The Relationship between Financial Restatement and Information Asymmetry in Companies Listed on the Tehran Stock Exchange

Shahram Sharifi¹, Mohammad Sayrani²,*

¹ Master’s Student, Department of Accounting, Electronic Branch, Islamic Azad University, Tehran, Iran
² Of accounting and invited lecturer of Farabi Campus, University of Tehran, Qom, Iran

ABSTRACT

This study analyzes the relationship between financial restatement and information asymmetry. In recent years, the concept of financial restatement and its frequency have attracted the attention of many academic researchers. Followed by the Sarbanes–Oxley Act of 2002, the issue got worse and caused a sharp increase in the number of financial restatements of various companies. According to generally accepted accounting principles, previous years’ financial statements are presented for two reasons: changing the accounting approach or accounting principles and correcting accounting errors. The aim of this study was to examine the issue as to whether financial restatements affect information asymmetry or, in other words, whether financial restatements will cause changes in information asymmetry. Thus, to evaluate and test the relationship between these two variables, the present study examines data relating to 80 companies listed on the Tehran Stock Exchange collected over five years from 2009 to 2013. For statistical analysis, the researchers used panel data and logistic regression model based on F and t statistics for testing the hypotheses with the Eviews software product. The results showed that financial restatement has a significant relationship with information asymmetry. Therefore, companies that conduct restatement of financial statements have a higher level of information asymmetry compared with companies that are not financial restatement.

KEYWORDS

Financial restatement, Information Asymmetry, Tehran Stock Exchange, financial statements

INTRODUCTION

Financial statements are the main intermediary tool for bridging the gap between investors and managers and make financial information more reliable by reducing information asymmetry among various users of financial reports[8]. Extra-organizational users of financial information that make up many groups of stakeholders meet their information needs in the framework of basic financial statements and accompanying notes. Extra-organizational financial reporting has always been used for inventing ways to meet and secure the demands of this group of users. Currently in Iran, financial statements – including, balance sheet, income (profit and loss) statement, statement of comprehensive income, and statement of cash flows – are conducted to realize the goals of accounting and financial reporting and to meet the needs of financial information users. The essential issue in financial reporting is the usefulness of financial statements for economic decision-making. For this reason, financial statements must be of appropriate quality attributes. Whenever it is established that current or previous years’ financial statements have been presented in an incorrect way due to some errors, it becomes necessary to correct those errors by adjusting the first retained earnings and conducting a restatement of previous years’ financial statements. The types of errors that lead financial restatement are as follows: Computational and mathematical errors, errors in applying accounting policies, ignoring or incorrectly interpreting the facts available at the time of preparing financial statements, shifting from non-standard accounting practices to a standard accounting practice, and cases of fraud. Although financial restatement is not a new phenomenon, the frequency and value of cases of financial restatement has increased dramatically in the past few years due to aggressive accounting methods as well as accounting irregularities and fraud. This sharp increase has attracted the attention of many investors, analysts and regulators [7].

LITERATURE REVIEW

Studies conducted outside Iran:

In a study entitled “An Analysis of the Underlying Causes Attributed to Restatements,” Plumlee and Lombardi Yohn
(2008) investigated the cases of financial restatement from 2003 to 2006 and stated that every restatement occurs for four reasons:

1. Internal errors at a company,
2. Deliberate manipulation,
3. Complexity of transactions, and
4. Some characteristics of accounting standards on financial restatements that were caused in the first place by some characteristics of accounting standards.

In addition, specific characteristics of accounting standards that affect restatement were studied. This study specifically determines whether restatements are related to:

1. The absence of clarity or precision in standards or the low number of articles on standards due to the originally low clarity of the standards,
2. Using professional judgment in applying standards, and
3. Indiscriminate and inappropriate use of difficult laws[6].

According to the above study, most restatements of 2003 to 2006 (57%) were due to the company's internal errors. By contrast, in terms of common sense, the main cause of financial restatements is the complexity of accounting standards. In a study entitled “Accounting Restatements: Are They Always Bad News for Investors?” Callen, Livant and Dansegal (2008) examined a large sample of restated financial statements during the years 1986 to 2001 in companies listed on the New York Stock Exchange and compared accounting restatements due to changes in accounting principles and accounting restatements caused by mistakes. According to this study, investors usually consider accounting restatements as a negative warning. This is due to three potential reasons:

1. Financial restatements determine accounting-system-related issues that may represent wider operational or managerial issues.
2. Financial restatement leads to corrective reduction in expected future cash flows.
3. Financial restatement reflects the efforts of managers to hide (cover up) profit reduction through “false accounting”[3].

In his study entitled “Restatement Disclosures and Management Earnings Forecasts,” Michael Ettredge (2009) studied 2,132 cases of restatement in US companies from 1999 to 2005 and examined changes in corporate profit detection procedures after restatement disclosures, accounting errors that are revealed via restatement undermine the investors’ trust and thus lead to increased conservatism in stating the profit[4].

Duong Nguyen and Puri (2013) studied information asymmetry and restated financial statements from 1977 to 2005 in both auction markets and brokerage markets. The results showed an increase in the number and volume of transactions, the average order size, and information asymmetry variables of companies that had conducted financial restatements. Furthermore, information asymmetry was higher in brokerage markets than in auction markets.

Studies conducted in Iran:

In a study entitled “The Information Content of Corporate Profit Disclosure and Its Impact on Liquidity and Information Asymmetry in the Tehran Stock Exchange,” Fadaenejad and Khorrornia (2011) showed that, at the 95 percent confidence interval, all three study hypothesis – indicating the high value of information, reduced information asymmetry, and increased market liquidity – were confirmed in the case of bad news released by the company whereas only one hypothesis – concerning increased market liquidity – was confirmed in the case of good news[5].

In a study entitled “The Impact of Restated Financial Statements on Earnings Management and Earnings Persistence,” Bolo and Hassass Yeganeh (2012) showed that there is a significant relationship between restated financial statements on the one hand and earnings management and earnings persistence on the other hand. The type of relationship indicates that higher levels of financial restatement are associated with increased levels of earnings management (the level of discretionary accruals) and decreased levels of earnings persistence[2].

In a study entitled “The Impact of Restated Financial Statements on Discretionary Accruals Quality,” Aghaee et al. (2013) showed that the quality of corporate profits in companies that had conducted financial restatement had a significant relationship with the following variables: changes in the size of the company, changes in sale, changes in cash flows from operations, changes in debt ratio, the market to book value ratio, the percentage of institutional ownership, and the managing director’s term of office[1].

**Research Hypotheses**

In line with the preliminary discussion, the following hypotheses are developed to investigate the relationship between information asymmetry and restated financial statements in companies listed on the Tehran Stock Exchange:

**Main Hypothesis:**

There is a significant relationship between the restatement of financial statements and information asymmetry.

**Subsidiary Hypothesis:**

1. There is a significant relationship between annual adjustments in retained earnings (profit and loss) balance and information asymmetry.

**Research Models**

In order to investigate the relationship and determine the impact of independent variables on dependent variables, we address the following models:

**The model used for testing the Main hypothesis:**

\[
\text{RESTATEMENT}_{it} = \alpha_0 + \beta_1 \text{IntraSpread}_{it} + \epsilon_{it}
\]

The model used for testing the Subsidiary hypothesis:
IntraQspread\(_{it} = \alpha_0 + \beta_1 TS_{it} + \epsilon_{it}\)

TS=Annual adjustments

**Statistical Population**

The statistical population of this study consisted of all the companies listed on the Tehran Stock Exchange from 2009 to 2013. In order to homogenize the population for testing the hypotheses and generalizing the results, the following conditions were considered as the inclusion criteria (via systematic elimination method):

1. March is set as the end of the fiscal year.
2. The company’s fiscal year does not change during the study period.
3. Investment companies, banks, insurance companies, and financial brokers are not included.
4. The company’s trading symbol is active and does not undergo suspension.
5. The company releases annual financial restatements at least once during the study period.
6. The financial information required is available.

Considering the facts given above, the sample consisted of 80 companies studied for a time period of five years.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>Statistical population of the study since April 2009</td>
</tr>
<tr>
<td>80</td>
<td>Investment companies, banks, insurance companies, and financial brokers</td>
</tr>
<tr>
<td>100</td>
<td>Companies whose fiscal year did not end in March</td>
</tr>
<tr>
<td>52</td>
<td>Companies that were not constantly active during the study period</td>
</tr>
<tr>
<td>38</td>
<td>Companies whose financial statements were not available during the study period</td>
</tr>
<tr>
<td>80</td>
<td>Study sample</td>
</tr>
</tbody>
</table>

Statistical Methods of Testing the Hypotheses:

From the temporal perspective, the present study uses post-hoc analysis to test the hypotheses based on the financial data of companies. In terms of its nature or objective, this is an applied research project and the results can be directly used for decision making. This study also is an analytical research project that tests the hypotheses using collected data. To explore the relationship between two variables, the researchers employ logistic regression and pooled regression (panel data). In order to test the main hypothesis, the researchers use logistic regression. The present study uses data obtained from the financial statements of companies listed on the Tehran Stock Exchange. Data were collected and calculated by referring to databases and were used as the basis for developing research models to test the hypotheses. To this end, the researchers used Rahavard Novin software product and the Tehran Stock Exchange website to collect the necessary data relating to the years 2009 to 2013. After comparing data and fixing any lack of consistency, the researchers used the Eviews 7 software product for conducting a final analysis.

**Stationarity of Variables:**

The ADF test is one of the most useful tests that can be used to assess stationarity of variables. This test calculates critical values at three levels of 1%, 5% and 10% as well as the ADF value. If the absolute value calculated by the ADF test is greater than the critical value (at the 5% level as the criterion level in this study), H0 (the non-stationarity hypothesis) is rejected so the time series is stationary.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>t-Statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>ADF test statistic</td>
<td>Test critical values 5% level</td>
</tr>
<tr>
<td>Information asymmetry 19.639 2.869 0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual adjustments 16.188 2.869 0.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 2, since the absolute values of calculated values for the augmented Dickey-Fuller test are greater than the critical value, H0 (the non-stationarity hypothesis) is rejected so the time series is stationary. It can be said that the hypothesis testing and the regression are not false. Calculated probability values also represent the stationarity of time series.

**Testing the Hypotheses**

**Testing the Main Hypothesis:**

1. Is there a significant relationship between the restatement of financial statements and information asymmetry?

To evaluate the main hypothesis, the researchers developed a model.

**The model used for testing the main hypothesis:**

RESTATEMENT\(_{it} = \alpha_0 + \beta_1 IntraQspread_{it} + \epsilon_{it}\)

According to the above model and since the dependent variable is a binary variable, logistic regression is used for evaluation.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficients</th>
<th>Z statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restatement of financial statements 1.25 2.821 0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c 2.19 2.535 0.008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restr. log likelihood -273.78 Avg. log likelihood -0.684</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to the results set forth in Table 3 and with respect to the value of Z statistic and the calculated probability, there is a significant relationship between the dependent variable (restated financial statements) and independent variables (information asymmetry). Considering the value of coefficients and the positive value of Z statistic, the relationship between restated financial statements and information asymmetry is direct. According to the LR statistic and the calculated probability, which is lower than 0.05, it can be concluded that the logistic regression model is significant and highly reliable. It should also be noted that this test investigates the explanatory power of the model. The results of two log-likelihood values are used for determining the extent to which independent variables could explain variances in the dependent variable. Considering the probability level, independent variables can explain 68% of the variances in the dependent variable. In addition, the coefficient of determination in this model is 8%. Considering the two log-likelihood values and the coefficient of determination, it can be concluded with 68% probability that nearly eight percent of the variances in the dependent variable (restated financial statements) is caused by independent variables (information asymmetry).

**Testing the Subsidiary Hypothesis:**

1. Is there a significant relationship between annual adjustments in retained earnings (profit and loss) balance and information asymmetry?

**The model used for testing the subsidiary hypothesis:**

\[
\text{IntraQspread}_{it} = \alpha_0 + \beta_1 TS_{it} + \varepsilon_{it}
\]

TS=Annual adjustments

In this section, in order to choose between consolidation method and panel data, the researchers used the F-Limer test. Then, in order to choose between fixed effect and random effects models, the researchers used the Hausman test the results of which can be seen in Table 4.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>F (F-Limer)</th>
<th>Prob. (Hausman)</th>
<th>Cross-sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information asymmetry</td>
<td>0.0001</td>
<td>0.546</td>
<td>Random effects</td>
</tr>
</tbody>
</table>

Considering the F-Limer and Hausman test results as presented in Table 4, the researchers chose panel data with random effects. In what follows, the OLS model is used for testing the hypotheses.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficients</th>
<th>t Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual adjustments</td>
<td>13.20</td>
<td>2.305</td>
<td>0.042</td>
</tr>
</tbody>
</table>

According to the results presented in Table 5 using panel data, it can be concluded that there is a significant relationship between annual adjustments in retained earnings (profit and loss) balance and information asymmetry based on the t value. F-Limer test results also show that the model is generally significant and does not have an autocorrelation issue. In addition, the results in relation to the adjusted coefficient of determination show that about 5% of the variances in the dependent variable (information asymmetry) in the total study period are explained by the independent variable. Moreover, the positive value of the t statistic in relation to the independent variable (annual adjustments in retained earnings balance) indicates a direct relationship between annual adjustments in retained earnings (profit and loss) balance and information asymmetry. This reflects the fact that a higher increase in restated financial statements will be associated with higher levels of information asymmetry.

**Conclusion and Recommendations**

As the test results of the main hypothesis indicate the presence of a relationship between restated financial statements and information asymmetry, investors need to consider the fact that restated financial statements, as a sign of information asymmetry in a company, reduce the expected rate of return which in turn leads to a higher cost of capital.

Moreover, as the test results of the sub-hypothesis indicate, companies that conduct annual adjustments in retained earnings (profit and loss) balance are marked by higher levels of information asymmetry compared with companies that do not conduct restatement of financial statements. As a result, investors and creditors need to consider the fact that companies that conduct restatement of financial statements are riskier than companies that do not so. With regard to the above findings, the following suggestions are made:

1. Investors must pay more attention to the fact that the restatement of financial statements will lead to information asymmetry in stock exchange companies and consequently to an increase in the cost of capital and a reduction in the expected return on investment.

2. Investors and creditors must focus more on companies that do not conduct restatement of financial statements because these companies are less risky for investment compared with companies that conduct financial restatement.

3. Investors must pay more attention to restatements caused by annual adjustments because, as the results show, they will lead to an increase in information asymmetry.
REFERENCES


