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THE EFFECT OF CORPORATE FINANCIAL DISTRESS ON VOLUNTARY DISCLOSURE OF COMPANIES LISTED ON TEHRAN STOCK EXCHANGE, CASE STUDY (AUTOMOBILE INDUSTRY)

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ABSTRACT

In this study, the effect of financial distress on the voluntary disclosure of the 15 companies in the automobile industry in the years 1385 to 1392 in Tehran Stock Exchange have been evaluated using panel data regression. To calculate the precise impact of financial distress on voluntary disclosure of variables, return on equity, total rate of return on assets (total assets). Repayment of creditors, total assets turnover (total assets) and circulating fixed assets were included in the regression model as independent variables. After all tests on panel data regression model it can be said as a result that financial distress has significant direct effect on the company's voluntary disclosure. The effect of all the variables is significant on voluntary disclosure as control variables in the model.

Keywords: Financial Distress, Voluntary Disclosure And Automotive Industry

INTRODUCTION

Transparency of financial information (disclosure) in companies is major concerns of market participants in different countries. The disclosure is the accounting principle that is effective on all aspects of financial reporting. The disclosure requires that all reality and the importance of business events and financial activities to be reported as appropriate and complete.

Based on this principle, the basic financial statements must contain all important information, relevant and timely, this type of information is pertinent timely and presentes efficient way to understand it properly to enable informed decision-making. The presented information is not efficient in terms of quality and quantity which would provide confusion to users of financial statements (Khajavi and Momtazyan, 2013).

However, the studies have shown that one of the factors influencing the disclosure of the company is financial distress. From the standpoint of economic, financial distress could be interpreted to the detriment of dozens of companies which makes company's unsuccess. In fact, in this case, the return rate is lower than the cost of capital. Another case of financial distress occurs when the company failed to comply with one or more of the clauses of the contract, such as keeping a current ratio of debt or the ratio of equity to total assets under contract. Other cases of financial distress are when the company's cash flow is not enough to repay principal and interest of debt and also when the numerical value of the company is negative. Goden (1971) introduced the financial distress as reducing profitability of the company that increase disability of repayment of interest and principal debt. Whitaker (1999) considers a situation of financial distressin which the cash flows is less than interest expenses related to the company's long-term debt. (Mohseni et al., 2013) Therefore, with regard to the role of corporate financial distress, this study was to evaluate the effect of companies' information distress and using the components of return on equity, on total assets return (total assets), the repayment of creditors, total assets turnover (total assets) and fixed flow gates between 2006 to 2013 for automotive group companies listed on the Stock Exchange in Tehran.

Research literature

Financial distress

In the financial area, a company is considered to be distressed when it is in trouble to desperate financial obligations to creditors. Liabilities of a company are possible to be used to finance operations but more is experienced at risk of financial distress. Thus, if the company does not improve distress, leads will face bankruptcy (Higgins, 2007). Gordon (1971) in one of the academic research on monetary theory and financial turmoil defined it as a reduction of profitability which likely increases the inability to repay principal and interest on the debt.

Most companies, as a result of poor management and financial distress, enter

economic distress. In the early stages of financial distress, the average operating profit of the company is not adjusted on the basis of earnings and after controlling other factors will be measured that can cause significant changes to increase the company's performance. Results of Jensen hypotheses showed that the financial distress is a kind of corrective action that will improve the company's performance. From the standpoint of economic, bankruptcy is a natural phenomenon that should not be ignored, because it has a social impact on unemployment and purchasing power parity (Kouki, M., Elkhaldi, 2011).

Whitaker (1999) considers a situation of financial distress where the company cash flows is less than interest expenses on long-term debt. From the standpoint of economic, financial distress can be interpreted to the detriment of dozens of companiesthat face the company with a failure. In fact, in this case, the company's rate of return is less than the rate of cost of capital. The first stage marks of financial distress are including a negative net cash flow and profits, as well as reducing the company's stock market value.

Marks the second phase of financial distress management efforts is to reduce costs. If these conditions continue, the company enteres the third phase of the financial distress. The required payments to suppliers, employees and creditors will be delayed. At this stage it is possible to touch more serious measures, such as: 1) equity of shares or new debt securities (if such action is possible) 2) Sales of assets 3) merging with a company which is more successful in the industry or 4) negotiation with creditors for debt re-scheduling. If none of these measures solve the problem, the company enteres the fourth phase of financial distress that is bankruptcy (Whitaker, 1999).

Altman classified costs of financial distress directly and indirectly. Direct costs include unforeseen costs for lawyers, accountants, experts and consultants' reconstructionand indirect costs containes non-visible of range opportunity costs (Altman, 2006). Higgins is divided the costs of financial distress to the damages resulting from the sale of assets on the cheap price, the high cost of capital, opportunity cost, the cost of losing customers, obtained commercial credit, and interest conflict. Bankruptcy costs are different for different types of companies, but usually include legal fees and out of valuable human capital (Higgins, 2007).

Newton in 1988 divided the company's financial distress as: 1) incubation period 2) cash deficit period 3) inability to pay debts in the financial or trading 4) failure to fully debt

payment. Though bankruptcy wins most of the stages, but some companies may reach bankruptcy without going through all the steps (Newton, 2010).

The incubation may be one or more hidden unfavorable situation for an entity without being identifiable immediately. The economic loss occurs in incubation period and return on assets falls. The best situation for companies is that the problem is discovered at this stage. The cash deficit starts for the first time when a business has no access to cash for current or urgent need to fulfill commitments.

It may have multiple physical assets needs and record profits are not enough. The problem is that assets are not enough to be cashed and capital is held. The non-payment of debt finance, management may use financial professionals and business credit committee, financial restructuring to identify and solve problems. Otherwise, the total debts exceed the value of the assets of the companyand companies can no longer avoid the complete bankruptcy (Rahnamae Rodposhti, 2011).

Models to predict financial distress

Thomas Wood Locke (1900) did the first study of the rail industry in bankruptcy. Jambrlayn (1911), in an article entitled "Principles of investment bonds" used Wood turtles ratios and proportions to create performance ratios.

Smith and Viktakor (1935), Mervin (1942) studied healthy financial ratios of bankrupt firms Distinguish them using this comparison between healthy and distressed companies. Although they were later criticized, founded a new global method based on an analysis of financial ratios of the company to distinguish healthy from unhealthy (Kaki and al-Khalidi, 2011).

William Beaver (1966) did the first research to develop a model to predict the bankruptcy. He used univariate analysis to investigate the inability to predict financial ratios. Beaver defined inability to perform its financial obligations as financial distress and believes that the non-payment of preferred stock dividends, the inability to pay bills, over transfer of bank account will cause financial failure.

The most popular models to predict bankruptcy and financial distress in 1968 was presented by Edward Altman. Following his studies, Beaver, used multiple discriminate analysis. Financial ratios, called Z-score model to predict bankruptcy members in bourse market manufacturing companies. Altman with this method chosed 5 of 22 financial ratios as independent variables in the

compound Z pattern Equation 1 showed in the model (Altman, 2006).

Z =1.2X1+ 1.4X2 + 3.3X3 + 0.6X4 + 0.99 X5 Eq. (1)

X1 = working capital to total assets.

X2= Accumulated profit (loss) to total assets

X3 = profit before interest and taxes (operating income) to total assets

X4= market value of shareholders equity to total liabilities

X5= net sales to total assets

Altman presented Z model reform of Z'-score model. The most important amendments was substituting the book value of equity (X4) instead of the market value of equity and changes in values of bankruptcy range in model. With this change Z' model achieved the ability to predict bankruptcy production of company private stock. Equation (2) indicates it (Altman, 2006)

Z' = 0.717X1+ 0.847X2 + 3.107X3 + 0.42X4 + 0.998 X5 Eq. (2)

X4 = the ratio of the book value of equity to book value of total liabilities.

Edward Altman in 1993, with the expansion of their research, designed Z "- score model as well for predicting bankruptcy of the market price must cover and services. Removing the independent variable X5 and changing the parameters and limits of the bankruptcy makes clear the difference between this model and the previous model in equation (3) (Altman, 2006).

Z" = 6.56X1+ 3.26X2 + 6.72X3+ 1.05X4 Eq. (3)

Springate (1978) like Altman analyzes and used selected audit 4 of the 19 financial ratios to determine a safe and bankrupt companies. Springate tested 40 manufacturing company using this model and was met ensure rate of92.5%. Ohlson (1980) used financial ratios analysis for multidimensional logit model. His model consists of 9 variables on a sample of 150 companies dealing with the financial crisis and 2058 companies without financial crisis and accuracy rate of 85% was achieved for the year before bankruptcy. Folmer (1984) used multivariate analysis to assess the use of 40 funding rate for a sample of 60 items, including 30 bankrupt companies and 30 non-bankrupt companies. The model could predict 96% of bankrupt companies and 100% of healthy companies correctly. Zmijewski (1984), using probit analysis by selecting a sample consisting of 40 financial crisis and 80 companies without financial crisis, the accuracy rate was 78% for one year prior to bankruptcy (Bülow and Karami, 2013).

Hypothesis

1. The financial distress has a significant effect on the level of voluntary disclosure.

2. The rate of return on equity share has a significant effect on the level of voluntary disclosure.

3. The rate of return on total assets (total assets) has a significant impact on the level of voluntary disclosure.

4. Repayment of creditors has a significant impact on voluntary disclosure.

5. Total assets roll has a significant impact on the level of voluntary disclosure.

6. Fixed assets roll has significant effect on the level of voluntary disclosure.

METHODOLOGY

The research method is correlational. In the software analysis which provides information on the company stock such as cash management, new outcomes and etc have been used. Also, if necessary, and to gather the necessary information it refers to companies and Iran Khodro related institutions that have the necessary information.

The included car company is listed on the Tehran Stock Exchange and to determine the population of firms following items is considered:

1. The financial year ended on 29 Esfand each year.

2. The financial information of companies is available.

3. Companies prior to 1385 are listed on the exchange.

In inferential statistics, correlation and regression analysis has been considered. All functions were evaluated using SPSS software and at 95 percent.

Table 1: Variables and the maner to measure each of them

Measurement method	symbol	Variable
$\mathbf{DCOR} = \frac{\sum_{j=1}^{n} d_j}{n}$	$DCOR_t$	Voluntary disclosure index
$Z' = 0.717\,x_1 + 0.847\,x_2 + 3.107\,x_3 + 0.420x4 + 0.998x_5$ To measure current ratio, current assets are divided by current liabilities.	Z	Financial Distress
This ratio is similar to the rate of return on total assets; the level of profitability per dollars invested is shown by shareholders. Thus, if the rate of return is less than the rate of interest on received loans, the use of received facilities will be at the expense of shareholders. Net profit / shareholders equity = Return on shareholders equity	*ROE*	Return on shareholders equity
This ratio shows that the company's total asset has brought efficiency to the company. Higher ranks are the sign of success use of the assets. Special profit after tax / total assets = feedback of total assets	*ROI*	Return on total assets
Periodic payments to creditors are used for planning and budgeting to pay to creditors each month and the amount of money each month to pay in cash the company must provide to creditors. Days during the year should be divided to the number of payments to creditors. To determine the frequency of repayment to creditors, final cost of	*APTP*	Repayment of creditors

purchased goods should be divided by the creditors in period and to determine the total balance of trade payable accounts and payable notes, both are divided at the beginning and end of the period by commercial creditors.		
This can be used to identify comparison between the relationship of the value of assets and the volume of activity of the company. In other words, the efficiency ratio showes the use of investment and asset management. It is clear that an increase in this ratio can be considered indicative of the proper use of assets. **Sell= total assets turnover** **Mean totsl assert**	***TAT***	**Total assets turnover**
This kind shows what extent the company has been successful in the use of fixed capacity. Usually "The higher the value of ratio, the higher the use of fixed assets of company, the efficiency is higher. **Sell= Fixed assets turnover** **Mean fixed assert**	***FAT***	**Fixed assets turnover**

DATA ANALYSIS

Unit root and unity tests

Phillips Perron unit root test is used for the variables in the model below Table 2.

Estimation of the regression model

This section is devoted regression model.

$DCOR=\alpha+\beta_1 Z+ \beta_2 ROI+ \beta_3 ROT+ \beta_4 APTP+ \beta_5 TAT+ \beta_6 FAT+\varepsilon$

Chow Test

Chow test or F- Lymr defined as follows:

Null hypothesis: using panel data model is not appropriate.

Oppisite Presumption: the use of panel data model is appropriate.

The output of the software is provided for Chow testing:

Rejection of the null hypothesis here means the use of panel data model. Perform Hausman test should be determined to show fixed or random effects?

Hausman test

Hausman test is defined as follows:

Null hypothesis: the use of random effects is not appropriate.

Opposite Presumption: the use of random effects is appropriate.

Software output for the Hausman test is given in the following Table 4:

The null hypothesis here means the use of fixed effects. Following, regression model will be estimated to examine the assumptions.

The final estimate

Accuracy of the assumptions of the study will be determined by the model. According to Chow and Hausman test results, fixed effects method should be used.

Significant relationship are determined by t-statistic which is given in the following formula (for a hypothetical value as β)

$$T= \frac{\boldsymbol{\beta}}{\boldsymbol{SE(\beta)}}$$

The obtained quotient is dividing by the standard deviation to obtaine the test

statistics. According to statistics and statistical distribution of T, we have:

In the event that the absolute value of the t-statistic is greater than 2, variables has a significant impact on the dependent variable of the model (with a confidence interval of 95%).

The significance of the model

According to the results, the effect of different variables on the quality of human resources is summarized in the following table 6.

According to Watson camera and the fact that waste has not specific regression, it can be concluded that the model is well fitted and is without significant problems.

First hypothesis:

Null hypothesis: financial distress does not have significant effect on the level of voluntary disclosure.

Opposite hypothesis: financial distress has significant effect on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

According to the table above it can be concluded in the first hypothesis that financial distress has significant effect on the level of voluntary disclosure Therefore the first hypothesis is confirmed.

The second hypothesis

Null hypothesis: the rate of return on equity has no significant effect on the level of voluntary disclosure.

Opposite hypothesis: rate of return on equity has a significant impact on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

The third hypothesis

Null hypothesis: the rate of return on total asset has no significant effect on the level of voluntary disclosure.

Opposite hypothesis: rate of return on total asset has a significant impact on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

The forth hypothesis

Null hypothesis: Repayment of creditors does not have significant effect on the level of voluntary disclosure.

Opposite hypothesis: Repayment of creditors has significant effect on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

According to the Profs, the hypothesis is confirmed.

The fifth hypothesis

Null hypothesis: Total assets turnover has no significant effect on the level of voluntary disclosure.

Opposite hypothesis: Total assets turnover has a significant impact on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

According to the Profs, the hypothesis is confirmed.

The sixth hypothesis

Null hypothesis: fixed assets turnover has no significant effect on the level of voluntary disclosure.

Opposite hypothesis: fixed assets turnover has a significant impact on the level of voluntary disclosure.

According to Table (5), the following table can be adjusted for the effects of these variables:

According to the Profs, the hypothesis is confirmed.

Table 2: The results of unity tests

Phillips Perron test			
resulte	**The level of significance**	**item**	**Variable**
viable	**0.02**	**41.26**	**$DCOR_t$**
viable	**0.000**	**95.06**	**Z**
viable	**0.002**	**56.25**	**ROI**
viable	**0.000**	**82.82**	**ROT**
viable	**0.000**	**101.70**	**APTP**
viable	**0.000**	**87.63**	**TAT**
viable	**0.000**	**66.18**	**FAT**

The null hypothesis in Phillips Perron test has no variables unity and assumptions are as on follow: H0: evaluated Variable is non-viable; H1: evaluated Variable is viable; To reject the null hypothesis significance level should be less than 0.05; Given that all variables are in viable model, estimations can be made.

Table 3: Chow Test (F-Lymr)

result	The level of significance	Degree of freedom	Obtained statistics
Null hypothesis is rejected	**0.000**	**(14,70)**	**6.09**

Table 4: Hausman test

result	The level of significance	Degree of freedom	Obtained statistics
Null hypothesis is proved	**1.000**	**4**	**0.000**

Table 5: estimated results of survey research hypotheses (dependent variable: DCOR)

The regression model				P-value	t	Coefficient	variable
R^2	DW	PROB	F-stat				

0.81	**2.22**	**0.000**	**10.36**	**0.003**	**-0.18**	**-2.95**	**Intercept**
				0.006	**2.46**	**0.07**	**Z**
				0.002	**3.06**	**4.11**	***ROE***
				0.02	**2.07**	**0.22**	***ROI***
				0.01	**2.44**	**0.42**	***APTP***
				0.006	**-2.91**	**-2.17**	***TAT***
				0.000	**12.56**	**1.94**	***FAT***

Table 6: The effect of different variables on voluntary disclosure index

Significant	effect	Variable
Significant	**positive**	**Financial Distress**
Significant	**positive**	**Return on shareholders' equity**
Significant	**positive**	**Return on total assets.**
Significant	**positive**	**Repayment of creditors**
Significant	**positive**	**Total assets turnover**
Significant	**positive**	**Fixed assets turnover**

In the table below you can see other results from the estimates.

Table 7: Estimated main characteristics

result	value	Obtained statistics
Variables are well selected	**0.83**	**determination coefficient**
The lack of correlation in waste	**2.22**	**Watson camera**
Good model fitness	**10.36**	**F-statistic of model**

The regression model Waste is depicted in the chart below.

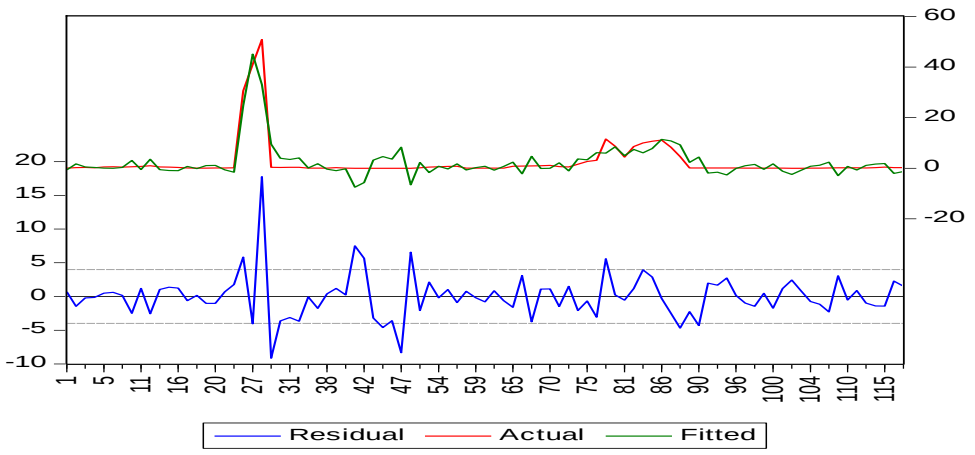

Figure 1: The residual of regression model

Table 8: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**0.07**	**positive**	**Financial Distress**

Table 9: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**4.11**	**positive**	**Return on equity**

According to the Profs, the hypothesis is confirmed.

Table 10: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**0.22**	**positive**	**the rate of return on total asset**

According to the Profs, the hypothesis is confirmed.

Table 11: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**0.42**	**positive**	**Repayment of creditors**

Table 12: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**-2.17**	**negative**	**Total assets turnover**

Table 13: Data analysis

Significant	Level of Effects	Effect	Variable
Significant	**1.94**	**positive**	**fixed assets turnover**

CONCLUSION

The following table 14 briefly tested research hypotheses.

In the table 15 below, the impact of each factor on the level of voluntary disclosure is outlined.

Table 14: The results of the study hypothesi

result	hypothesis	row
confirmed	**Financial distress has significant impact on the level of voluntary disclosure.**	**1**
confirmed	**Rate of return on equity has significant effect on the level of voluntary disclosure.**	**2**
confirmed	**Rate of return on total assets (total assets) has a significant effect on the level of voluntary disclosure.**	**3**
confirmed	**Repayment of creditors has significant influence on voluntary disclosure.**	**4**
confirmed	**Total assets turnover (total assets) has a significant effect on the level of voluntary disclosure.**	**5**
confirmed	**Fixed assets turnover (total assets) has a significant effect on the level of voluntary disclosure.**	**6**

Table 15: The influence of each factor on the level of voluntary disclosure

Significant	Level of effects	effect	Variable
Significant	**0.07**	**Positive**	**Financial Distress**
Significant	**4.11**	**Positive**	**Return on shareholders' equity**
Significant	**0.22**	**Positive**	**Return on total assets.**
Significant	**0.42**	**Positive**	**Repayment of creditors**
Significant	**-2.17**	**Positive**	**Total assets turnover**
Significant	**1.94**	**Positive**	**Fixed assets turnover**

- First hypothesis is approved and an increase in financial distress increases the level of disclosure about 0.07 units.

- Second hypothesis is approved and an increase in return on shareholders' equity increases the level of disclosure about 4.11 units.
- Third hypothesis is approved and an increase in return on total assets increases the level of disclosure about 0.22 units.
- Forth hypothesis is approved and an increase repayment of creditors increases the level of disclosure about 0.42 units.
- Fifth hypothesis is approved and an increase Total assets turnover increases the level of disclosure about 2.17 units.
- Sixed hypothesis is approved and an increase fixed assets turnover increases the level of disclosure about 1.94 units.

The results of the study assumptions are in consistent with Modares and colleagues (1392), Arab Mazar and Arzyton (2008) and Fich, E, M& .Slezak (2008), Chang (2009). The results of the study hypothesis contrasts with the results of the Osmani et al. (2011) and Ali Kashani et al. (2009), pour Zamani(2007), Baghumian and Naghdi (2014) and Cheng, E., and Courtenay (2006) Hufang and Zhyangu (2007) and Rouf (2011).

RECOMMENDATIONS

1. Because of the positive relationship between financial distress (independent) and voluntary disclosure of information, it can be suggested that companies considering the benefits of disclosure that cases such as increasing confidence in the management of shareholdings, the more ability to liquidity, long-term investors, etc. are includedand trying to provide accurate, up to date, reliable information and others to become shareholders. The managers must have tried to manage actions to improve the financial position of the company despite signs of financial distress to prevent the disclosure.
2. As a result, a significant relationship is between the rate of return on equity and voluntary disclosure of information. Accordingly, the directors of the companies recommended using powerful financial advisors and Marketing techniques to increase the profitability of their collection. So that they can be ground for increasing the rate of return on equity. In turn, they increase the level of disclosure to attract more people to invest in company shares.

3. One of the most important criteria is always of interest to shareholders and other stakeholders is the return on assets and the explanation of profitability, management performance which is described as very important indicator. According to the study results, a positive correlation between the rates of return on assets and voluntary disclosure of information exists. With regard to this issue it is recommended for company executives to applied the correct methods of management and use of low-cost financing (loans with low interest) attempts to increase the efficiency of their assets. So that we can encourage existing shareholders to increase investment underlying the entry of new shareholders. Also cause the increase in the rate of return on assets and the level of disclosure with respect to more useful and reliable information than it provides.
4. The results of this study show a positive correlation between creditors' repayment period and voluntary disclosure of information. Therefore it is recommended to managers to have continuous consultations with creditors and give temporary concessions to persuade them to increase their debt collection period. With the increase of available cash resources managers can invest in short-term which causes increasing profitability. Managers are encouraged to disclose more information because of higher profits, in order to provide a better yield.
5. Based on the results significant negative relationship exists between the turnover total assets and disclosure. This may be due to the high volume of fixed assets in total assets as of the companies which need more investigations. In this regard it is suggested that managers should try while keeping the assets in an optimal level, appropriate disclosure of information underlying this case and deal with the issue more carefully, because according to theoretical study, an increase in the ratio (turnover total assets) represents a more efficient use of resources and assets, respectively.
6. As a result, significant positive correlation is between the flow of fixed assets and the level of voluntary disclosure of information. Due to this fact, managers have two ways to increase this ratio. As a result, it can

be said that more disclosure of information leads to more confidence in the company and increasing investors and shareholders of the new company and will be a long term investment. These two methods can be in the form of reduction of fixed assets or increase sales. Using new methods of sales (internet, increase in exports, product development and market development, etc.) are recommended.

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