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INFORMATION CONTENT AND FACTORS AFFECTING THE TIMELINESS OF FINANCIAL REPORTS IN PETROCHEMICAL COMPANIES

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ABSTRACT

The usefulness of reports published by companies depends upon the accuracy of information and their timeliness. Timeliness of financial statements is one of the main attributes of relevance. The present study is aimed to evaluate the information content and factors affecting the timeliness of financial report in petrochemical companies in Iran. The study methodology is descriptive-correlation. In this study, total companies active on petrochemical during the period 2011-2015 are selected for study population and based on the applied restrictions, 9 companies are chosen as sample of study. The hypotheses are tested using regression model, panel method with fixed effects. The results show that firm size, size and reputation of audit foundations, return on asset of financial risks and financial year-end are effective on timelines of financial reports of petrochemical companies in Iran.

Keywords: Information Timeliness, Quality of Financial Report of Earnings Management, Information Content

INTRODUCTION

For many years, the investors and managers of companies attempt to search for a measure by which, they can measure the wealth of shareholders timely and reliably. With such criterion, the investors can overestimate or underestimate the shares. The lenders can measure their loans and the managers can control the profitability of their factories, sectors and companies. However, an accepted idea indicates that the role of managers is maximizing the wealth of shareholders via optimal allocation of resources. To operationalize this purpose, the wealth of shareholders was assessed from the past or via the standard accounting criteria (operating profit, net operating profit) or the financial ratios (earnings per share, return on asset and return on capital) showed the performance of firms. Thus, the managers, shareholders and other stakeholders use the information of financial statements to assess and predict the present and future performance (Noravesh and Heidari, 2004).

Statement of problem

Based on the increasing development of communities and complexity of their special issues, the increase of the need to the relevant economic information and the increase of demand is created for the existence of systems and processes providing such information and such factors increase and develop the need to audit as a part of total process of information transfer. We can not ignore

this point that performing the audit process and opinion including the fairness of presenting financial statements is turned into one of the factors leading to the time interval in presenting the financial statements to the users (Golestani, 2013).

The present study is aimed to evaluate the information content of financial report and timeliness of financial report of petrochemical companies in Iran.

Significance of research

The necessity of financial statements is presenting useful information regarding the business unit for decision making. The financial statements should be relevant, reliable and comparable for being useful in decision making. Timeliness of financial statements is one of the main attributes of relevance. For timely information, it is possible that before defining all aspects of trade or event, the existing information is reported and this reduces its reliability (Golestani, 2013).

Purpose of research

- 1- The evaluation of the relationship between information content of financial report and timeliness of financial report of petrochemical companies in Iran.
- 2- The evaluation of the relationship between firm size and timeliness of financial report of petrochemical companies in Iran.
- 3- The evaluation of the relationship between the size and reputation of audit foundations and timeliness of financial report of petrochemical companies in Iran.
- 4- The evaluation of the relationship between profitability and timeliness of financial report of petrochemical companies in Iran.
- 5- The evaluation of the relationship between financial risk and timeliness of financial report of petrochemical companies in Iran.
- 6- The evaluation of the relationship between financial year-end and timeliness of financial report of petrochemical companies in Iran.

Hypotheses of research

Main hypothesis:

- 1- There is a significant relationship between information content of financial report and timeliness of financial report of petrochemical companies in Iran.

Sub-hypotheses

- 1- There is a significant relationship between firm size and timeliness of financial report of petrochemical companies in Iran.
- 2- There is a significant relationship between the size and reputation of audit foundations and timeliness of financial report of petrochemical companies in Iran.
- 3- There is a significant relationship between profitability and timeliness of financial report of petrochemical companies in Iran.
- 4- There is a significant relationship between financial risk and timeliness of financial report of petrochemical companies in Iran.
- 5- There is a significant relationship between financial year-end and timeliness of financial report of petrochemical companies in Iran.

Questions of research



- 1- The evaluation of the relationship between information content of financial report and timeliness of financial report of petrochemical companies in Iran.
- 2- The evaluation of the relationship between firm size and timeliness of financial report of petrochemical companies in Iran.
- 3- The evaluation of the relationship between the size and reputation of audit foundations and timeliness of financial report of petrochemical companies in Iran.
- 4- The evaluation of the relationship between profitability and timeliness of financial report of petrochemical companies in Iran.
- 5- The evaluation of the relationship between financial risk and timeliness of financial report of petrochemical companies in Iran.
- 6- The evaluation of the relationship between financial year-end and timeliness of financial report of petrochemical companies in Iran.

REVIEW OF LITERATURE

Local research

Golestani et al., (2013) in a study on “The impact of conservatism on the quality of accounting information quality and decision making of shareholders and activists of the firms listed on Tehran Stock Exchange (TSE)” stated that the general purpose of the study was the evaluation of the impact of conservatism on the quality of accounting information and decision making of shareholders and activists of the firms listed on TSE. To achieve the general purpose of the study, the impact of conservatism was evaluated on three attributes of relevance, reliability and timeliness of accounting information. The results showed the relationship between the conservatism and quality of accounting information and showed that conservatism had a positive impact on each of three attributes of relevance, reliability and timeliness.

Dehghan (2013) on a study “The relationship between value and timeliness of consolidated financial statements against the financial statements of the main company” stated that the Iranian accounting standards obliged the holding companies to present both consolidated and non-consolidated financial statements. This question was raised that which of them had high value relationship and presented the required information of investors and other uses well. Also, which of them presented the required information of investors and other users timely? The results of study showed that the consolidated accounting information had high value relationship compared to that of non-consolidated accounting information. In other words, the consolidated accounting information has high information content. In addition, the results showed that the presented information in financial statements of the holding and consolidated company, both, had high value relationship in comparison to the consolidated financial statements. Also, the presented information in consolidated financial statements in comparison to the separate financial statements of the holding company had the similar level of timeliness attribute. Besides, the results showed that both sets of consolidated and non-consolidated financial statements had conditional conservatism and the difference between the conditional conservatism of these two sets was not significant.

Abdol (2012) examined the impact of timeliness of earnings announcement on conservatism in financial report of the study to show whether the timeliness of earnings announcement and other attributes of the companies listed on TSE was effective on conservatism in their financial report



or not. Besides the timeliness of earnings announcement, three control variables of firm size, financial leverage and the ratio of growth opportunities of company were used.

Behruzi et al., (2013) in a paper “The relationship between audit fee and timeliness of accounting information, evidences from Iran” evaluated this relationship in the firms listed on TSE during the period 2011-2013. The results of study showed that audit fee was increased or the audit opinion was unqualified and financial statements were timely. Also, they found that some of the variables including loss, increased the time of presenting information. The hypothesis testing didn’t support the relationship between debt ratio and timeliness of accounting information.

Foreign studies

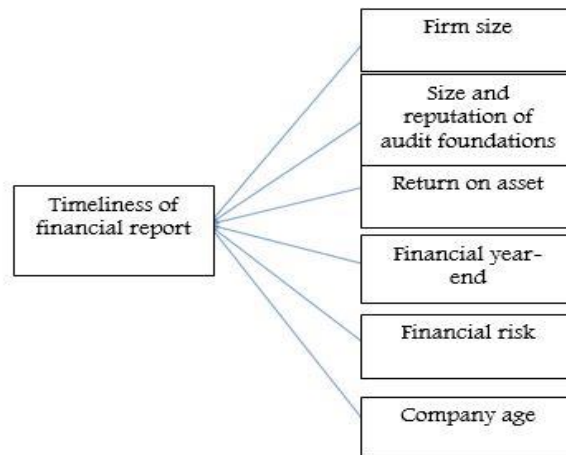
Iyoha (2012) in a paper “Company Attributes and The Timeliness of Financial Report in Nigeria” examined 61 companies during the period 1999-2008. He showed that company age was not enough to ensure that the quality of financial reports were timely in Nigeria, report lag could however be reduced by the existence and strict enforcement of rules and regulations of regulatory bodies

Aktas & Kargin in a study “Timeliness of Report and the Quality of Financial Information” investigated the effects of sector, report type, and income on firms' timely annual financial report practices listed on Istanbul Stock Exchange (ISE). They found that non-financial and consolidated firms reported their financial statements later than non-consolidated and financial firms.

Asli (2010) in a study “Timeliness of financial report in emerging capital markets: Evidence from Turkey” showed that the relationship between earnings sign, auditor opinion, audit company with timeliness was positive and the relationship between sector and timeliness was negative.

Conceptual model of study

Based on the theoretical basics, the local and foreign studies and guidance of lecturers, the conceptual model of the study is as follows:



RESEARCH METHODOLOGY

The aim of defining the study methodology is that the researcher should indicate which method approaches him much precise, easier and rapidly to the response of the research question. The present study is applied in terms of purpose and the results can be applied by the managers,

investors and generally users. In terms of the study methodology, it is a correlation design to evaluate the relationship between the information content of financial report factors and timeliness of financial reports in the petrochemical companies listed on TSE.

- ***Study model, study variables and their measuring method***

Based on the theoretical basics, the local and foreign studies and guidance of lecturers in this study, three types of variables and the following model are applied:

Dependent variables: Timeliness of financial reports (TFR)

Independent variables: Firm size (SIZE), Size and Reputation of audit foundations (SRAF), Return on asset (ROA), the month of financial year-end (MON) and Financial risk (FR)

Control variable: Age of company

To test the hypotheses of study, the following regression model is used:

$$TFR = \beta_0 + \beta_1 SIZE + \beta_2 SRAF + \beta_3 ROI + \beta_4 MON + \beta_5 FR + \beta_6 AGE + \varepsilon$$

1-1 The operating definitions of variables

Timeliness of financial report (TFR)

It is the difference of the last date of disclosure as 4/31 and it is the date on which the company discloses it.

Return on investment (ROI)

In this study, to calculate the profitability of company, the changes of return on investment (ROI) in two consecutive years are used. To calculate the corporate profitability rate in year t, the following formula is used:

t=The ratio of profitability changes in year $\frac{ROI_T - ROI_{T-1}}{ROI_{T-1}}$

Return on investment: The ratio of net profit to sale \times Capital turnover

Firm size

In this study, firm size is calculated via the natural logarithm of the total book value of assets at the financial year-end of each company.

Company risk:

Total risk of company includes commercial risk and its financial risk but in this study, only the financial risk of company is considered and to calculate it, the ratio of debt to equity is used.

Size and reputation of audit foundations

The institutes under the supervision of audit organization are highly valid. The companies that are assessed by the audit organization receive the audit report timely.

Financial year-end

The financial year of the companies listed on Iran stock exchange is based on the calendar year. Based on the rules and regulations of stock exchange organization, these companies are obliged to be assessed by the reliable auditors of this organization. We can say, the peak time of audit institutes in Iran is the end of Esfand (The last month of solar calendar).

Company age (AGE)

The number of years after the establishment of company.

- ***The study population and sample***

The study population of the present study is the petrochemical companies active during the period 2011-2015 in TSE. If the required population is big and the number and volume of people are high, the study of the total population is difficult and to save time, energy and budget, we



can use sampling method and generalize the results to the population. In the present study, 9 petrochemical companies listed on TSE are selected by systematic sampling method.

- *The data collection method*

In this study, library method is used to collect data. The data collection of the present study is performed in two stages. In the first stage, for the basic information regarding the study subject including the history, attributes and other items, library resources including books, weekly and monthly journals, magazines, the publication of research centers, theses and the relevant research theses were collected. In the second stage, the required data to calculate the study variables are collected from the database of Rahavardnovin, formal site of Tehran stock exchange and formal statistics issued by Tehran stock exchange by library method.

- *Data analysis method and hypothesis testing*

After the sampling and statistical data collection, the required data were designed and completed using the extended sheet software (Excel) and then for statistical analysis, Eviews software was applied. The statistical analysis was performed as descriptive and inferential statistics. In descriptive statistics, the mean, median, minimum, maximum and standard deviation of each of variables were presented. The inferential statistics consists of reliability test, F-limer, Hausman test, the significance test of regression coefficients and the test of effectiveness of regression model and Wald test.

- *Descriptive statistics*

Table 1 calculates the mean for the variables. For example, the mean of return on asset variable during the period 2011-2015 is 0.25 and this shows that the data are concentrated around this point. The standard deviation is calculated and presented as one of the most important parameters of dispersion. For example, the dispersion of the return on asset from the mean is 1.58. The maximum and minimum value of each variable is determined and it indicates the dispersion and accuracy of observations. The minimum value of the return on asset is 5.58 and the maximum value of the return on asset is -2.12.

Table 1: The descriptive statistics of study variables

Firm size	Size and reputation of audit foundation	Company age	Financial year-end month	Company risk	Return on asset	Timeliness of financial report	
۱۳/۹۴۶۴۱	۰/۴۸۸۸۸	۲۱/۸۷۷۷۷	۴/۲۶۲۵۱	۳/۶۲۲۸۴	۰/۲۵۸۷۳۴	۳۷/۶۹۵۴	Mean
۱۳/۸۱۳۲۶	۰/۰۰۰۰۰	۲۰/۰۰۰۰	۳	۱/۶۲۵۶۲	۰/۱۳۹۳۲۶	۳۷	Median
۱۸/۵۳۱۸۲	۱/۰۰۰۰۰	۳۳/۰۰۰۰	۷	۸/۰۷۷۵۰	۵/۵۸۷۵۳	۹۴	Max
۱۰/۰۳۱۲۲	۰/۰۰۰۰۰	۱۰	۰/۰۰۴۵۲	۲	-۲/۱۲۴۳۷	۰/۰۰۰۰۰	Min
۱/۵۰۸۳۴	۰/۵۰۰۴۳	۹/۳۰۸۸	۰/۲۸۱۶۵	۲	۱/۵۸۲۴۳	۲۳/۸۸۵۷	SD
۴۵	۴۵	۴۵	۴۵	۴۵	۴۵	۴۵	Number of observations

Source: Results of study

- *The evaluation of the stationarity of variables*

Before the estimation of the relationship between information content and affecting factors of timeliness of financial reports in petrochemical companies listed on TSE, it is required to test the stationarity of all applied variables in the estimation as non-stationarity of variables leads to the spurious regression estimation.

In stationarity test of panel data, the stationary variables are those in which at least in two cases of tests, the probability level is smaller than 0.05%. To be sure of the stationarity, Levin, Lin-chu, Pesaran and Shin tests are applied and the results of this test are shown in Table 2. Based on the results, the collective stationarity of the applied variables is supported at the confidence interval 95%.

Table 2: The evaluation of stationarity of variables

Pesaran and Shin	Levin, Lin-chu	Variable
1/51 ./0.06	-7/68 ./0.00	Timeliness of financial reports
2/94 ./0.02	-9/27 ./0.03	Return on asset
1/93 ./0.03	-7/27 ./0.00	Company risk
7/39 ./0.00	-39/80 ./0.00	Size and reputation of audit foundation
5/64 ./0.00	-4/95 ./0.00	Financial year-end
11/97 ./0.00	-52/94 ./0.00	Company age
3/54 ./0.09	-10/50 ./0.00	Firm size

Source: Results of study

- **Empirical results of study**

As it was said, this study evaluates the information content and factors affecting timeliness of financial reports in petrochemical companies in TSE. To do this, 5 hypotheses are formulated, then we evaluate, fit and estimate the hypotheses. The following model is designed to estimate these hypotheses.

$$TFR = \beta_0 + \beta_1 SIZE + \beta_2 SRAF + \beta_3 ROI + \beta_4 MON + \beta_5 FR + \beta_6 AGE + \varepsilon$$

The hypotheses are shown statistically as follows:

$$\begin{cases} H_0: \beta_i = 0 \\ H_1: \text{At least one of the coefficients of variables is non-zero.} \end{cases}$$

Indeed, H0 indicates that none- of the independent variables in regression model is significant and H1 indicates that at least one of the independent variables is significant in regression model. Later, the results of hypothesis testing are expressed and analyzed.

- **F-limer test**

As shown in Chapter 3, if the achieved F is higher than the F of table, or its probability is smaller than 0.05, panel data method is used, otherwise pooled data method is applied. As shown in Table 3, the probability of F-limer test is 0.00 as smaller than 0.05. Thus, panel data method is applied. Later, by using Hausman test, the suitable analysis method is as random or fixed effects method.



Table 3: The results of F-limer test

Probability	Test statistics	F-limer
•/•••	•/••	

✓ *Hausman test*

In this section, to determine using fixed or random effects method, Hausman test is used. As shown in the results of test (Table 4), the calculated probability is less than 0.05. Thus, fixed effects method is applied. The results of F-Limer and Hausman test show that the study model is estimated by panel data method-fixed effects.

Table 4: The results of Hausman test

Probability	Test statistics	Hausman test
•/•••	••/••	

The results of model estimation

- a. The estimated regression equation consists of:

$$TFR = 0/15 + 0/10SIZE + 0/41SRAF + 0/10ROI - 0/17MON - 0/23FR + 0/18AGE$$

- b. The coefficient of determination indicates the variability (deviation) in dependent variable (timely financial reports) as explained by regression. This value is 77%.
- c. As shown in Table 3, the probability of F statistics is 0.000. As this value is less than the standard error, 0.05, Thus, H0 regarding the non-significance of the relationship between timely financial reports and its independent variables is rejected. We can say, the estimated model is significant at the error level 5%.
- d. Durbin-Watson statistics is 1.72. As this value is ranging 1.5 to 2.5, it shows the non-auto correlation in the model. It means that there is no relationship between the error terms in the different observations (companies).

The results of model estimation are as follows:

Table 5: The results of model estimation

Panel data-fixed effects method			Method
Probability	T statistics	Coefficient	Variable
•/•••	•/••	•/••	Intercept
•/••	•/••	•/••	Firm size
•/••	•/••	•/••	Size and reputation of audit foundation
•/••	•/••	•/••	Return on asset
•/••	•/••	•/••	Financial year-end
•/••	•/••	•/••	Company risk
•/••	•/••	•/••	Company age
•/••			R-squared (R ²)
•/••			Durbin-Watson
••/••			F
•/••			Prob. F

- e. Analysis of coefficients

The results of Table 5 show that:



The return on asset variable is significant and it has the positive coefficient 0.10. This result shows that with one percent of increase in return on asset of company, timely financial report is increased as 0.10.

The variable of firm size is significant and it has positive coefficient and it indicates that with one percent of increase in the firm size, timely financial reports is increased as 0.10.

The variable of company age is not significant based on the significance level 0.912.

The variable of company risk is significant and it has negative coefficient. In other words, with 1% increase of company risk, timely financial report is reduced as 0.23.

Based on the coefficient of size and reputation of audit foundation and significance level 0.001, this variable has a positive and significant relationship with the timely financial report. Thus, with the 1% increase of size and reputation of audit foundation, timely financial report is increased as 0.41.

The variable of financial year-end is significant it has negative coefficient. In other words, with 1% of the increase of financial year –end, timely financial reports is reduced as 0.17.

Results of study

To test the study hypotheses, model 1 is estimated by panel method with fixed effects and here, the results of hypothesis testing are mentioned.

First hypothesis: There is a significant relationship between firm size and timeliness of financial reports of petrochemical companies in Iran.

As shown in the Table, the achieved significance level (p-value) for the coefficient of firm size is 0.001 and this value is less than 0.05 and the mentioned coefficient (0.10) is significant statistically and this indicates a positive and significant relationship between the firm size and timely financial reports. Thus, the first hypothesis of study is supported.

Second hypothesis: There is a significant relationship between the size and reputation of audit foundations and timeliness of financial reports of petrochemical companies in Iran.

Based on the significance level for the variable of size and reputation of audit institutes as less than 0.05, the mentioned coefficient (0.41) is significant statistically and it indicates a positive and significant relationship between the size and reputation of audit foundations and timely financial reports.

Thus, second hypothesis of study is supported.

Third hypothesis: There is a significant relationship between return on asset and timeliness of financial reports of the petrochemical companies in Iran.

As shown in the Table, the significance level (p-value) for the coefficient of the return on asset variable is 0.005 and this value is less than 0.05, thus the mentioned coefficient (0.10) is statistically significant and it indicates the positive and significant relationship between the return on asset and timely financial reports. Thus, the third hypothesis is supported.

Fourth hypothesis: There is a significant relationship between financial risk and timeliness of financial reports of petrochemical companies in Iran.

As shown in the Table, the significance level (p-value) for the coefficient of financial risk variable is 0.001 and this value is less than 0.05, thus the mentioned coefficient (-0.21) is significant statistically and it indicates the negative and significant relationship between financial risk and timely financial reports. Thus, fourth hypothesis of study is supported.

Fifth hypothesis: There is a significant relationship between financial year end and timeliness of financial reports of petrochemical companies in Iran.



Based on the significance level for the coefficient of financial year-end less than 0.05, the mentioned coefficient (-0.17) is significant statistically and it indicates the negative and significant relationship between financial year-end and timely financial reports. Thus, fifth hypothesis is supported.

CONCLUSION

The results of study show that there is a positive and significant relationship between the firm size and timely financial reports. This result shows that the firms with bigger size and more assets, have better planning and policy making and they have timely financial reports.

The results showed that there was a positive and significant relationship between size and reputation of audit foundation and timely financial reports. This result shows that the firms being audited by the institutes under the control of inspection organization have high legal regulations and are timely in financial reports.

The results of stud showed that there was a positive and significant relationship between the return on asset of company and timely financial reports. This result shows that the firms with high rate of return on asset have orderly financial system and show timeliness of financial reports.

The results show the negative relationship between company risk and timely financial reports of companies. In other words, the higher the debts of company, the lower the ability of the company for timely financial reports.

The results show the negative and significant relationship between the financial year-end and timely financial reports. This result shows that if the companies decide to present their financial reports at the end of year, based on the time restrictions and peak season in the relevant organizations, timely financial report encounters problems.

Recommendations of research

- The lack of timely financial reports for both stock supervisors and auditors can provide some evidences regarding the less profitability probability of companies.
- The creditors and real and legal investors consider the results of study during the decision making for investment.

Limitations of research

The present study is performed by the data of 9 petrochemical companies and the results can not be generalized to all companies.

Besides the applied variables in the model, timely financial reports being affected by some variables including political and economic conditions is not considered in the present study.

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