Journal of Finance,46(5):1575-1617

E. Fama. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. Journal of Finance, 25(2):383-417.

Edward. (2005). Corporate Financial Distress and Bankruptcy. Corporate Research.

Eric H. Sorensen, David A. (1985). Williamson. Some Evidence on the Value of Dividend Discount Models. Financial Analysts Journal,41(6):60-70

Erkki K. Laitinen. (2011). Effect of Reorganization Actions on the Financial Performance of Small Entrepreneurial Distressed Firms, Journal of Accounting & Organizational Change, Vol0.7Iss:1:57-95.

F.S. Wong, P.Z. Wang, T.H.Goh, B.K.Quck. (2008). Fuzzy Neural Systems for Stock Selection. Financial Analysis Journal. 1992,48(1):47-52

Fama E, R French. (2016). Dissecting Anomalies with a Five-factor Model. Review of Financial Studies, 29(1):69-103.

Fama Eugene F, Mac Beth James. (2008). Risk Return and Equilibrium: Empirical Test.Journal of Political Economy. 1973,81:607-636.

Francesco Camastra. (2007). A SVM-based Cursive Character Recognizer. Pattern Recognition,40(12):3721-3727

Gu Qi, Liu Shulian. (1999). Analysis and Countermeasures of Enterprise Investment Behavior in Financial Crisis. Accounting Research, (10):45-49.

H. Altay, Murat. (2010). Voting Features Based Classifier with Feature Construction and its Application to Predicting Financial Distress. Expert Systems With Applications, (37):1713-1718

H.D. Platt. (2001). Predicting Corporate Financial Distress: Reflections on Choice-Based Sample Bias. British Journal of Management, (12):213-215.

Herskovic B. (2018). Networks in Production: Asset Pricing Implications. Journal of Finance, (83):87-101.

Hotchkiss, Edith S. (1995). Post-bankruptcy Performance and Management Turnover. Journal of Finance, 50:3.

Hou K, Xue L, Zhang. (2015). Digesting Anomalies: An Investment Approach. Review of Financial Studies, 28(3):650-705.

Hu Ruyin. (2003).An Empirical Study on the Success or Failure of Chinese Listed Companies. Shanghai: Fudan University Press.

Jiang F.,Jiang Z.,Kim K. (2017).Capital Markets, Financial Institutions, and Corporate Finance in China. Journal of Corporate Finance,(6):21-45.

Jiang Fuxiu, Yi Hong, Su Fei, Huang Lei. (2009).Background Characteristics of Managers and Over-investment Behavior of Enterprises. Journal of Management World, (1):130-139.

John Argenti. (1976).Corporate Collapse: The Cause and Symptoms. New York:McGraw-Hill.

KemalPolat, SalihGünes. (2007).Breast Cancer Diagnosis Using Least Square Support Vector Machine. Digital Signal Processing,17(4):694-701

Kenneth Hunsader, Natalya Delcoure, Gwendolyn Pennywell. (2013).Competitive Strategy and Industry Contagion Following Traditional Chapter 11 Bankruptcy Announcements. Managerial Finance, 1032-1055.

Kou G.,Peng Y.,Wang G. (2014). Evaluation of Clustering Algorithms for Financial Risk Analysis Using MCDM Methods.Information Sciences, (27):1-12.

Leroy S. (1973). Risk Aversion and the Martingale Property of Stock Prices.International Economic Review, 14(2):436-446.

Lev. B. (1989).On the Usefulness of Earnings and Earnings Research: Lessons and Directions from Two Decades of Empirical Research. Journal of Accounting Research,(27):153-201

Li Wanfu, Lin Bin, Lin Dongjie. (2012). Can Internal Control Effectively Avoid Financial Distress. Journal of Finance and Economics, (1).

Liu Jingjun, Zhao Yongpeng. (2006). Predicting Financial Distress Logit Model vs. Duration Model. Lecture Notes in Decision Science, (7):412-421.

Lo.A.W, H.Mamaysky, J. Wang. (2000). Foundation of Technical Analysis: Computational Algorithms, Statistical Inference and Empirical Implementation. Journal of Finance, (5):1705-1765

Lorenzo Garlappi, Hong Yan. (2010). Financial Distress and the Cross Section of Equity Returns. Journal of Finance, (1):74-76.

Lucas RE. (1978). Asset Prices in an Exchange Economy. Econometrica, 46:1429-1445.

M.J.ValadanZoej, M. Mokhtarzade, A. Mansourian, H. Ebadi, S. Sadeghian. (2007). Rational Function Optimization Using Genetic Algorithms. International Journal of Applied Earth Observation and Geo information, 9(4):403-413

Mark E Zmijewski. (1984). Methodological Issues Related to the Estimation of Financial Distress Prediction Models. Journal of Accounting Research,22(3):83-86.

Markowitz. (1952). Portfolio Selection. Journal of Finance, 7(1):77-91.

Mathias M. Adankon, Mohamed Cheriet. (2007). Optimizing Resources in Model Selection for Support Vector Machine. Pattern Recognition,40(3):953-963

Mcleay S, Omar A. (2000). The Sensitivity of Prediction Models to the Non-Normality of Bounded and Unbounded Financial Ratios. The British Accounting Review, 32(2):213-230.

Michele Bagella, Leonardo Becchetti, FabrizioAdriani. (2005). Observed and Fundamental Price-earning Ratios: A Comparative Analysis of High-tech Stock

Evaluation in the US and in Europe. Journal of International Money and Finance, 24(4):549-581

Mullainathan S., Spiess J. (2017). Machine Learning: An Applied Econometric Approach. Journal of Economic Perspectives, 31(2):87-106.

Pearch Robbins. (1993). Recognizing Financial Distress Patterns. Financial Management, 112-135.

Pei-Yi Hao, Jung-Hsien Chiang, Yi-Kun Tu. (2007). Hierarchically SVM Classification Based on Support Vector Clustering Method and its Application to Document Categorization. Expert Systems with Applications,33(3):627-635

R.J.G.B. Campello. (2007). A Fuzzy Extension of the Rand Index and Other Related Indexes for Clustering and Classification Assessment. Pattern Recognition Letters,28(7):833-841

Ross, R.A., Westerfield and J.F.Jaffe. (1993). Corporate Finance. Irwin: Homewood III.

Rousseau Roland, Van Rensburg Paul. (2004). Time and the Payoff to Value Investing. Journal of Asset Management,4(5):318

Sharpe W F. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. Journal of Finance, 19(3):425-442.

Stephen H. Penman. (1998). A Synthesis of Equity Valuation Techniques and the Terminal Value Calculation for the Dividend Discount Model,2(4):303-323

Sun Chengye. (2007). Causes and Prevention of Enterprise Financial Distress. Coastal Enterprises and Science & Technology, 112-113.

Thomas Jansen and Ingo Wegener. (2007). A Comparison of Simulated Annealing with a Simple Evolutionary Algorithm on Pseudo-Boolean Functions of Unitation. Theoretical Computer Science, 386(1-2):73-9

Wang Weiguo. (2007). Essence of Bankruptcy Law. Law Press.

Wang Xinxin. (2008). Bankruptcy Law. China Renmin University Press, 212-218.

Weina Wang, Yunjie Zhang. (2007). On Fuzzy Cluster Validity Indices. Fuzzy Sets and Systems, 158(19):2095-2117

White. (1984). The Corporate Bankruptcy Decision. Journal of Financial Economics, 129-151.

Working H. (1934). A Random-Difference Series for Use in Analysis of Time Series. Journal of the American Statistical Association, 29(3):11-24.

Wu Shinong, Liu Shulian. (2001). Research on Prediction Model of Financial Distress of Listed Companies in China. Economic Research, 46-55.

Xiutang Geng, Jin Xu, Jianhua Xiao, Linqiang Pan. (2007). A Simple Simulated Annealing Algorithm for the Maximum Clique Problem. Information Sciences, 177(22):5064-5071

Zargham. M.R., Sayeh, M.R. (1999). A Web-based Information System for Stock Selection and Evaluation. Advance Issues of E-Commerce and Web-Based Information Systems. WECWIS, 81-83.