

## The impact of the financial crisis and audit quality on earnings quality in the Iranian capital market

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**Abstract:** The aim of this study was to evaluate the impact of the financial crisis and audit quality on earnings quality in the capital market of Iran. It was used Altman model to measure the financial crisis and to assess audit quality standards as audit firm. Earnings quality is measured by the volatility of profit and income smoothing. To test the hypotheses of the data related to 90 companies listed in Tehran Stock Exchange as the sample were analyzed the combined data for the period 1391-1387.. for estimating Model suitable of hypotheses on combined data was used from Chow and Hausman test. The results showed that the financial crisis has a significant positive impact on fluctuations in interest and income smoothing. The results showed that audit quality has a significant negative impact on income smoothing, but has no significant effect on earnings volatility.

[Paria Karampour, Habibollah Rasoli. **The impact of the financial crisis and audit quality on earnings quality in the Iranian capital market.** *N Y Sci J* 2015;8(9):15-19]. (ISSN: 1554-0200). <http://www.sciencepub.net/newyork>. 3

**Keywords:** financial crisis, audit quality, quality of earnings, fluctuations in earnings, income smoothing

### Introduction

Capital market development is a central pillar of economic growth and development in any society. In this regard, after the end of the imposed war, Iran's capital market has experienced a relatively large changes, including the ups and downs of the stock, the bulk transfer of shares of state-owned companies through the Tehran Stock Exchange and the increasing number of companies listed on Tehran Stock Exchange. Capital market plays an important role in economic development and effective developments in the Tehran Stock Exchange has made a lot of research done on the Tehran Stock Exchange. This study aims to spread knowledge about the financial crisis, audit quality and quality of earnings in the company, listed on the Stock Exchange of Tehran. With regard to the complexity of business activities, research on the financial crisis is useful. The rest of the first chapter refers to general research. The first problem is explained. Then, the importance and necessity of this research is described. Subsequently, objectives and hypotheses and methodology are presented and explained. The with expressing scope of research, methods and definition of key terms ends.

### Statement of the problem

The most important source of information for decision-making of investors and creditors is financial statement. Any decision makers do investment for profit. The profit element is essential that affects decisions of the users of the financial statements. the reported financial results of the company's profit performance and earnings of per share provides the basis for many decisions, valuation of models and pricing stock. However, due to weaknesses in the calculation of benefits,

including estimates, a variety of different methods of accounting, conflict of interest between financial-statement preparers and investors, should be seen uncertainly in the profit and increasing process. Therefore, investors and creditors to avoid incorrect decisions shouldn't rely only on the profit and increasing process. According to the notes, the main issues in the research is whether the financial crisis has effect on earnings quality of listed companies in Tehran Stock Exchange? Also, the question whether audit quality has effect on earnings quality of listed companies in Tehran Stock Exchange?

### Hypotheses

First hypothesis: the financial crisis has a significant impact on earnings quality and earnings volatility.

The second hypothesis: audit quality has a significant impact on earnings quality with index of fluctuating interest.

The third hypothesis: the financial crisis has a significant impact on the quality of earnings with smoothing index of income.

The fourth hypothesis: audit quality has a significant impact on earnings quality with smoothing index of income.

### Research Methodology

According to this, the study aims to investigate the impact of the financial crisis and audit quality on earnings quality and index of companies listed on the Stock Exchange in Tehran. So, this is an applied research, and it was used descriptive method and correlation between variables and it is a post-event research that uses historical data of member companies.

### Population and statistic sample

The population of the investigation has been the companies listed in Tehran Stock Exchange since the beginning of 1387 until the end of 1391 for a period of five years. To achieve reliable results, the company that since 1387 entered the stock or exited during the research and it isn't covered in the population. Due to these circumstances and elimination method, companies that have a presence in the community survey, were 90 companies. All of these companies have been used to test hypotheses and other sampling is no longer used.

#### **Data collection and data**

Data collection for each type of study is important. The internal validity is usually placed at the highest level possible.

Survey: The most common methods of collecting data in this way, is to use interviews and questionnaires. To collect data in the field of literature, the library method is used. In other words, to do research and gather information needed to test the hypothesis has been used this method. It was used Software "digital strategy" and the website "management, development and Islamic studies Stock Exchange" to gather information. So, this study is a field study.

#### **Quality of benefit:**

Quality of earnings is one of the important aspects of the financial health of the business units that are considerable to investors, creditors and other users of financial statements. Quality of earnings to reported earnings can be reflected in real income, and it is useful in predicting future earnings as well as the stability and volatility of reported earnings (Izadnia and Rasaiian, 1390).

#### **Smoothing of interest:**

Intervention process has Target in measurement and disclosure of earnings so that the profit has the same process in successive years. This is usually done through the manipulation of accruals and timing-out transactions.

#### **The trading profit:**

One indicator of the quality is earnings and indicates fluctuations in interest rates in the consecutive profits.

#### **Financial crisis:**

The financial crisis is also an indicator of favorable indicators for evaluation of companies' solvency and liquidity capacity. The use of accounting information can be used to predict the financial crisis, aware companies and investors, creditors and employees from the loss of control in the company. In this study, financial strength is obtained through bankruptcy prediction of Altman model (z- score).

#### **background research**

#### **Foreign search history**

Part Astiban and Garcia (2014) in their study during the period from 2000 to 2011 in Spain affected company characteristics on the quality of earnings.

Trambta and Aimprtir (2014) in their study during the period 2002 to 2012 in Canada examined the impact of the economic crisis on companies with rising earnings management and concluded that the economic crisis to manage their profit.

Commodity and Jim (2011) in their study during the period from 2000 to 2008 in America examined the impact of the financial crisis on the quality of earnings and concluded that the companies during the financial crisis has less earnings quality.

Kaskino and et al (2010) in their study during the period 2001 to 2007 examined the impact on audit quality, earnings quality, and concluded that by increasing audit quality in the companies studied, earnings quality has also increased.

Demirjian and et al (2010) examined relationship between managerial ability and earnings quality viewing on a 86,303 firm-year in the period 2007- 1989 in the United States, according to the Demirjian and colleagues (2009). They found earnings quality

#### **Background internal investigation**

Mehrani and Zaradehz (1392) examined the relationship between the quality of earnings and future cash flows with respect to the financial condition of their companies and concluded that there is a significant relationship between the quality of earnings and future cash flows and the relationship is under the impact of the financial condition of the company.

Moradi and et al (1389) examined the relationship between earnings quality and earnings response coefficient and concluded that there is no significant relationship between the rate of reaction and earnings and Sadeghi (1389) examined the relationship between earnings quality and stability of earnings and concluded that there is a significant relationship between earnings quality and stability of earnings.

Kurdish and Rahim (1389) with a study among 101-stock companies during period of 1386 to 1387 in the field of the impact of audit quality on earnings management and they came to the conclusion that there is no significant relationship between audit quality and earnings management Ebrahimi and Seyedi (1387) in their study of 71 firms listed in the Tehran Stock Exchange examined the impact of audit firm (audit organizations and other institutions) and the type of audit opinion in the audit report on their discretionary accruals and concluded that there is a relationship between the only kind of audit firms associated with discretionary accruals.

**Information analysis tools**

After collecting data needed for this study, choose the right tools is significant to calculate and to analyze information on variables is significant.... In this study, after extracting the required information from the sources listed and preparation of variables using the software Excel, and performing the necessary calculations in order to achieve the needed data for research, regression models used to calculate the data by Eviews software. Eviews software is considered as one of the most powerful software in the field of statistical and econometric analysis of a test.

**Variables**

The first step is to test hypotheses, providing accurate and appropriate description of the variables that measure characteristics of research. Variables based on their role in the study are divided into two categories: independent and dependent. Covariates or explanatory variables that can influence economic decisions show behavioral research.

Independent variables sometimes called variable input stimulus or variable, they are due to changes in the theoretical or experimental purposes. Dependent variable is Potential or hypothetical that sometimes also called the response variable or the output (Azar and Momeni, 1387).

Table (1-3): Variables

Variable	Symbol	type
Swing profit	EVOL <sub>t</sub>	Dependence
Smoothing	ESMO <sub>t</sub>	dependance
As auditor	ASIZE <sub>t</sub>	independence
financial crisis	FC <sub>t</sub>	independence
Company size	FSIZE <sub>t</sub>	controlling
Leverage ratio	LEV <sub>t</sub>	controlling
Company losses	LOSS <sub>t</sub>	controlling
Operating cash flow	OCF <sub>t</sub>	controlling

How to measure each of the variables and test is explained in the following hypotheses:

**A) The dependent variables** (quality indicators profit)

1) swing profit

The first indicator of measuring the quality of earnings is earnings volatility. This variable by the standard deviation of the company's last four year profit (years t-3 to t) is calculated. Whatever variable is less, earnings quality is higher.

**2) smoothing**

The second indicator of measuring profit is the income smoothing. This variable by index of the standard deviation of four year profit s (years t-3 to t) calculated the standard deviation of operating cash flow. Whatever variable is less, smoothing is lower income and earnings quality is higher.

**A) The independent variables:**

**1) financial crisis**

To measure the financial crisis and to measure the company's financial is used multivariate model to predict the financial health of the company. Model based on the ratio that are called liquidity, profitability, debt management and asset management. Z-Score model to predict corporate bankruptcy-is as follows (Baie and Vardana, 2012):

$$Z_i = \alpha + \beta_1 WCTA + \beta_2 ROA + \beta_3 EBTA + \beta_4 MVTD + \beta_5 STA + \epsilon$$

Where Z<sub>i</sub> is index of funds (financial crisis) in any company that is used to measure financial strength. The explanatory variables are defined as follows:

WCTA: the ratio of working capital to total assets

ROA: the ratio of retained earnings to total assets

EBTA: the ratio before interest and taxes to total assets

MVTD: ratio of market value of equity to value of debt

STA: the ratio of sales to total assets

The predictive power of financial strength or bankruptcy of firms was 95 per cent respectively. If the Z value is derived from the relationship for a company is less than 1.81 firm' has bankrupt case, if it is between 1.2 to 2.67 it has case of bankrupt and non-bankrupt companies and if the case is more than 2.67, the company was in good health. Coefficients in the model to measure bankruptcy were introduced by Altman as follows:

$$Z = 0/012 WCTA + 0/014 ROA + 0/033 EBTA + 0/006 MVTD + 0/999 STA$$

**2) size of auditor**

This variable is used as a variable planar. If the auditor about reviewing the audit firm (as a large audit firm) is one, and if the auditor, member firms of Certified Public Accountants (for small audit firms) is zero.

**Research models**

For first to fourth hypothesis we use the following econometric models (Part Astiban and Garcia, 2014):

$$EVOL = \alpha + \beta_1 FC + \beta_2 ASIZE + \beta_3 FSIZE + \beta_4 LEV + \beta_5 LOSS + \beta_6 CFO + \epsilon \quad (3)$$

$$ESMO = \alpha + \beta_1 FC + \beta_2 ASIZE + \beta_3 FSIZE + \beta_4 LEV + \beta_5 LOSS + \beta_6 CFO + \epsilon \quad (4)$$

In these models, EVOL: swing profit, ESMO: smoothing, FC: financial crisis, ASIZE: size of auditor, FSIZE size (the natural logarithm of total assets), LEV leverage ratio (the ratio of Total debt to

assets),: LOSS losses (double variable, if losses are number one and otherwise is zero), CFO: cash flow (cash flow from operating activities in the proportion of total asset s).

### Data analysis

In this study, using the raw data, amount of variables is calculated and then descriptive statistics-

dependent and independent variables of the study, including mean, median, maximum, minimum, and standard deviation of The data is calculated and in the table (1-4) is provided. The aforementioned values of overview of the research will provide data distribution.

Variables	mean	average	maximum	minimum	Standard divation
EVOL	0.2136	0.2249	0.7244	0.1169-	0.0478
ESMO	0.1264	0.1302	2.6329	0.0064	0.1634
FC	0.4692	0.5108	6.4228	2.5788-	0.3167
ASIZE	0.4132	0.4379	1.0000	0.0000	0.0234
FSIZE	5.6892	5.4673	7.6894	4.1029	1.2837
LEV	0.3892	0.4637	0.9172	0.0527-	0.0493
LOSS	0.1426	0.1654	1.0000	0.0000	0.0085
CFO	0.1108	0.1683	0.4685	0.2866-	0.1218

### The definition of variables:

EVOL: (dependent variable) earnings volatility is as an indicator of earnings quality

ESMO: (dependent variable) an indicator of earnings quality is as income smoothing;

FC: (independent variable) is index of the financial crisis through the Altman model

ASIZE: (independent variables) indicates t audit quality that with audit standards is measured

FSIZE: (a control variable) represents the size of the company.

LEV: (a control variable) represents a financial leverage ratio.

LOSS: (a control variable) represents a loss.

CFO: (a control variable) represents the ratio of operating cash flow.

In tables of the descriptive statistics can be seen that the mean and standard deviation of profit swing was variable respectively 0.2136 and 0.0478. The resulting figure for the average variable means that the average of standard deviation of the total profits of the companies during the period of five years of study was almost 21 percent-.SD also shows if the rate of change of the dependent variable data around the square, and the average is lower, shows a normal distribution data is subject to change. Other variables are interpreted the same way.

### The results of testing hypotheses

Because panel data models are estimated over a period of time and annual variations in the way is paved, so it can be said that the results of the estimation of models using this method, compared with the cross, is more reliable (Ashrafzadeh and Mehregan, 1387).The results of the first regression showed that coefficient of the independent variable in the model means the financial crisis and there was significant and negative relationship between

earnings quality and financial crisis. In other words, the findings confirmed the first hypothesis.

The results of the model showed that the financial crisis has a significant positive impact on earnings volatility, but it has no significant effect on audit quality. Possible reasons for the second hypothesis of this study are as follows:

The second regression model was used to test the hypotheses of the third and fourth. The dependent variable in this model is earnings quality with index of smoothing. The results of the regression showed that coefficient of the independent variable in the model means the financial crisis was significant and there is a negative correlation between the financial crisis and smoothing earnings.

The results of the first hypothesis test, with results of Part Astiban and Garcia (2014) are similar. They also concluded in their study that the financial crisis and financial distress has the negative impact on the quality of earnings with profit volatility.

The results of the second hypothesis with the results of Part Astiban and Garcia (2014) is not the same. Their research concluded that audit quality has a significant negative impact on earnings quality and earnings volatility.

The results of the third hypothesis with the results of Part Astiban and Garcia (2014) and Trambta and Aymprtvr (2014) is similar. They also concluded in their study that the financial crisis and financial distress has a significant negative impact on quality of earnings with income smoothing index.

The results of the fourth hypothesis with the results of Part Astiban and Garcia (2014) and Aladab, Klakr and Casey (2012) is similar. Their research concluded that audit quality has significant positive impact on earnings quality and audit quality has significant negative impact on income smoothing.

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9/1/2015