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TÍTULO: La relación entre ganancias de previsiones de calidad y la eficiencia de la inversión por foco de crisis financiera entre las empresas que cotizan en la Bolsa de Teherán.

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RESUMEN: El presente estudio evalúa la relación entre la calidad de los pronósticos de ganancias al enfocar el papel de las crisis financieras en las compañías que cotizan en la Bolsa de Teherán. El investigador seleccionó 123 empresas que cotizan a través de un muestreo sistemático por un período de cinco años (desde principios del 2012 hasta finales del 2017) y proporcionó los datos necesarios refiriéndose a los estados financieros e informes de los directores de juntas directivas. Para probar hipótesis desarrolladas, los hallazgos estadísticos con regresión lineal, regresión multivariable, datos de panel y efectos constantes mostraron que existía una relación positiva y significativa entre la calidad de los pronósticos de ganancias, la eficiencia de la inversión, y las crisis financieras debilitaron esta relación.

PALABRAS CLAVES: ganancias, previsiones de calidad, inversión, eficiencia, crisis financiera.

TITLE: The relationship between Earnings Forecasts Quality and Investment Efficiency by Focus of Financial Crisis among Listed Companies on Tehran Stock Exchange.

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ABSTRACT: The present study evaluates the relationship between earnings forecasts quality by focusing the role of financial crises in listed companies in Tehran Stock Exchange. In this way, the researcher selected 123 companies listed on Tehran Stock Exchange through systematic sampling for a five-year period (from the beginning of 2012 to the end of 2017) and provided the necessary data by referring to financial statements and reports of board directors in companies Sample, to test developed hypotheses. Statistical Findings using linear regression, multivariate regression, panel data and constant effects showed that there was a positive and significant relationship between the earnings forecasts quality and the investment efficiency, and the financial crises weakened this relationship.

KEY WORDS: earnings, forecasts quality, investment, efficiency, financial crisis.

INTRODUCTION.

The rapid growth and transformation of economic relations leads to intense competition in the field of trade, industry and investment. So, if companies want to survive and expand their activities, they need investments that are appropriate and timely.

The company's financial reports should provide beneficial information to potential and active investors, creditors and other users in a rational investment, credit, and similar decisions. Financial reports should provide the necessary information to assess the financial situation and the economic vigor of the firm, its profitability performance, the financing and consumption of cash, the stewardship of management duties and legal obligations. They should also provide complementary information to better understand the presented financial information and predict the future status. Consequently, these reports have been of great importance in achieving the aforementioned goals and enhancing their quality can lead to more efficient investment and the maintenance and development of companies resources.

Recent research suggests that the increase of earnings quality can bring about important economic consequences, such as increasing the efficiency of investment. Although strong and consistent theories support this, there is very little empirical evidence for this claim.

By increasing the quality of information provided and reporting, companies can make their investment scolder to efficient frontier. As a result, companies' interest in providing financial reporting with high quality increases. Also, users or decision makers including investors can rely on financial statements as an important source of information in their analysis and decisions and this makes investments appropriate and leads to optimal allocation of resources (Lee et al, 2014; Villalobos, 2018).

Accordingly, this study aims to examine the relationship between earnings forecasts quality and investment efficiency by focusing on the role of financial crises in listed companies in Tehran Stock Exchange.

Design, theoretical foundations and problem statement.

It should be noted that the theory of profit quality was first proposed by financial analysts and stockbrokers, because they felt that the reported profits did not show the power of profit as embodied in the mind. They found that predicting future earnings based on reports is something difficult. In addition, analysts have found that analyzing corporate financial statements is difficult due to multiple weaknesses in measuring accounting information.

The main question is why financial analysts are cautious in their assessment of reported net income or earnings per share and do not use them. The answer is that not only quantity of profit, but also its quality should be considered in determining the value of the company. By earnings quality, we mean the potential for profit growth and the likelihood of realizing future profits. In other words, the value of a share depends not only on earnings per share this year, but also the expected future of the company, the profitability power of the coming years and its reliability.

Financial reporting purposes derives from the informational needs and demands of users outside the organization. The main objective of financial reporting is stating the effects of economic events and financial operations on the status and performance of business units to help external parties in making financial decisions related to business unit.

According to the Financial Accounting Standards Board of America, financial reporting includes not only the financial statements, but also the notification means or methods and these tools are related directly and indirectly to the information which are provided through accounting including information about the company's resources, assets, liabilities, profits and so on. With regard to financial reporting as a process by which different participants are at different levels, this information is usually used with other information to make a judgment or a decision. So, it is clear that the primary objective of financial reporting in capital markets is to support particular judgments and decisions. Therefore, because the quality of profit is primarily due to the fact that high quality information leads to higher quality judgments and decisions, it is so considered. This means that high-quality financial reporting information is more useful than low-quality information (AL-Dhamari & Ismail, 2012; Rincon-Flores et al., 2018; Alwahdani, 2019).

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Auditors and financial analysts interpret the term earnings differently. Financial analysts generally consider the reported earnings (accounting earnings) different from real profits. From analysts' point of view, one reason for this difference is that profits can be manipulated by managers. Financial analysts are trying to assess the corporate profits. The prospect of profit refers to the combination of desirable and unfavorable net profit (Smith et al, 2015). Accordingly, there seems to be a positive relationship between the predictive value of profit and the investment efficiency.

An overview of literature and research background.

Some financial analysts see the quality of profit as a regular, ongoing, repeatable, and cash-generating gain. They believe that earnings quality is the ratio between reported net profit and cash flow from operations minus non-recurring figure. So far, financial professionals have not been able to arrive at an independent computation of profits that they consider to be of high quality. In this case, financial professionals can reach a domain that better reflects the quality of earnings than reported net profit by making appropriate Therefore, the concept of the quality of profit is not a fixed definite definition to be achieved. Rather, it's a relative concept that depends on its relation to views and attitudes.

The quality of profit, and, more generally, the quality of financial reporting is of interest to those who use financial reports to make investment decisions and conclude various contracts. In addition, it can be said that from the perspective of the drafters of the quality standard, financial reports indirectly reflect the quality of financial reporting standards (Anthony et al., 2015).

In surveys by Mirez et al. (2003), higher levels of abnormal accruals show lower quality of profits. The relationship between the ability of accrual items reduces profitability. Reported earnings and relationships are usually used in contracts of remuneration and rewards and borrowing contracts.

Making a contract for a contract based on low profit quality leads to unwanted money transfers; for example, excessive profits, which are used as a criterion for evaluating management performance, lead to excessive salaries and benefits for management. Similarly, swollen profits may conceal a company's sudden bankruptcy, which would result in inappropriate credentials from creditors.

In terms of investment, the quality of profit is not favorable, as it indicates the risk of allocating resources to that sector. The quality of the profit margin is not efficient, as it reduces economic growth through inappropriate allocation of capital. On the other hand, low profit quality leads to diversion of resources through real returns to unrealistic returns that will lead to a decline in economic growth. Finally, when publishers of accounting standards are looking for standardized feedback on whether standards have been developed efficiently or not consider the outputs of the accounting system, including reported earnings.

The performance appraisal criterion is a useful decision in the conceptual framework of the American Accounting Standards Board. Additionally, we can consider the fair amount of reported accounting earnings from the HICs as a benchmark (McNicolls, 2002). If a company is in a position to provide a special type of financial service to its investors, then one can expect to have magic or magic power. Typically, this kind of service is unique, or the company now offers services at a much lower price than its competitors. So, it is necessary to understand the type of customers' needs. In this case, customers can expect to pay more money to serve. An example of such a problem is that usually individuals are not willing to take loans, but rather prefer to buy shares of a company that has been able to borrow loans at a higher price. But when this is a common issue to all companies, only those companies that are creative and innovative can use the magic power of the loan. This has led to the creation of diverse financial institutions with diverse bonds. Of course, creativity is always profitable for people, and usually there is not much to do with sequels. For example, the issuance of interest-free bonds for the first time was met with great

interest from interest-paid investors, but after publishing such bills by many companies, the interest rates were gradually decreasing. In such a way, changing the structure of capital can have significant effects both on the company and on the investor.

Research hypotheses.

First hypothesis: There is a positive relationship between the predictive value of profit and the investment efficiency.

Second hypothesis: Financial crises weaken the relationship between the quality prediction of profits and the efficiency of the investment.

Research model.

To test the hypothesis, the fitted regression model will be:

$INVEFF_{it}=\beta_0+\beta_1 EPQ_{it}+\beta_2 CRI_{it}+\beta_3 EPQ*CRI_{it}+\beta_4 AGE_{it}+\beta_5 B/M_{it}+\beta_6 CFO_{it}+_{it}$

In the above model, the following variables are used:

Earnings prediction quality: Dechov and Dechow (2002) and Francis et al (2005) model is used to measure earnings quality. Based on this approach, earnings quality is determined primarily by quality of accruals because earnings can be represented as sum of operating cash flow and accruals. It is thought that accrual accounting predicts future operating cash flows and reflect current cash flows or their past return cash flows. Measurement errors in determining accruals can distort the ability of accruals for anticipating future cash flows or reflecting the past and present cash flows potentially. Accordingly, if accruals quality is high, accruals can then reflect major changes in the cash flows of current, past and future, and the remaining specific to company forms the earning quality used in this research. Specifically, the earnings quality index is defined as the inverse of square of remains for the company. More remaining square indicates the less accruals and the more earnings quality.

Investment efficiency: investment efficiency is calculated based on the rate of return on equity considering the net income or loss ratio to total equity.

Financial crises: This variable has been calculated based on increase and decrease of the Tehran stock exchange index.

Company life: The life of a company can be calculated from the logarithm of the number of months of the company's activity from the time of admission in exchange to the research period.

Financial leverage: The financial leverage is computed as the ratio of company's total debt are to total assets at the end of the year.

The ratio of book value to market value of equity: This ratio is calculated by dividing the ordinary equity interest into the total value of the stock market.

Cash flow ratio: The ratio of cash flow is calculated as the division of cash flows from operating activities to total asset.

Research findings.

Descriptive statistics of the study variables.

The descriptive statistics of the research variables are shown in the table below.

Descriptive statistics of research variables in the studied period.

Variables	CFO	BM	E P Q	AGE	INVEFF	CRI
Mean	-0.119386	0.819617	0.067937	2.299341	5.834867	0.591612
Median	-0.000600	0.826400	0.073550	2.283300	5.742500	0.500000
Maximum	1.561420	1.587300	0.109900	2.751300	8.846000	0.750000
Minimum	-1.820460	0.200000	-0.099700	1.924300	3.367700	0.000000
Std Dev	1.584111	0.256235	0.031432	0.194364	0.855981	0.159711
Skewness	-2.121284	0.231901	-2.107662	0.406761	0.623488	-0.653889
Kurt	2.772161	3.029613	1.393677	2.501936	4.135261	3.144208
Jarque-bera	1078876.	60.78274	418.9859	256.0574	800.2833	487.1551
Probability	0.009523	0.096325	0.078485	0.021589	0.001259	0.051963
Observations	750	750	750	750	615	750

Normal test of statistical distribution of dependent variables.

With the assumption that statistical tests explain the correct results, it is necessary to ensure the normal statistical distribution of dependent variable. In order to check the normality of the dependent variable statistical distribution Jark - Bera test was used for the IView's software. The statistical distribution of the test is as follows:

H_0: The statistical distribution of the dependent variable is normally distributed.

H_1: The statistical distribution of the dependent variable does not have normal distribution.

The test results are presented in the table below.

Normal distribution of the dependent variable.

Variable name	Symbol	J- B	Prob	Skew	Kurt
Error sentences	RESID	66.389	0.089	0.999	2.477

Because the probability level of the Jarck-Bart statistic for the normal distribution of the dependent variable is more than 5%, the H0 is accepted and confirms the normalization of its statistical distribution.

Reliability of variables.

Reliability refers to the consistency of variables' mean and variance and also their covariance over time and among different years, respectively. For assessing this, Levin, Lin and Chu test was used. The results of the test are shown in the table below. The statistical distribution of the test is as follows:

H_0: Variable data are not stable.

H_1: Variable data are valid.

Variables reliability test.

Symbol	Levine's, Lynn and Chu statistics	Prob
INVEFF	-10.6554	0.0000
EPQ	-36.1273	0.0000
CRI	-45.5796	0.0000
EPQCRI	-13.8726	0.0000
AGE	-32.9494	0.0000
BM	-41.0471	0.0000
CFO	-46.3734	0.0000

Based on the results, it was concluded that the research variables were valid during the survey period, because the probability of the Levin, Lin and Chu test in all variables was less than of 5%.

Checking Collinearity among independent, control and intervening variables.

The results of Collinearity among the independent, control and intervening variables is shown below. If the tolerance is less than .2 or the value of the inflation factor of variance is not in the range of one to five, then it can be concluded that a Collinearity is probable.

Collinearity between independent, control and intervening variables.

Independent variables and control	Collinearity statistics	
Symbol	Tolerance	VIF
EPQ	0.486	2.068
CRI	0.555	2.045
EPQCRI	0.491	2.037
AGE	0.553	1.457
BM	0.485	2.064
CFO	0.499	2.011

Since the value of tolerance in all variables was more than .2, and the value of inflation variance factor is less than five, it can be concluded that there is no co-linearity between the variables of research.

Difference variance test.

In multivariate linear regression analysis, the problem arises when the classical assumption of the equation of error variance is not consistent with reality. The existence of the relationship between the variance of error sentences and one of the independent variables is only one of the factors that violates the assumption of the equality of variance of the error sentences. In this study, White's test was used to detect heterogeneity variance and the results are expressed in the table below.

The statistical distribution of the test is as follows:

H_0: Equivalence of variance.

H_1: Inequality of variance.

Difference test variance of research variables.

Title of exam	Hypothesis	Test statistic	Degrees of freedom	The probability of a test statistic
White	All hypotheses	2.500	(3,210)	0.0706

The results show that the probability of this test is more than the error level of 0.05, therefore, it shows that the variance is consistent, and it is seen that there is no heterogeneity problem of variance.

Chow and Hausman tests.

Before testing the hypotheses of the study, the appropriate regression model is selected. In the first stage, using the Chow test, the compilation data model was selected against the panel data. Assumptions related to these tests are explained as follows:

H_0: Accepting compilation data.

H_1: Accepting panel data.

The result of the test is shown in the table below:

Chow test results.

Title of exam	Hypothesis	Test statistic	Degrees of freedom	The probability of a test statistic
Chow	All hypotheses	55.432	(161,637)	0.0000

According to the figures above, because the probability level of Chow test is less than %5 percent, panel data is the best model for the research hypotheses.

Because of choosing the panel data model against the compilation data, in order to select a constant effect pattern against the random pattern, Housman test is used to perform the regression of the combined data. Hypotheses related to these tests are explained as follow:

H_0: Using the random effects method

H_1: Using the static effects method

The result of the test is shown in the table below.

Results of the Hausman test.

Title of exam	Hypothesis	Test statistic	Degrees of freedom	The probability of a test statistic
Hausman	All hypotheses	57.184	11	0.0619

As it is known, the probability level of Housman test is greater than the level of 5%. So, the use of random pattern against fixed effects model is confirmed in the hypothesis.

Testing research hypotheses.

The random effects regression model assumptions is shown below.

Random effects regression model.

Symbol		Coefficients	t Statistic	T Prob
C		0.008	1.790	0.0738
EPQ		0.0006	2.214	0.0272
CRI		-0.063	-12.533	0.0000
EPQCRI		-0.024	-8.354	0.0000
AGE		-0.001	-0.533	0.5936
BM		-0.002	-0.152	0.8791
CFO		0.0003	0.112	0.9103
R	ADJR	D-W	F statistics	F- Prob
0.798	0.743	2.175	14.639	0.0000

It is recommended that standard-setting bodies adopt clear, codified and necessary standards for measuring profit forecasting.

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