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Relationship between Going Concern Concept and P/E Ratio in Emerging Market: Case of Iran

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Abstract

In the present work, the efficiency of market in going concept concern and the probability of its influence on earning per share has been studied and it is showed that if the ongoing concern concept of a company is high ,its earning and vice versa. In this paper, ranking and scoring of companies according to their ongoing concept concern was developed by one of the bankruptcy prediction models, Zavgren (1982) model that its output in numerical value of zero-one range show the bankruptcy prediction and ongoing concept concern prediction of a company. Since, this model was developed in accordance with financial environment and firms of other countries, and was not applicable in Iranian firms with its different structure, after selecting a sample of 40 firms which listed in Tehran Stock Exchange, (TSE) the coefficients of the model was adjusted with the conditions of Iranian companies. In this research, first, we tested the reliability and validity of the model within a sample of 14 bankrupt and normal companies. After insuring of the efficiency of the model, ongoing concept concern prediction and bankruptcy prediction of sample from automotive industry was assessed. Considering the difficulty of high evaluation or low earning per share, degree of farness or nearness of company earning per share to industry earning per share ,in other words, difference between company earning per share and industry earning per share was considered as a good parameter and it was measured. Then, the meaningful correlation between ongoing concern concept and company earning per share to industry earning per share was calculated. The results revealed that with 5 percent acceptable error, there is no meaningful correlation between these two variables and it is not possible to apply the assessment of differences between companies earning per share to understand their ongoing concern concept in the future.

Keywords: Going concern, bankruptcy, P/E, Tehran Stock Exchange

1. Introduction

Investors and stock analysts have long used price-earnings ratios, usually called P/E ratios, to help determine if individual stocks are reasonably priced. More recently, some economists have argued that the average price-earnings ratio for a stock market index such as the S&P 500 can help predict long-term changes in that index. According to this view, a low P/E ratio tends to be followed by rapid growth in stock prices in the subsequent decade and a high P/E ratio by slow growth in stock prices. This section explains how the P/E ratio is measured and shows that it is currently high relative to its historical average. The section then summarizes the historical evidence that a P/E ratio above the historical average signals slow long-term growth in stock prices. P/E ratios are ratios of share prices to earnings.

The P/E ratio of a stock is equal to the price of a share of the stock divided by per share earnings of the stock. The focus of this article, however, is the P/E ratio of the overall stock market index rather than P/E ratios of individual stocks. For a stock index, the P/E ratio is calculated the same way the average share price of the firms in the index is divided by the average earnings per share of these firms. Recent research in empirical finance has shown that variables like dividend yields, Price-to-Earnings (P/E) ratios, book-to-market ratios as well as past returns have significant explanatory power for the variation in cross section of expected returns even after controlling for market risk (see, for example, Fama and French, 1992, for a through coverage of the topic). Similar results are reported for several developed markets (Ferson and Harvey, 1997; Fama and French, 1998), as well as emerging markets (Claessens, Dasgupta and Glen, 1998; Patel, 1998; Rouwenhorst, 1999). Whether these variables are risk proxies in an efficient market or signs of mispricing is the subject an ongoing debate in financial economics. Yet for the practitioner in the market, it is the longer term predictive ability, rather than contemporaneous explanatory power, that is really important. In addition, apart from forecasting individual stock returns, stock market investors are also interested in the forecasting power of market wide averages of variables like dividend yield, P/E and book-to- market ratios as tools in market timing in highly volatile stock markets. Emerging markets are differentiated from developed markets with respect to their heterogeneous nature and inherent dynamics. These are the markets characterized by high volatility and high average returns. It has been shown that they are not integrated to the developed markets of the World as evidenced by very low correlation with the rest of the World and among them (Bekaert et. al., 1998). Hence the importance of market timing and country selection for an internationally diversified portfolio investor is obvious. Achour et al. (1998) stresses the importance of country selection mechanisms as well as stock selection. Erb, Harvey and Viskanta (1995), on the other hand, argue that selection based on country risk rather than traditional attributes such as P/E, dividend yield and book-to-market yields superior results in emerging markets. With increasing influence of equity market on forming and leading the individual capitals to wards productive activities, recognizing the behavior of investors and influencing factors on stock price in the market has growing importance, but the reports that managers propose about the performance and firm's situation to capital markets, includes only the financial issues and the financial statements as the only valuable source in the access of shareholders, includes non-financial dimensions, while investors in

deciding for investment in firms stock, take into account the financial and non-financial data ,simultaneously, They are always concerned about their wrong decisions. In this case, financial management theoreticians for insuring the investors, state that markets are some what efficient. Further, in this condition, nobody can change the data and through different methods of reporting the earnings, mislead the market and finally, the markets will recognize the firms with financial difficulties so that, their stock market value will be decreased.

2. Review of literature

The accounting information should signal whether a firm would land in financial stress in the future. The empirical literature on the prediction of financial distress falls into three main schools. The first school compares the financial characteristics called out in terms of ratios from financial reports of a sample of failed firms with those of a sample of non-failed firms. The second school focuses information content of security prices about financial distress. The third school relies upon the analysis both company generated data and share price movements generated by the market. The major empirical studies of all these schools are present below.

Beaver (1966) compared the financial ratios of 79 failed firms with the ratios of 79 matched firms up to 5 years before the 79 firms actually failed. "Cash flow to total debt" had the highest discriminatory power of the ratios examined. Five years before failure, an optimal prediction criterion (i.e., cutoff value) based on the single accounting ratio misclassified only 22 per cent of the validation; 1 year prior to failure the criterion misclassified only 13 per cent of the validation sample. This is impressive given that a random classification would produce a 50 per cent error in the sample. However, Beavers used a frequency rate for the firm sample that was substantially higher than one would observe in reality. Beaver (1968a) examined those results further and reported that non-liquid-assets measures (e.g., cash flow to total debt, net income to total assets, and total debt to total assets) seemed to perform better than liquid-asset measures, apparently because they represent more "permanent aspects" of the firm.

Security prices also convey information about financial distress. Beaver (1986b) reported that, on average, common stock return data had a lead-time of about two and one-half years in discerning failure versus non-failure status. That lead-time ran slightly ahead of the lead times of the accounting ratios in the assessment of financial distress as part of an overall evaluation of prospective security returns. More recently, Aharony et al., (1980) evaluated a rule that estimated bankruptcy probabilities using quarterly security return data. Consistent with Beaver's, their results indicated: "That a solvency deterioration signal using capital market data is available some two years before the bankruptcy event."

Most of the recent studies have adopted a multiple-variable approach to the prediction of financial distress by combining accounting and non-accounting data in a variety of statistical formulas. Altman's (1968) model is perhaps the best known of the early studies. Altman developed an equation that optimally combined five ratios reflecting accounting and market data, namely liquidity, profitability, financial leverage, solvency, and sales activity (i.e., sales to total assets). The discriminate-function criterion (commonly known as a Z score)

predicted 24 of 25 failed firms not used in developing the model (the validation sample), 1 year ahead of the event. For a second sample of 66 non-failed firms with temporary earnings difficulties, the Altman Z-score criterion was in error in only 14 of 66 cases.

Early studies using multiple variable statistical techniques subsequent to Altman include Deakin (1972) and Blum (1974). Subsequent research also includes investigations of the characteristics of failing firms in special sectors: Altman (1973) on the railroad industry; Edmister and Schlarbaum (1974), Sinkey (1975, 1977); Martin (1977); Santomero and Vinso (1977). And Pettway and sinkey (1980) on the banking industry, Altman (1977a) on savings and loan institutions, Altman and Loris (1976) on the over-the-counter broker-dealer industry; Edmister (1972) on small-business failures, Schipper (1977) and Shrieves and Stevens (1979) on the educational entities; and Pinches and Trieschmann (1974) on the insurance industry. Whether the predictive value of accounting information was based on samples of industrials or on non-industrials, the misclassification rates were low. Hence the explanatory variables had significant predictive power. Ratios based on accounting earnings, reported cash flow, and book debt figured prominently in the various statistical formulas, especially those that applied to the industrial sector.

Another study of interest is Altman et al., (1977). This research apparently forms the underpinnings of the credit risk reports by Zeta Services, Inc., The variables identified in the Zeta model were retained earnings to total assets, leverage (based on market values), earnings variability, return on total assets, fixed charge coverage, current ratio, and asset size. Adjustments to those variables were made on the basis of footnote disclosures (e.g., information about unconsolidated subsidiaries and leases). The model improved upon the Altman Z score model classifying 91 per cent of a validation sample 1 year before the filling; and 5 years earlier, 77 per cent of the validation sample was classified correctly, Having greatest weight in the equation were variables “retained earnings to assets” (explain 25 per cent of the difference between failed and non-failed firms) and “stability of earnings” (explains 20 percent of the difference).

Several financial distress prediction studies attempt to compare empirically the forecast accuracy of models already in the literature: Moyer (1977); Collins (1980); Hamer (1983); and Zmijewski (1983). Zmijewski (1983) made a comprehensive analysis of 13 financial distress models. Eleven of those were exact replications of the models appearing in the previous research. However, the statistical formulas of those models were such that they were also similar to many other financial distress models that are not specifically examined in the study. For example, the variables contained in the 13 models encompassed the variables examined in Beaver (1966), Altman (1968); Wilcox (1971), Deakin (1972. 1977); Blum (1974); Libby (1975a); Altman et al., (1977); Vinso (1979); Aharony et. al., (1980); Dambolena and Khoury (1980); Ohlson (1980); Emery and Cogger (1982); Zavgren (1982); and Zmijewski (19830). The 13 models were tested on a sample of firms that have been traded on either the AMEX or NYSE. The sample consists of 72 bankrupt and 3,573 non-bankrupt firms. An analysis of the variables, one at a time, indicated that accounting rate of return measures were most useful in classifying bankruptcy; they were followed by the financial leverage and fixed payment coverage measures. The single-variable analysis

indicated that, on average, bankrupt firms had lower rates of return, lower liquid-asset composition, lower liquidity position, and lower fixed payment coverage than do non-bankrupt firms. However, the degree of financial leverage was greater for bankrupt firms. Finally, the dispersion of those characteristics tended to be higher for the bankrupt firms than for non-bankrupt firms, in part due to the fact that as firms moved closer to bankruptcy they take on more unusual characteristics. This could be due in part to the choice of accounting techniques.

Several studies focus on models to predict bank financial distress. Such models are used primarily as early warning systems for federal and state bank regulators. The objective is to develop classification rules based on comparisons of banks with "criticized" loans and banks with un-criticized loans, "problem" banks and non-problem banks, and failed banks and non-failed banks. Consistent with the general research on financial distress, the studies use accounting data to predict the group (population) to which a given bank is likely to belong.

Sinkey (1979) developed a model based on these variables: operating expenses to operating income and investments to assets. The model predicted 15 to 16 bank failures in the validation sample 1 year before failure, and 14 of 16 failures 2 years before failure. The model also works well in classifying non-problem banks as such. Noteworthy was Sinkey's finding that the 2-variable (accounting) model appeared to signal a "red flag" (on average) approximately 66 weeks ahead of the data of the examiner's on-site review that led to the bank's being placed in the FDIC problem bank list. Pettway and Sinkey (1980) follow up that research with an analysis of market and accounting-based screening models, on the assumption that market prices might detect aspects of financial distress earlier than accounting-based information.

Going concern concept is one of the fundamental assumptions in accounting and the critical basis of many of accounting classifications is based on it.

Since it assumes that the firm will activate in the predictive future, so, assets costs are reported in entry books and assets are classified into current and slow assets and debts are divided to long-term and short term debts in balance sheet.

If the going concern concept of a firm is rejected, reporting of that country should take into consideration the activity termination and assets should be reported as recoverable net value not historical costs. Moreover, assets classification into current and slow assets and debts to short-term and long term can not be applied.

One of the ranking methods in relation with ongoing concern concept is applying financial ratios through a combined from.

Using financial ratios for ongoing concern concept evaluation and bankruptcy prediction traces back to 1900s as the comparable bankruptcies of European and American companies made concerns about the return of prime and subsidiary capital ,so that ,they requested for introducing new methods of company stock Assessment.

In this issue, financial researchers in addition to primary calculation of financial issues,

combined these ratios and tried to propose a model that can evaluate and signal the ongoing concerned bankruptcy of companied in a more practical way.

Financial researchers present their model with a combination of financial ratios. Empirical research compares the accuracy of bankruptcy prediction models to auditors' going concern qualifications. The seminal work by Altman (1973) investigate the usefulness of bankruptcy prediction models for assessing company going concern status, and follows the pioneering work of Beaver (1966) and Altman (1968).

Altman (1973) find that their model was 82 percent successful in predicting bankruptcy filings when compared with auditors' going concern assessment of 46 percent accuracy. These results were re-affirmed in a later study by Altman (1983) where the models' average success in predicting bankruptcy was 86 percent compared to auditors' 48 percent.

Among the proposed models, Altman (1973) Model is considerable. In his model, he includes 22 ratios in 5 groups of refinement, leverage profitability, flexibility, classification, and then the best ratio of each group was entrusted and put in the model.

Altman Model is as follow:

$$Z = +1.2\frac{working\ captial}{Total\ assets} + 1.4\frac{Deferred\ profit}{Total\ assets}$$

$$3.33\frac{PBIT}{Total\ assets} + 0.04\frac{Stock\ market\ value}{Book\ value\ of\ debt} + 0.99\frac{sale}{Total\ assets}$$

If in a company z<2.675, that firm will be bankrupt.

In this model, Altman (1968) selected 66 companies including 33 bankrupt companies and 33 normal companies; the success of his model was reported as %95.

In another research, Altman (1977) stated that Auditors evaluation of ongoing concern concept has a complicated process and models related to bankruptcy prediction can in form auditors about particular problems and issues in evaluating the ongoing concern concept.

He studied the financial documents of 34 firms from 1974, for 4 years and between the years of 1970-1973.

Results revealed the prediction model predicted and signaled %82 of bankruptcy of companies while their reports had only pointed to % 46 uncertainties about their going concern concept Altman (1982).

In 1982.Altman reported his test.

Insert Table 1

Although Altman (1968) proposed a model that has % 95 successes but it has one drawback, in developing his model, Altman assumed that variables of the model are selected from companies with normal distribution.

So, if all variables are not normal, the results may lead in their wrong signaling and classification.

Christine vazgren (1982) found this drawback and in designing her model, she put away being normal assumption and applied non-parametric statistics especial logit Regression analysis.

Since distribution of some of variables may not be normal, Zavgren model with non-parametric statistics has more reliability and validity.

And its output is not like the other models that consider company will bankrupt or will not bankrupt.

And instead, gives a number in zero-1 range that is indication of the companies' bankruptcy.

So, in the present paper, zavgren model was applied for scoring and ranking the companies. Zavgen model is as follow:
Y=0.23883-0.108x1-1.583x2-10.078x3+3.074x4+0.486x5-4.35x6-0.11x7

$$\text{Bankruptcy prediction} = \frac{1}{1+e^{-y}}$$

Calculating the variation of the model with 7 ratios is presented in table 2.

Insert Table 2

Zargren (1982) used the information of 5-years-age of bankruptcy in bankrupt companies and 5-years-ago information of normal firms and calculated the coefficients of variables of her model.

Then, she measured the procedural trend of bankruptcy prediction of one company for 5 years. According to results of her research, bankruptcy prediction of that company has been gradually increased on the other hand, at the same period, company stock price had been decreased and along with increase in bankruptcy prediction, stock price of company has been decreased. However, even though prior research have found bankruptcy prediction models to be useful for assessing going concern, other research indicate that a bankrupt company can be regarded as a going concern until the resolution of bankruptcy, and that company bankruptcy is less costly compared to company liquidation (Alderson and Betker, 1996; Franks et al., 1996; Casterella et al., 2000). Indeed, Alderson and Betker (1996) show that the loss of going concern value forms the largest component of liquidation cost at 32 percent of corporate value. Furthermore, more than 50 percent of companies that re-emerge from bankruptcy generate a return that exceeds the return available on benchmark portfolios, indicating that corporate bankruptcy is not as costly as liquidation to shareholders and to other stakeholders (Alderson and Betker, 1996; Alderson and Betker, 1999).

Earning per share is financial ration that is obtained from dividing market value per each stock in relation with exchange board to stock profit stock profit. And stock profit is made by dividing the net profits after defecting tan belonging to average share holders in the average of value of company's stock during the year.

Considering the changes in earnings per share as a result of ongoing changes in stock price, in this paper .we used the earning per share ration.

3. Problem and hypotheses of the study

The changes of stock price in addition to changes of accounting profits are influenced by other variables such as industry ,combination of company capital, and degree of its leverage ,and the stock of sales market of products ,and etc so that they are efficient. The problem is that if the capital markets consider the differences among ongoing concern concept of various companies and includes it in the companies' stock price as the financial statements don't completely reflect this issue.

In other words, if the changes in companies ongoing concern concept influences the stock price and then earning per share. And if ongoing concern concept of a company is high, its earning per share will be closed to industry earning per share and vice versa.

The hypotheses of this research were proposed as follow:"there is a link between ongoing concern concept and earning per share sin the companies."

4. Research methodology

The research was admin started in 5 certain stages as bellows:

1. Adjusting the coefficients of zavgren (1982) model:

Using this model with the original coefficients in evaluating ongoing concern evaluation of Iranian companies with respect to the structural and functional differences of Iranian firms needs adjusting the coefficients of variables of this model with Iranian:

2. Evaluation of the efficiency and reliability of the model:

Before applying the adjusted model in going concern concept evaluation of selected companies, we had to show the reliability and validity of that model.

3. It as sums a meaningful difference between bankrupt and normal companies and predicts a high probability of bankruptcy and low ongoing ability for bankrupt companies in comparison with normal firms.

4. Assessing the difference between earning per share in a company:

Industry earning per share with considering the difficulty of high assessment and low earning per share, degree of farness or nearness of this parameter from industry indent was considered as a good parameter and then was measure.

5. Testing the meaningful link between ongoing concern concept and earning per share:

Finally, we studied the relationship between 2 variables of stage 3, 4, with statistical tests.

Research method was field library study. Special field of the research was the companies listed in Tehran's securities stock exchange. The necessary information was obtained from financial statements of those companies and some information of exchange board.

5. Analyzing the results

First, for adjusting the coefficients of variables of zavgren model with Iranian firms, a sample of 40 companies, including 24 normal company (Table 3) and 16 bankrupt companies was selected Table 4). This sample contains firms of all inductors in stock exchange, so that adjusted mode can be applicable for all the cooperation in the securities stock exchange.

Insert Tables 3 and 4

To administrate the research, after the necessary adjustments, adjusted model of zavgren was formed as following:

Y=3.4671-0.5568x1-1.4049x2-3.237x3+5.388x4+1.3392x5-0.0295x6-0.0347x7

$$\text{Bankruptcy prediction} = \frac{1}{1+e^{-y}}$$

However, variables in are the original variable.

Since the sum of ongoing and bankruptcy prediction is equal to b1, the following relationship is between them:

Ongoing prediction =1-bankruptcy prediction

In the next stage ,to insure of validity and reliability of the adjusted model ، information of a normal companies and 1-year-ago data of 7 bankrupt firms were inserted to the model and its output was bankruptcy and ongoing prediction of these companies were assessed and results are presented in table 5:

Insert Table 5

Then ، the meaningful correction between average ongoing concerns concepts in these two groups of companies was tested via statistical tested with %5 test errors.

The results revealed that ongoing concern prediction of normal companies is %95 more than bankrupt companies and this model is efficient and reliable and has the ability to signal the bankrupt and normal firms.

In order to control the variable influencing a certain industry with interrupting the results of research sample of the research was selected from one industry in the securitized exchange. Since automotive industry had sufficient samples and adjustment with research standards was selected for this paper.

However, going and bankruptcy prediction of those firms was measured via the adjusted model of zavgven and independent variable of research for comparing it with the value of

earning per share was determined.

Insert Table 6

Because of difficulty of high evaluation or low earning per share in this stage degree of farness or nearness of company earning per share from industry yearning per share in other words the difference between company earning per share and industry earning per share was considered as a good parameter for the independent variable .then it evaluated this case: if the ongoing concern concept prediction of a company is high its earning per share is closer to industry earning per share or not.

Insert Table 7

To calculate industry earning per share and value of conflict between company earning per share and industry earning per share (Table 7) these relations were applied:

$$Industry\ P/E = \frac{\sum_{i=1}^{n} P_i Q_i}{\sum_{i=1}^{n} EPS_i Q_i}$$

Pi=stock price of the company

Qi=number of the company

EPSi=earning per share of the company

$$\text{Company P/E value of conflict} = \frac{\text{Company P/E - Industry P/E}}{\text{Industry P/E}}$$

Results of calculation of dependent and independent variables are summarized in Table 8.

Insert Table 8

Finally we assessed the meaningful correlation between 2 variables with statistical tests.

-There is no meaningful correlation between ongoing concerns

Concept and earning per share: H0:p=0

There is a meaningful correlation between ongoing concern concept and earning per share: (research hypothesis) H1=P≠0

$$Test\ A = \frac{r}{\sqrt{\frac{1-r}{n-2}}} = \frac{0.0036}{\sqrt{\frac{1-(0.0036)^2}{w-2}}} = 0.014$$

Critical point α.2, n-2=t0-.025, 15=t2.131

6. Conclusion

Results showed that H0 is not rejected so that with %5 error there is no meaning full

correlation between going concern concept and company earning per share.

In other words it is not possible to apple the difference of earning per share analysis for knowing the difference of their ongoing concern prediction these results do not mean that to understand the changes of ongoing prediction via the changes of company earning per share because this case was not tested the results of this paper indicated that not only we can not use the difference of earning per share among companies for assessing their ongoing concern concept but also we should be cautious in using earning per share for evaluation and to use this relation along with other ration for companies stock evaluation.

On the other hand bankruptcy prediction models particularly the bankruptcy prediction model by average may act help full for investors and auditors in assessing the companies' risk.

So it suggested for the future researches profitability of using the bankruptcy prediction models by investment companies and banks be taken into consideration and should be studied.

More over it seems that q ration in evaluation ongoing concern concept acts well so they consider the ability of Q in assessing then going concern concept.

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Table 1. Altman (1982) Results

Degree of its pointing to uncertainty of going concern concept and auditor report	Degree of success in bankruptcy prediction	Time of study	Number of Sample	Number of Test
%59.1 %40	%81.1 %93	1974-78 1978-82	37 44	1 2

Table 2. Ratios related to Zavgren model

Purpose of applying ration in the model	Kind of ratio	Ratios name	variable
Inventory flow evaluation and way of applying it in the sales	Activity	Average inventory to net sale	X1
Evaluating the efficiency of company in paying the debts	Activity	Average of accounts recoverable to average inventory	X2
Evaluating the companies ability in providing and applying cash funds in predicted and un-predicted payments	Liquidity	Cash funds in a addition to shorter investment to total assets	X3
Evaluating degree of inclusion of short-term eligibility or quick assets	Refinement	Quick assets to current debt	X4
Evaluating returns on prime capital that is financed from owners investment and long-term credits earnings	Profitability	Operational profit to total assets incept current debt	X5
Evaluating the financial leverage of the company that is how much of companies assets are financed from long-term credits earnings	Leverage	Long-term debt to total assets other than current debt	X6
Evaluating the efficiency of company in applying the investment in sales	Activity	Net-net sale of working investment in addition to fined assets	X7

Table 3. Data related to normal firms chosen for a research in 2007

Operational profile sale Current debt-total assets fixed assets-working capital		Long-term debt Current debt-total assets	Assets current debt	Short-term investment Total assets	Average of accounts receivable Average entry	Average inventory sale	Company
6/073	/12	/823	/487	/024	/967	/336	Behshahr Industry
1/402	/762	-/243	/934	/009	1/477	/33	Minoo Industry
1/492	1/778	-2/14	/472	/007	/623	2/075	Pars Carpet
3/925	/109	/306	/607	/65	/845	/312	Mashhad Carton
8/16	/036	/835	/724	/032	1/524	/147	Farabi
/649	/019	/449	/59	/008	28/369	/039	Daroopakhsh
1/58	/091	/54	/8	/028	1/526	/42	Abooreyhan Pharmaceutics
3/914	/118	1/707	/662	/35	/85	/316	Behran Oil

3/055	/66	/783	/48	/022	/819	/296	Dena Tire
2/734	/411	1/193	/368	/09	/795	/208	Sepahan Cement
2/998	/106	1/233	/193	/086	/103	/339	Ghaen Cement
3/31	/158	/288	/642	/134	/413	/355	Navard&Qataate Fooladi
2/222	/21	/42	/407	/05	/277	/69	Pars Aluminum
3/867	/45	/319	/63	/029	/939	/31	Kaveh Industry
3/676	/297	/274	/488	/085	/503	/418	Iran Compressor Manufacturing
3/57	/324	/104	/532	/01	/793	/543	Iranpooya Refrigerator
2/272	/096	/502	/155	/011	/288	/312	Pars Lavazeme Khanegi
1/658	/198	/386	/819	/076	/458	/523	Parsshahab Lamp
4/25	/361	/328	/354	/056	/535	/411	Bakhtar Cable
1/053	/113	-/078	1/65	/022	2/616	/353	Iranradio Electrics
1/11	/11	/05	/624	/023	1/009	/555	Pars Electrics
/532	/031	/029	/23	/311	/549	/173	Robber Insolation
2/867	/628	/247	/0283	/28	1/0156	/334	Saypa
/896	/057	/201	/743	/219	/555	/556	Bahman Co.

Table4. Data related to bankrupt companies prior to their bankruptcy

Sale Fixed assets net capital	Long-term debt Current debit - total assets	Operational profit Current debt - total assets	Assets Current -debt	Short-term investment Total assets	Average Accounts receivable Average Inventory	Average accounts receivable Sale	Data of fiscal year	Year of bankruptcy	Company
3/285	/403	/337	/335	/031	/236	/607	1997	1998	Azadi Tissue
3/543	/06	-/298	/129	/008	1/927	/132	2003	2004	Tehran Gach
2/583	/441	/58	/3	/022	/556	/346	2003	2004	Bahman Production
1/008	/283	-/006	/373	/049	/213	1/112	1997	1998	Esfahan Vatan
6/731	/629	/018	/295	/039	/272	/665	1997	1998	General Industry
-23/116	-8/385	-11/133	/279	/002	/565	1/275	2000	2001	Pars Battery
3/432	/479	/233	/59	/051	/866	/492	1999	2000	Takcable Manufacturing
2/879	/413	/407	/409	/018	/485	/504	1998	1999	Kashan Wearing
1/917	1/097	-/208	/367	/014	/52	/289	1998	1999	Ghods Robber
1/281	/173	-/15	/168	/012	/38	/466	1997	1998	Mashhad Food

									Products
6/589	/508	-/526	/337	/032	/333	/304	1994	1995	Ekbattan Carpet
2/503	/263	/003	/153	/049	/217	/791	1993	1994	Iranradio-Electrics
1/529	/687	/324	/484	/166	/264	/994	1992	1993	Iran Kaveh
2/79	/387	-/14	/548	/038	/696	/435	1999	2000	Gharb Wearing
/038	/977	-/006	/15	/006	/791	/686	1998	1999	Iran Compressor Manufacturing
2/264	/333	/058	/384	/157	/253	/935	1998	1999	Iran Combine

Table 5. Information of select sample of bankrupt normal comp to evaluate the reliability of model

Short-term investment +cash Total assets	Average Accounts Receivable Average Inventory	Average inventory sale	Year of bankruptcy Data of fiscal Year		Company
-3/237	-/4049	-/5567	b coefficients		
/012	/38	/466	1998	1999	Mashhadfood Products
/032	/333	/304	1995	1996	Ekbattan Carpet
/049	/217	/791	1995	1996	Iran Radioelectrics
/014	/52	/829	1999	2000	Ghose Robber
/039	/272	/665	1995	1996	General Industry
/006	/791	/686	1994	1995	Iran Compressor Manufacturing
/031	/236	/607	1998	2000	Azadi Tissue
/008	28/369	/039	2005	-	Daroo Pakhsh
/035	/85	/316	2005	-	Behran Petroleum
/09	/795	/208	2005	-	Sepahan Cement
/076	/458	/523	2005	-	Pars shahab Lamp
/219	/555	/556	2005	-	Bahman Cop.
/028	1/526	/42	2005	-	Abooreyhan Pharmaceutics
/032	1/544	/147	2005	-	Farabi Petroleum

-continuation of Table 5:

Sale Fixed assets- Networking capital	Long-term debt Current debt – Total assets	Operational profit Current debt – Total assets	Quick assets Current debt	Company

+/0347	+0/295	-1/3392	-5/3885	
1/28	/173	-/15	/168	Mashhad Food Products
6/589	/508	-/526	/337	Ekbattan Carpet
2/503	/263	/003	/153	Iran Radioelectrics
1/917	1/097	-/208	/367	Ghose Robber
6/731	/629	/018	/295	General Industry
/038	/977	/006	/15	Iran Compressor Manufacturing
1/1683	3/285	/337/403	/335	Azadi Tissue
/649	/019	/449	/59	Daroo Pakhsh
3/914	/118	1/707	/662	Behran Petroleum
2/734	/411	1/193	/368	Sepahan Cement
1/658	/198	/386	/819	Pars shahab Lamp
/896	/057	/201	/743	Bahman Cop.
1/58	/091	/54	/8	Abooreyhan Pharmaceutics
8/16	/036	/835	/724	Farabi Petroleum

-continuation of Table 5:

Average variance of ongoing concern concept	Ongoing concern concept prediction	Bankruptcy Predication	Sum Y	Company
	Bankruptcy Predicition-1	$\frac{1}{1+e^{-y}}$	+3/4671	
		/8787	1/9801	Mashhad Food Products
X=0/224	/1213	/8651	1/8586	Ekbattan Carpet
S2=/01	/1349	/8617	1/8294	Iran Radioelectrics
	/1383	/6524	/6296	Ghose Robber
	/3476	/7733	1/227	General Industry
	/2371	/7629	1/1683	Iran Compressor Manufacturing
		/362	/638	Azadi Tissue
	1	-	-40/1936	Daroo Pakhsh
	/9766	/0234	-3/7302	Behran Petroleum
X=0/9447	/8221	/17791	-/5306	Sepahan Cement

S2=0/0036	/92958	/07042	-2/5802	Pars Shahab Lamp
	/929	/07102	-2/5711	Bahman Cop.
	/9817	/01835	-3/9777	Abooreyhan Pharmaceutics
	/974	/026	-3/6228	Farabi Petroleum

Table 6 is selected sample from Automotive Industry for evaluating hypotheses of the research.

Going concern concept prediction	Bankruptcy prediction	Sum Y	Sale Working capital+ fixed assets	Long-term debt Total assets of current debt	Operational Profit of total assets Current debt	Quick assets Current debt	Cash short-term investment Total assets	Average Inventory Average inventory	coefficients b / company
Bankruptcy prediction- 1	1/ 1+e	+2.2671	+0.0295	-1.2292	-5.2885	-2.227	-1.4049	-0.5567	
0.8262	0.1527	-1.706129	0.1	0.47444	0.5842	0.1859	0.2648	0.6026	Iran Truck Manufactory
0.602	0.297	-0.4182	0.749	0.1168	04172	0.0437	0.8208	0.4287	Iran Khodro
0.6696	0.2204	-0.7064	0.796	0.1277	0.4517	0.0186	0.7628	0.8686	Iran Khodro Dizel
0.8184	0.1816	-1.5054	0.9727	0.3468	0.4145	0.0214	1.2716	0.4842	Pars Khodro
0.627	0.2633	-0.5611	0.2608	0.7229	0.2897	0.146	0.2682	0.495	Charkhes Hgar
0.7419	0.2581	-1.056	0.0892	0.271	0.5274	0.0208	0.6722	0.4422	Iran Radiator
0.8973	0.1027	-2.1681	0.2777	0.2672	0.7526	0.0819	0.5	0.237	Iran Truck Manufacturing
0.494	0.5062	0.025	0.682	0.2372	0.2822	0.0281	1.015	0.2243	Saypa
0.978	0.0218	-2.8036	0.1783	0.8102	0.4298	0.0507	60242	0.2468	Saypa Azin
0.792	0.2068	-1.2443	0.4662	1.2594	0.291	0.165	0.298	0.4152	Saypa Dizel
0.792	0.2068	-1.2443	0.4662	1.2594	0.291	0.165	0.298	0.4514	Iran Industry
0.956	0.0435	-2.09	0.1204	0.1101	0.822	0.0092	0.9229	1.1298	Morattab Production Industry
0.972	0.271	-2.5805	0.238	0.2022	0.9776	0.0065	0.8668	0.5499	Niroo Mohareke Industry
0.428	0.5622	0.2504	0.1906	0.2815	0.2641	0.0182	0.7291	0.4372	Khavar Sprin Manufacturing
0.64	0.2605	-0.5722	0.1127	0.2799	0.4268	0.0289	0.6252	0.6725	Rose Spring
0.6872	0.2128	-0.8781	0.0527	0.2011	0.4112	0.22	0.555	0.556	Bahman cop.
0.9599	0.0411	-2.1489	0.255	0528	08017	0.1042	0.7795	0.4165	Iran Lent Tormoz

Table 7. data of selected normal firms for research in 2007

Value of conflict P/E	Company P/E P/E Company	EPS.Q	P.Q	Earning per stock in 1380	Price in Data of gathering	Capital stock	Company
0.118	4.5	39740	177900	1987	8895	20	Iran Truck Manufactory
0.118	4.5	1320975	5931563	824	3700	1603/125	Iran Khodro
0.039	4.9	180792	882900	558	2725	342	Iran Khodro Dizel
3.216	21.5	30212	649194	166	3567	182	Pars Khodro
0.412	7.2	37230	267990	1241	8932	30	Charkhes Hgar
0.02	5.2	18060	94500	516	2700	35	Iran Radiator
0.314	3.5	36830	130095	7366	26019	5	Iran Truck Manufacturing
0.961	10	160200	1664000	267	2740	600	Saypa
0.02	5	35880	174600	1196	5820	30	Saypa Azin
0.157	¾	89003.7	385390.72	1321	5720	67.376	Saypa Dizel
-	5.1	23730	121930	2373	12.193	10	Iran Industry
0.706	8.7	4620	39900	154	1330	30	Morattab Production Industry
0.098	4.6	94405.8	431713.8	555	2538	170.1	Niroo Mohareke Industry
0.04	4.9	21870	107940	729	3598	30	Khavar Spring Manufacturing
0.098	4.6	12020	55160	601	2758	20	Rose Spring-Manufacturing
0.314	3.5	230700	795900	769	2653	300	Bahman Cop.
0.118	4.5	8468	38052	2117	9513	4	Iran Lent Tormoz
-	5.1	2344736.2	-	-	-	-	Industry P/E

Table 8. calculation of dependent &independent variables

Calculation of correlation coefficient of sample Y	Value of conflict P/E variable company(yi)	Ongoing concern concept of variable company(xi)	Company
	0.118	0.8643	Iran Truck Manufactory
	0.118	0.603	Iran Khodro
	0.039	0.6696	Iran Khodro Dizel

$\sum x_i = 13/045$

$\sum x_i^2 = 10/476$

$\bar{x} = 0/7673$

$\sum y_i = 6/749$

$\sum y_i^2 = 12/1225$

$\bar{y} = 0/397$

$\sum x_i y_i = 5/186$

$$r = \frac{\sum xy - n\bar{x}\bar{y}}{\sqrt{\sum x^2 - \bar{x}^2}\sqrt{\sum y^2 - n\bar{y}^2}}$$

$$r = \frac{5/186 - (17)(0/7673)(0/379)}{\sqrt{10/47 - 17(0/7673)^2}\sqrt{12/225 - 17(0/397)^2}}$$

$r = 0/0036$

3.216	0.8184	Pars Khodro
0.412	0.637	Charkhes Hgar
0. 02	0.7419	Iran Radiator
0.314	0.8973	Iran Truck Manufacturing
0.961	0.494	Saypa
0.02	0.978	Saypa Azin
0.157	0.793	Saypa Dizel
-	0.912	Iran Industry
0.706	0.956	Morattab Production Industry
0.098	-0.973	Niroo Mohareke Industry
0.04	0.438	Khavar Spring Manufacturing
0.098	0.63	Rose Spring-Manufacturing
0.314	0.6872	Bahman Cop.
0.118	0.9599	Iran Lent Tormoz