The effect of financial ratios on auditor opinion in the companies listed on TSE

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Abstract

The present study evaluated the relation between 15 financial ratios with auditors' opinion. 184 companies listed in TSE during 2005 to 2010 were investigated. The present study used Kolmogrov-Smirnov technique to investigate the distribution difference of independent variables in dependent variable groups. Then, Kendall's and Spearman and Mann-Whitney tests were applied to investigate the relation between the variables. In addition, the Discriminant analysis was applied to find the best predictor model. The results of the study showed that the distribution of the independent variables with different opinions were not similar mostly. The main hypotheses of the study were a) the distribution of the independent variables in dependent variable groups was not uniform. b) The financial ratios of the companies had significant relation with auditor opinion. c) By financial ratios, a model to predict the auditor opinion is designed and the results of the study showed that in hypothesis a) the distribution of the variables was different in two types of opinions and the study hypothesis was supported. In hypothesis b) based on Kendall's and Spearman correlation coefficient, there was no significant relation between current ratio, quick ratio and invoice turnover ratio with the auditor opinion. All the variables had negative relation with auditor opinion. It means that by the increase of these ratios in capital structure, it is possible that the opinion is adverse. Based on Mann-Whitney test, the current ratio, quick ratio, invoice turnover ratio of the study hypothesis is rejected. The distribution of the variables in two populations was uniform and other variables were supported and had significant relation with auditor opinion. The results of Discriminant analysis in hypothesis c) Showed that based on the study, only with two financial ratios ("earnings per share", "Fixed asset turnover") a mode with accuracy rate 64.1% for prediction of auditor opinion was provided.

Keywords: Auditor opinion, Financial ratios, Discriminant analysis

Introduction

In the current economic world, with the increase of the demand for presenting transparent and responsive information, the need to qualified people for validity of the presented reports and information, presenting the high quality information for investors is of great importance.

To achieve the mentioned aim, independent audit services were applied to validate the presented information. The scandals of the bankruptcy of great American companies as Enron and WorldCom led into the complaints and important claims against the big audit institutions. The scandals were increases the Enron audit institution was dissolved and stopped the professional activities. Under such conditions, the quality factor in auditing was considered mostly by the audit institutions. As audit quality control caused that the auditors can do their responsibility against the employer and the society well.

As it was said, the determination of the solutions that showed the risk items or the tools helps us in estimation of the type 2[1] risk of auditing. One of the tools is using analytical method during the audit. According to Iran audit standard (section 20) with the general principle of auditing, the audit financial statements should do the audit with professional ambiguity[2]. To fulfill this issue, the auditor needs the

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[1] Type 2 risk of audit means despite the significant errors, the auditor will have wrong opinion.

[2] Professional ambiguity means considering the conditions causing the significant mistake or distortion in financial statements.

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tools to aware him of the risk and distortion. One of the tools is using analytical methods. Financial ratios analysis is a good method to do analytical methods.

The present study evaluated the difference of the distribution of independent variables and the relation between independent variables and auditor opinion were considered. In addition, the power of achieving a model to predict the auditor opinion was considered.

Theoretical basics

Auditing opinion: The audit report is an instrument by which the auditor transfers his opinion about reliability of the financial statements of the users of the report.

The summary of the different kinds of auditors' opinion on Iran audit standards classification is as following:

Unqualified opinion: It is stated when the auditor concludes that financial statements are presented of all the material aspects and the accounting standard classifications are presented appropriately.

Qualified opinion: It should be expressed when the auditor concludes that an unqualified opinion cannot be expressed but that the effect of any disagreement with management, or limitation on scope is not as material and pervasive as to require an adverse opinion or a disclaimer of opinion. A qualified opinion should be expressed as being 'except for' the effects of the matter to which the qualification relates.

A disclaimer of opinion: it should be expressed when the possible effect of a limitation on scope is so material and pervasive that the auditor has not been able express an opinion on the financial statements.

Adverse opinion: It is presented when the effect of disagreement with financial statements is material and pervasive as the auditor concludes qualified report to disclose the misleading nature of financial statements is not adequate. (Audit report standard, 700-799).

Financial ratios are various. Each of the financial ratios are created based on specific need and are applied in special conditions but all the ratios are classified based on specific results and specifications. Lev (1974) classified financial ratios into five groups as liquidity ratios, return ratios, performance ratios, profitability ratios and market ratios. Faster (1986) presented liquidity ratios, activity ratios, leverage ratios and profitability ratios as four types of financial ratios. Cornett *et al.* (2008) divided financial ratios into liquidity ratios,

asset management ratios, debt management ratios, profitability ratios and market value ratios. The present study used financial ratios being used in internal activities of the company. The present study applied the classification proposed by Cornett *et al.* After the investigation of the distribution difference of the independent variables, the relation between independent variables and auditor opinion was considered. Achieving the model to predict the auditor opinion was considered. One of the instruments being used to determine the financial posit ion of the companies is the analysis of financial analysis. Indeed, the financial ratios revealed important realities in relation with the financial position of a company. The advantage of computation of the ratios is that relation between major items of financial statements is accurate and by which the financial weaknesses and problems are determined. The ratios get important when they are compared with other ratios in the past of the similar companies or institutions or with good industry standards. The financial analysts use the financial ratios to analyze the financial condition of a company. The financial ratios can reveal some of the important realities about the results of financial operation of a company easily and present the required information. Based on the required aim, the specific ratios are analyzed.

Liquidity ratios

The business enterprises need cash or other assets with high liquidity to pay the current debts. The liquidity ratios describe the relations between the current assets and current debts. The most important liquidity criteria are current and quick ratios (Cornett *et al.* 2008).

Asset management ratios

This group used financial ratios to measure the efficiency of the business enterprise in using the available asset. The invoice turnover ratio, fixed asset turnover ratio and the total assets turnover are in this group (Cornett *et al.*2008).

Debt management ratios

This ratio investigates the financing method of the companies. The mentioned ratios explained the use of business enterprise of financing resources and showed the relation between the debts and assets of business enterprise. In other words, debt management ratios expressed the use of business enterprises of debt creation method to use the capital for financing the assets. Among the ratios of the classification, debt ratio is highly applied (Cornett *et al.*2008).

Profitability ratios

Liquidity ratios, asset management and debt management showed a part of business enterprise as limited and showed a partial view of business enterprise performance and profitability ratios defined the accumulative liquidity effects, asset management and debt management in business enterprises (Cornett *et al.* 2008). The change of profitability, the ratio of return on equity, the investment return ratio, earnings before tax deduction and interest to gross earnings, net earnings to gross earnings ratio, gross earnings ratio to sale and net earnings to sale ratio are included in this classification.

Market ratios

The market ratios are based mostly on current prices of the market and the stock holders give importance to the market price of common stock and some of the ratios evaluating the condition of the company in relation to the market. This ratio is recognized as investment or stock ratios. The investors in financial markets applied this ratio for transactions between available investment items and identity the stock market prices in financial market. The prices to earnings ratio, dividend to earnings per share ratio, stock payment earnings ratio, earnings ratio are included in this classification (Financial accounting, Journal NO. 81.).

Discriminant analysis

This method was developed for the first time by Fisher (1936) based on methodology used in linear regression to solve the linear equations. Discriminant analysis is useful when there is one classification variable (quality) and some quantity independent variables. The researcher aimed to use the relation to define based on the membership independent variables in classification variable. Discriminant function is the equation by having the features of any person in the society, by putting the classifications in this equation, it can be predicted that which group a person in the society belongs. This method is used when, a model is made to predict the group membership based on the observed variables and attributes.

Review of literature

Gaganis *et al.* (2007) by probabilities neural networks evaluated the features of business enterprises regarding their relation with the auditor opinion. They applied 27 common variables in the studies.

They found that gross earnings, size, profitability, current ratio, asset turnover productivity, industry and audit institution are the most important factors in determining the auditor opinion and the effect of profitability variable with 24% was highly significant.

Pasiouras *et al.* (2007) by some of the sample financial ratios and operational study techniques and study analyses including attribute analysis and logarithm analysis formulated a support system of decisions for auditor opinion. The variables in the study were current ratio, quick ratio, capital to total asset, the changes in current asset, changes in total assets, credit risk, and earnings before interest and tax and assets return. They applied Kruskal-Wallis tests and Kolmogrov-Smirnov tests to be sure of the difference of the ratios in two opinion groups (unqualified and qualified).

Ittonen (2011) discussed market reaction to qualified audit reports and identified various methods in these studies. In addition, the paper discusses the strengths and weaknesses of different approaches, summarizes key findings, and provides suggestions for future research. The paper reviews the relevance of qualified audit reports articles published between 1972 and 2010. First, the review suggests that there are three main approaches used in the literature: (1) the short-window approach, (2) the long-window approach, and (3) the indirect approach. Each approach has both strengths and significant weaknesses that should be acknowledged. Second as a whole the empirical findings in this area are mixed. A more detailed analysis reveals that only the indirect approach has consistently found support for the relevance of qualified audit reports.

Ghassan *et al.* (2011) presented some evidences that whether financial ratios affect the opinion of the auditors and improvement of the relation between the auditor and users of financial statements. To achieve these aims, the questionnaire was designed and was distributed among the Jordanian auditors and the results of the questionnaire showed that Jordan auditors consider the payment ability ratio, profitability ratio and activity ratio of important ratios on auditor opinion while the Jordanian auditors but didn't consider the short term debt payment of ratio of ability and market and investment ratio was effective on auditor opinion. The present study recommended that auditor should consider in conclusion the financial analysis due to its importance in audit process namely in final stage.

Arber *et al.* (2012) investigated the effects of stock price after the audited financial reports dec-

laration in the companies listed on stock market of Slovenia and Croatia. The study explained the importance of the variables and the importance of audit in explanation of the fluctuations of stock price. Discriminant analysis and Logit model were used in the present study. Discriminant analysis and Logit model with the type of opinion were considered as dependent variable and 11 financial ratios were considered as independent variables. The results of the study showed that audit quality and audit opinion had influence on stock price.

Rustam *et al*. (2013) examined the association between audit committees, compensation incentives and corporate audit fees in Pakistan by using the data of fifty firms that are listed on the Karachi Stock Exchange (KSE), Pakistan during the years of 2007−2011. Panel data technique is used in this study, as the data set contains cross-sectional units over several time periods. The result of panel regression indicates that audit committee activity and committee member's independence are significantly associated to audit fee levels, consistent with the argument that audit committees complement the work of external auditors in monitoring management. Further results on the full sample of firms reveal significant differences in determinants of audit fees between the years examined. Finally, the results of control variables suggest a significant association between non-audit fee, board meetings, ROA (return on assets), sales and firm foreign operations with the audit fees in the selected market.

Pourzamani *et al*. (2009) in a study "The study of the efficiency of logit model and multi-variant

Discriminant analysis in prediction of financial position of the companies listed on TSE", the data of 12 financial ratios in unsuccessful companies in accordance with article 141 and the companies excluded from TSE were audited and compared with the successful companies in logit models. It was concluded that by the data of one year before the basic year, the audit analysis model is efficient and is much effective than the data of two years before basic year, logit model is efficient but there is no significant difference between two models.

Ranjbar *et al*. (2010) in a study evaluated the ability of financial variables and expert auditors' opinion to predict the companies' bankruptcy and presented some models. The results of the study showed that the presented model based on expert auditors' opinion for bankruptcy year had high predicting power to the financial ratios-based model

and expert auditor opinion and the model merely based on financial ratios. It seems that the presented model based on financial ratios and expert auditors' opinion for bankruptcy year had high predicting power compared to the model based on financial ratios. For a long time, the financial ratios-based models and expert auditors' opinion were similar to the financial ratios-based models and the opinion didn't influence the models. The presented models based on financial ratios had high prediction power for many years compared to the models merely based on expert auditor opinion.

Abaszade and Manzarzade (2011) evaluated the probability of issuing the unqualified report of independent auditors by the features of the board of directors of the companies listed on TSE. The study hypotheses were based on the relation between the features of the board of directors and the type of independent auditors report. The study sample was 187 companies during 2005 to 2009. The study method for the hypotheses test was "analysis of linear logistic regression". The results of the study showed that there is a negative and significant relation between the increase of "the number of the board of directors" and unqualified report of the auditor and positive and significant relation between the increase of "ownership ratio" and audit unqualified report. "The lack of change in board of directors members of current year compared to the past year" affected the unqualified report of the auditor as negatively significant. There is a positively significant relation between the increase of "market-to-book value of the equity" and unqualified report of the auditor. There is a negatively significant relation between the change of current year audit compared to the previous year" and unqualified audit report and there was a positively significant relation between the increase of "return on asset rate" and unqualified audit report.

Shurvarzi *et al*. (2011) started the study with the fundamental hypothesis as: The independent auditor's opinion about the ambiguity conditions about activity continuance (adjusted report) can predict the bankruptcy in the next financial period better than the financial variables as simultaneously. The said hypothesis was tested by a sample of 60 manufacturing companies of the companies listed on TSE during 7 years by logistic study model and McNemar's test during 2002 to 2008. The result of the study showed that financial variables simultaneously and independent auditor opinion had the prediction

ability of bankruptcy in the next financial period but independent auditor opinion had significant superiority to the financial variables. Mazar Yazdi *et al.* (2012) investigated the effect of style study of auditors and information volume on the quality of their opinion about activity continuance.

The study questions and hypotheses were based on Shrewder, Driver and Strafer theories about information processing. Based on this theory, the ability of people for information processing dependent upon their cognitive style and is reduced by the increase of information. The auditors of the study were top managers and supervisors of audit organization and were tested by "cognitive style test" and "opinion test to the activity continuity". The data were analyzed by one-way variance analysis and recurrent measures and the results showed that the judgment of the auditors regarding the activity continuance followed Shrewder, Driver and Strafer: subjective auditors are full of much information processing compared to objective auditors and they have correct opinions. Banimahd (2011) investigated some of the effective factors on unqualified audit report over a 7- year period (2001 to 2007) in 56 firms listed on TSE. The study method was correlation and logistic regression. The results of the study showed that there was a significant relation between management performance, ownership change, privatization of auditing , opinion selection, auditor change from one private audit institution to the other private audit institution and firm size with unqualified audit report. There is a direct relation between all variables except firm size with unqualified audit report in the study sample. Privatization of auditing market has increased audit change and it has decreased qualified audit report and unqualified opinion is increased. This issue showed that privatization of audit reduced the autonomy of the auditor and increase the opinion selection namely after the formation of the certified accountant society. The results of the study showed that the higher the competition and privatization in audit market, the higher the audit report issuance.

Methodology

The present study was experimental based on capital market data analysis and it was correlation and applied in terms of aim. In correlation study, the main aim is that: Is there any relation between two or more quantity variables (assessed)? If yes, what is the size? In correlation studies, some of the

variables associated with the problem are evaluated (Khaki, 2011).

To select the companies by the financial statements of the companies, Rahavard Novin software and financial ratios of the companies during 2005 to 2010 were applied. Finally, 184 companies had full access to the required information. All 184 companies were selected as sample.

The present study was consisting of library and field studies. First by referring to the existing information resources, the theoretical basics and conceptual framework were collected and the review of literature was considered. In the review of literature and theoretical basic of the study, the data were collected via second hand resources and as library and scientific journals and sites. In data collection, the financial statements of the companies in the library of TSE, financial statements of the companies in internet site of research management, Islamic studies of TSE and financial information in software as Rahavard Novin, etc were applied.

The study sample and population

The study population in the present study was all the manufacturing companies listed on TSE. Due to the lack of access to exact information of financial statements of the companies excluded from TSE, the study population of this study was selected among the companies listed on TSE. To select the companies among the manufacturing companies with at least one fiscal year during 2005 to 2010 in accordance with article 141 codes and available financial information were used. The companies should meet the following criteria:

a. Manufacturing

b. The fiscal year lead into Esfand 29

c. The available financial information

d. Be active six consecutive years during 2005 to 2010 in TSE.

Study hypotheses

Based on the review of literature and the results, the hypotheses were as:

Hypothesis a: The distribution of financial ratios of the companies with the type of auditor opinion was not uniform.

Hypothesis b: The financial ratios of the companies had significant relation with the auditor opinion.

1. There was a significant relation between net earnings to sale and auditor opinion.

2. There was a significant relation between gross earnings to sale and auditor opinion.

3. There was a significant relation between net earnings to gross earnings and auditor opinion.

4. There was a significant relation between return on asset and auditor opinion.

5. There was a significant relation between return on equity and auditor opinion.

6. There was a significant relation between investment return and auditor opinion.

7. There was a significant relation between current ratio and auditor opinion.

8. There was a significant relation between quick ratio and auditor opinion.

9. There was a significant relation between invoice turnover and auditor opinion.

10. There was a significant relation between fixed asset turnover and auditor opinion.

11. There was a significant relation between the total assets turnover and auditor opinion.

12. There was a significant relation between debt ratio and auditor opinion.

13. There was a significant relation between earnings per share and auditor opinion.

14. There was a significant relation between profitability changes and auditor opinion.

15. There was a significant relation between price to book value per share ratio and auditor opinion.

Hypothesis c) By financial ratios, a model can be designed to predict the type of opinion.

The study variables and the applied model

Net earnings to sale ratio, gross earnings to sale, net earnings to gross earnings ratio, return on asset, return on equity, investment return, current ratio, quick ratio, invoice turnover ratio, the total assets turnover, fixed asset turnover, debt ratio, earnings per share, profitability changes, price to the profitability value are independent variables and the dependent variable is the type of auditor opinion (unqualified and qualified) as a dual variable and the unqualified opinion is considered as the first aspect (first group or unqualified group) and other opinions as qualified, adverse opinion and disclaim of opinion were considered as the second aspect (second group or qualified). The sample was 406 cases as the first aspect and 698 cases were the second aspect as 1104 totally.

The multiple discriminant analysis models were expressed as math equation called discriminant function and financial ratios are called discriminant variables. The following equation shows an example of discriminant function:

$$F_{km} = u_0 + u_{1km} + u_{2km} + ... + u_i x_{ikm}$$

F_{km}: Discriminant function for company m in group k. k denotes the auditor opinion and m each sample company.

x_{ikm}: Financial ratio value i for company m in group k.

u_0: Cut off constant of coefficient vector

u_i: Coefficient vector of existing financial ratios in the model (Saeedi *et al.* 2009).

The data analysis

After the data collection, selection of good instrument for data analysis of the variables is of great importance. In this study, for hypotheses test, Kolmogrov-Smirnov, Mann-Whitney, Kendall and Spearman correlation and Discriminant analysis were applied. For data analysis and study tests and coefficients estimation, software was used and to achieve the required values for study analysis, SPSS software was used.

Hypotheses test
Hypothesis A: The study of the difference of the ratios distribution (independent variables) in two types of opinions (two dependent groups)

To study the difference of the distribution of financial ratios in two opinions, Kolmogrov-Smirnov test was used. The results of the test are shown in the following table. As is shown in the table, current ratios, quick ratios, invoice turnover, fixed asset turnover, the total assets had sig>0.05. It can be said that the distribution of this ratio in two opinion groups was uniform and in the rest of ratios, sig<0.05. The distribution of the ratios in two opinion groups was not uniform.

Hypothesis B: there is a significant relation between the financial ratios of the companies with auditor opinion.

To investigate the relation of ratios with auditor opinion, Kendall's and spearman correlation coefficient was used and then Mann-Whitney test was applied:

The test showed that there is no significant relation between current ratio, quick ratio and invoice turnover ratio with auditor opinion. All the variables had negative relation with the auditor opinion. It means that by the increase of the ratios in capital structure, the qualified probability of the auditor opinion is increased.

Table 1. The study of the distribution difference of the companies' ratios with auditor opinion (researcher research)

Independent variables	Z statistics	Sig	Hypothesis	Result
Net earnings to sale	3.153	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Gross earnings to sale	3.365	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Net earnings to gross earnings	2.7663	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Return on asset	4.137	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Return on equity	2.916	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Investment return	2.475	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Current ratio	0.951	0.326	Rejected	The distribution of this ratio in two opinion groups is equal.
Quick ratio	1.029	0.24	Rejected	The distribution of this ratio in two opinion groups is equal.
Invoice turnover ratio	1.293	0.071	Rejected	The distribution of this ratio in two opinion groups is uniform.
Fixed asset turnover ratio	1.296	0.07	Rejected	The distribution of this ratio in two opinion groups is uniform.
Total assets asset ratio	1.302	0.068	Rejected	The distribution of this ratio in two opinion groups is uniform.
Debt ratio	2.009	0.001	Supported	The distribution of this ratio in two opinion groups is not uniform.
EPS	3.360	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.
Profitability changes	1.471	0.026	Supported	The distribution of this ratio in two opinion groups is not uniform.
Price to book value ratio	2.683	0.000	Supported	The distribution of this ratio in two opinion groups is not uniform.

Table 2. The correlation coefficients of financial ratios with auditor opinion type (researcher studies)

Independent variables	Kendall coefficient			Spearman coefficient		
	Coefficient	Sig	Study hypothesis	Coefficient	Sig	Study hypothesis
Net earnings to sale	-0.155	0.000	Supported	-0.190	0.000	Supported
Gross earnings to sale	-0.164	0.000	Supported	-0.201	0.000	Supported
Net earnings to gross earnings	-0.116	0.000	Supported	-0.142	0.000	Supported
Return on asset	-0.189	0.000	Supported	-0.232	0.000	Supported
Return on equity	-0.144	0.000	Supported	-0.176	0.000	Supported
Investment return	-0.074	0.03	Supported	-0.090	0.03	Supported
Current ratio	-0.027	0.280	Rejected	-0.033	0.280	Rejected
Quick ratio	-0.029	0.234	Rejected	-0.036	0.234	Rejected
Invoice turnover ratio	-0.035	0.156	Rejected	-0.043	0.156	Rejected
Fixed asset turnover ratio	0.051	0.037	Supported	0.063	0.037	Supported
Total assets ratio	-0.052	0.037	Supported	-0.063	0.037	Supported
Debt ratio	0.108	0.000	Supported	0.131	0.000	Supported
EPS	-0.188	0.000	Supported	-0.230	0.000	Supported
Profitability changes	-0.049	0.047	Supported	-0.060	0.047	Supported
Price to book value ratio	-0.123	0.000	Supported	-0.151	0.000	Supported

Table 3. The study of the relation between financial ratios and auditor opinion by Mann-Whitney test (researcher studies)

Independent variables	Z statistics	Sig	Hypothesis	Result
Net earnings to sale	-6.299	0.000	Supported	It has significant relation with the type of opinion.
Gross earnings to sale	-6.672	0.000	Supported	It has significant relation with the type of opinion.
Net earnings to gross earnings	-4.704	0.000	Supported	It has significant relation with the type of opinion.
Return on asset	-7.685	0.000	Supported	It has significant relation with the type of opinion.
Return on equity	-5.833	0.000	Supported	It has significant relation with the type of opinion.
Investment return	-2.993	0.03	Supported	It has significant relation with the type of opinion.
Current ratio	-1.080	0.280	Rejected	It has no significant relation with the type of opinion.
Quick ratio	-1.191	0.234	Rejected	It has no significant relation with the type of opinion.
Invoice turnover ratio	-1.419	0.156	Rejected	It has no significant relation with the type of opinion.
Fixed asset turnover ratio	-2.086	0.037	Rejected	It has no significant relation with the type of opinion.
Total assets ratio	-2.085	0.037	Rejected	It has no significant relation with the type of opinion.
Debt ratio	-4.350	0.000	Supported	It has significant relation with the type of opinion.
EPS	-7.616	0.000	Supported	It has significant relation with the type of opinion.
Profitability changes	-1.987	0.047	Supported	It has significant relation with the type of opinion.
Price to book value ratio	-5.003	0.000	Supported	It has significant relation with the type of opinion.

Table 4. Mann-Whitney test

Independent variables	Unqualified opinion		Qualified opinion		Result
	Number	Rank mean	Number	Rank mean	
Net earnings to sale	405	630.70	697	505.47	This ratio is high in unqualified opinion.
Gross earnings to sale	405	635.42	697	502.47	This ratio is high in unqualified opinion.
Net earnings to gross earnings	405	610.09	697	516.61	This ratio is high in unqualified opinion.
Return on asset	406	648.58	697	495.74	This ratio is high in unqualified opinion.
Return on equity	406	625.32	697	509.30	This ratio is high in unqualified opinion.
Investment return	406	589.62	697	530.09	This ratio is high in unqualified opinion.
Current ratio	406	565.57	697	544.10	This ratio is equal in unqualified opinion.
Quick ratio	406	566.97	697	543.28	This ratio is equal in unqualified opinion.
Invoice turnover ratio	398	553.96	674	526.19	This ratio is equal in unqualified opinion.
Fixed asset turnover ratio	406	525.79	697	567.27	This ratio is low in unqualified opinion.
Total assets ratio	406	577.67	696	536.24	This ratio is high in unqualified opinion.
Debt ratio	406	497.34	697	583.84	This ratio is low in unqualified opinion.
EPS	406	646.49	695	495.22	This ratio is high in unqualified opinion.
Profitability changes	406	577.50	698	537.96	This ratio is high in unqualified opinion.
Price to book value ratio	406	613.73	695	514.36	This ratio is high in unqualified opinion.

Hypothesis C: Discriminant analysis of the data

To find the best predicting model, discriminant analysis test was applied and the result of the analysis is shown in the table. As is shown, the method is step-wise. The results showed that in two stages, as "earnings per share" and "Fixed asset turnover" entered the equation and other ratios didn't have the required discriminant power. In this analysis, chi-square was 49.696 and was significant at 0.001 and it showed that the discriminant equation was significant and it had good value. According to the results extracted, the priority of the variables was based on their effect on auditor opinion and final equation for discrimination was as:

Table 5. The priority of the effect of independent variables on dependent variables

Variables	Componets matrix
EPS	0.933
Fixed asset turnover	-0.319
Return on asset	0.314
Invoice turnover	-0.07
Gross earnings to sale	0.067
Net earnings to sale	0.057
Debt ratio	-0.044
Net earnings to gross earnings ratio	0.044
Profitability changes	0.043
Quick ratio	0.031
Price to book value ratio	0.026
Total asset turnover	0.018
Investment ratio	0.016
Investment return	0.01
Current ratio	0.007

Table 6. The non-standardized canonical coefficients of functions

	Function 1
Fixed asset turnover	-0.36
EPS	0.001
Constant	-0.413

By the above table values, the discriminant is written.

y=0.001 ×)EPS(-0.036 ×)Fixed asset turnover (-0.413)

Table 7. Discriminant analysis classification

Classification accuracy		
Qualified	Unqualified	
50.6	49.4	Unqualified
72.9	27.1	Qualified

The results of discriminant analysis classification showed the satisfactory performance of this analysis in identification of the type of auditor opinion because the accuracy percent of the unqualified opinion classification was 49.4% and qualified opinion was 72.9 % and the designed model classified 64.1% of the auditor opinion accurately.

Conclusion

The present study identified the factors being effective on audit opinion issuance that by its identification, good grounds are prepared for decision making and evaluation of the management of the organizations and a method for facilitating the work and reduction of the audit institutions via increasing their efficiency. To achieve this aim, 15 financial variables during 2005 to 2010 in 184 companies listed on TSE were analyzed by discriminant analysis. To do this, at first the difference of the distribution of financial ratios in the companies with differs rent opinion was considered and the results showed that in most cases, the variables distribution in the companies was not equal with the auditor opinion. Then the relation of the ratios with auditor opinion was tested and it showed that most of the ratios had significant relation with auditor opinion and by correlation tests, it was concluded that there was a negative relation between the ratios and auditor opinion and by EPS and fixed asset turnover with discriminant analysis, a model with accuracy 64.1 % was designed.

The results of the study showed that among the studied hypotheses, the net earnings to sale ratio, gross earnings to sale, net earnings to gross earnings ratio, return on asset, return on equity, investment return at confidence interval 95% had significant effect on auditor opinion consistent with the results of the studies of Kida (1980), Mutchler (1985), Latnin *et al.* (1998), Butler *et al.* (2004), Gaganis *et al.* (2007), Ghassan *et al.*(2011), Rustam *et al.* (2013) and among the variables, current ratio, quick ratio, invoice turnover ratio at confidence interval 95% didn't have any influence on audit opinion and they were inconsistent with the results of the study of Hansen *et al.* (1992), Calderon (1999), Mutchler (1985), Menon and Showarts (1987), Willenborg and McKeown (2001) and Gaganis (2007) due to using different study population.

Applied recommendations

1- It is recommended to the companies to be sensitive to the financial ratios with significant effect on audit opinion issuance and keep it at acceptable level to reduce the probability or receiving a report except unqualified report.

2- It is recommended to the audit companies to rely on sensitive and valuable factors to increase their productivity and reduce the costs as the key factor of stability and growth of the companies and they are important ratios that should be taken into the attention of audit companies.

3- IT is better than the companies as warning instrument before coping with financial crisis and the auditors to evaluate the activity continuance consider the profitability, market and debt and asset management.

4- Based on the results of the study, the credit providers and investors in the investigation of the continuance of business enterprise use the combination of independent auditor comments and EPS and fixed asset turnover ratios.

5- To rank the companies to give the facilities, it is better to consider the profitability, market and debt and asset management ratios in the present study that have significant relation with the auditor opinion.

6- To managers to take the decisions, strategies and efficiency procedures to improve the financial ratios, the analysts of stock market to inform the beneficiaries to profitability, market and asset and debt management ratios.

7- Based on the study results, profitability and market were important to liquidity and invoice and the analysts should consider this aim.

Some recommendations for further study

In the study process, other effective factors were identified and they could not be studied during the study.

It is recommended to the researchers to investigate these factors. Some of the factors are:

1- The investigation of the effect of non-financial variables on auditor opinion

2- The investigation of the effect of financial and non-financial variables on auditor opinion by other methods as Profit and neural network.

3- The study and investigation of the effect of financial and non-financial variables on auditor opinion in various industries except the manufacturing industries.

4- The effect of financial and non-financial ratios on existing conditions of audit report.

5- The study of the effect of financial and non-financial ratios on auditor opinion in the stock market of other provinces.

6- The Study of the effect of audit cost on auditor opinion type

7- The study of the strategic system effect on the type of auditor opinion

8- The study of the effect of changing the managers and partners signing audit report on type of audit opinion.

9- The study of the effect of audit fee on auditor change.

References

Azar, A. (2002). *Statistics and its application in management.* Second Vol. Sixth edition. Tehran. SAMT press.

Ahmadpour *et al.* (2010). The effect of financial and non-financial variables on audit qualified opinion issuance of the companies listed on TSE. *Journal of Stock Market. 9,* 100-113.

Arbab Soleimani, A., Audit principles. Audit organisation press.

Akbari, F., & Alimadad, M. (2000). *The analytical study by analysis in audit.* First edition. Tehran. Specialized research center for accounting and audit of audit organization.

Arabmazar *et al.* (2012). The cognitive style of auditor, information volume and quality of opinion to activity continuity. *Journal of Audit and Accounting, 19*(2), 73-96.

Banimahd, B. (2011). The study of the effective factors on unqualified audit opinion. *Journal of stock market, 13*(4), 60-81.

Bidgoli, Gh., & Zare, H. (2003). The empirical study of study analytical method in audit. *Journal of audit and accounting, 33,* 130-1070.

Butler, M *et al.* (2004). An empirical analysis of auditor reporting and its association with abnormal accruals. *Journal of Accounting and Economics, 37,* 139-165.

Calderon, TG & B. P. Green (1999). The use of neural networks as an audit tool in fraud risk assessment. *Proceeding of American Accounting Association Northeast Regional Meeting,* Rochester (NY).

Coakley, JR & C.E. Brown (1993). Artificial neural networks applied to ratio analysis in the analytical review process. *International Journal of Intell System Account Finance Manage, 2*(3), 19-39.

Corneit, M *et al..* (2008). *Finance: application& theory .*1 edition, Macgrow − Hill Irwin

Gaganis, C., Pasioras, F. & Michacl D. (2007). Probabilistic neural networks for the identification of qualified audit opinions. *Expert Systems With Applications, 32,* 114-124.

Golestani, P. (2005). *Accounting 1.* Payam Noor University press.

Hasas Yegane, Y., & Madani, M. (2004). The effect of independent auditing on decision making of the credit providers of Iran banks.

Hansen, JV, *et al.* (1992). Artificial intelligence and generalized qualitative- response models: an empirical test on two audit decision- making domains, Decision − making domains. *Decision Science, 23*(3), 708 − 723.

Maham, K. (2002). Independent audit and internal controls. *Accountant, 147.*

Mutchler, J. E. (1985). A multivariate analysis of the auditor's going concern opinion decision,

Auditing. *Journal of Practice and Theory,* Fall, 148-163.

Mutchler, J., E & Williams (1990). The relationship between audit technology, client risk profiles, & the going concern opinion auditing. *Journal of Accounting Research, 11,* 39−74

Namazi, M., & Rostami, N. (2006). The study of the relation between financial ratios and stock return rate of the companies listed on TSE. *Journal of accounting and audit, 44* (summer): 105127.

Pasiouras, F. *et al* (2007). Multi-criteria decision support methodologies for auditing decisions: The case of qualified audit reports in the UK. *European Journal of Operational Research, 180,* 1317-1330.

Rahimian, Nezamoldin (2008). The application of analytical methods in audit of financial statements. *Journal of audit and accounting, 53,* 53-66.

Sajadi, H., & Avesta, S. (2005). The application of analytical methods in audit. *Journal of social and humanistic sciences, 22*(2), serial 43:90-102.

Soleimani Amiri, Gh. (2003). The financial ratios and prediction of financial crisis of the companies in TSE. *Journal of accounting and audit, 15,* 21-136.

Spathis, Ch., Doumpos, M., & Zopounidis, C. (2003). Using client performance measures to identify pre-engagement factors associated with qualified audit reports in Greece. *The International Journal of Accounting, 38,* 267−284.

Willenborg, M & McKeown Jamese, C. (2001). Going − concern initial public offerings. *Journal of Accounting and Economics, 30*, 279-313.