Relationship between Systematic Risk with Accounting Conservatism: Evidence from Tehran Stock Exchange (Tse)

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Abstract

This paper empirically tests the relation between accounting conservatism and systematic risk. The idea is that in firms with higher systematic risk, managers have higher incentives to delay the recognition of bad news in the hope of future good news. The statistical sample consisted of 132 companies operating in different parts of Tehran Stock Exchange. The test procedure which was analyzed using Eviews software is correlation analysis, and the relationship between dependent and independent variable is estimated using panel data. In this paper, for measuring systematic risk and accounting conservatism, we used Beta from CAPM model and Basu model. Consistent with hypothesis, we find a significant and negative association between systematic risk and accounting conservatism. Furthermore, examining the bad news and good news samples separately reveals that the effect of systematic risk on conservatism is likely to originate from delaying the recognition of bad news rather than accelerating the recognition of good news. Findings highlight the important role that systematic risk may play in shaping managers’ reporting behaviour.

Keywords: Free Cash Flow, Agency Problems, Ohlson Price model’s, Earning and Book Value per Share, Information Content

Introduction

In this paper we examine the relationship between systematic risk and accounting conservatism. Conservatism refers to the asymmetrical verification requirements for the recognition of economic losses versus gains. Accounting conservatism is one of the oldest and most important principles of accounting. Broadly speaking, conservatism is a tendency that accountants, when encountering uncertainties in economic transactions, choose to report lower estimates for the values of assets and revenues, but higher estimates for the values of liabilities and expenses.
Conservatism in accounting ensures that costs are not understated in the accounts and revenues are not overstated. Conservatism appears to be closely related to the concept of realization, as conservatism implies that a profit should not be recognized before it is realized.

Basu believes that conservatism has influenced the accounting theory and practice during the centuries. The records concerning the partnership and guaranteed transactions from the first years of 15th century show that accounting in Middle Age Europe had been conservative. Traditionally conservatism has been defined by the proverb, “Never foresee any profit, but foresee all the losses. In fact, it is possible to consider conservatism as the product of the ambiguity and whenever the accountants encounter with ambiguity they use conservatism. Conservatism application may play a role in issuing financial statements in the borrowing contracts and the advantages of compensating managers’ services related to legal proceedings and tax (Zare et al, 2013).

High systematic and nonsystematic risk increases the managers' incentives to postpone the recognition of bad news. Managers have several incentives to avoid bad news recognition or to foster the recognition of good news. The tendency of managers to avoid the recognition of bad news results from agency problems because managers are stimulated to increase their rewards by presenting desirable information. Systematic risk affects accounting conservatism's degree through one of the two ways below (Taghavi, 2014):

Managers tend to show their financial performance to be desirable through postponing the recognition of bad news and fostering the recognition of good news hoping to hide the weaknesses of current performance through the desirable future performances. The tendency to do such behaviors stems back to different factors such as rewarding contracts with managers based on earnings (Lambert at el, 2011). Agency theory states that managers have an information advantage over other external to organization individuals and there is not a convergence between the benefits of managers and stockholders; thus, in the presence of a high systematic risk, they tend to use their authority to increase earnings of the companies because in other conditions this authority will be useless. On the other hand, by considering ceteris paribus, higher risk would be followed by more return, specifically when there is a prediction for economic booms. Thus, in this condition, the tendency of managers for accounting conservatism would become less (Zhen Qi, 2011).

The presence of systematic risk will reduce the demand for conservative reporting. When systematic risk is high, managers are not interested in reporting bad news to the market because the investors, auditors, and creditors receive information required from the market (Teginzadeh et al, 2013). Accounting conservatism is defined as the tendency of accountants to obligate a higher degree of acceptability to recognize good news compared to the bad ones in financial statements. Also it is considered as an effort to choose a method of accepted accounting methods
which results in more rapid recognition of costs or less assets' evaluation or measuring debts higher (Richard, 2013).

This study contributes to literature in which it integrates the studies on systematic risk and accounting conservatism in firm accepted from Tehran Stock Exchange. The research problem can be expressed in the following question:

Does systematic risk have impact on accounting conservatism?

**Literature Review**

According to Watts (2003) “conservatism is defined as the differential verifiability required for recognition of profits versus losses”. Ahmed et al. (2002) investigated the role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs and reported that firms facing more severe conflicts over dividend policy would more likely use conservative accounting. The quality of earnings plays essential role on building high reputation on stock exchange since many investors may rely on giving more price appreciation when they see precise earnings estimates

Khan and Watts (2009) estimated a firm-year measure of accounting conservatism, tested its empirical properties as a metric, and illustrated applications by examining new hypotheses that shed further light on the nature and impacts of conservatism. The results were consistent with the measure, capturing variation in conservatism and forecasting asymmetric earnings timeliness at horizons of up to 3 years ahead. They also reported that firms with longer investment cycles, higher idiosyncratic uncertainty and higher information asymmetry had higher accounting conservatism. Event studies implied increased conservatism was a response to increase in information asymmetry and idiosyncratic uncertainty.

Sapra et al (2009) in their theoretical model showed that accounting conservatism can reduce informative content of reports on bad information and may increase the risk of being unrealistic. So that it can eventually reduce a debt contract efficiency and decrease the level of financial flexibility of companies (Gavi et al, 2013).

Li (2010) investigated the contracting advantages of accounting conservatism on international debt and equity markets and reported that firms domiciled in countries with more conservative financial reporting systems had substantially lower cost of debt and equity, after controlling for differences in legal institutions and securities regulations

Gary et al (2012) investigated about the relationship between accounting conservatism and bankruptcy risk. Their research results showed that by increasing bankruptcy risk, firms tend to use more conservative approaches.

Richard (2013) studied about the relationship between operating risk and accounting conservatism. He found some evidences that showed those companies having low operating risk
levels, would have higher levels of accounting conservatism, and there is a reverse relationship between operating risk and accounting conservatism.

Nourifard et al (2013) studied the relationship between systematic risk and accounting conservatism in firms enlisted in Tehran Stock Exchange. On the whole, the results of their research emphasized that systematic risk is very important and it is more effective than accounting conservatism. They concluded that systematic risk has a positive and meaningful relationship with conditional and unconditional accounting conservatism.

Mashayekhi and Motmaen (2013) studied the relationship between systematic risk and conditional conservatism. Their findings, using the data of 75 firms enlisted in Tehran Stock Exchange during the time period between 2001 and 2011, showed that there was a negative and meaningful relationship between systematic risk and accounting conservatism.

Taghavi et al (2014) examined relationship between operating risk and accounting conservatism: Evidence from Iranian banking industry in Tehran Stock Exchange. The research result demonstrates that there was a negative relationship between operational risk and accounting conservatism. In other words, there is a significant negative relationship between operational risk and accounting conservatism. Hence, the results suggest that with an increase (decrease) in operational risk, accounting conservatism decreases (increases).

Taginezhad et al (2014) studied the relationship between systematic and accounting conservatism. The findings showed negative and meaningful relationship between systematic risk and unconditional accounting conservatism. Also the findings show nonsystematic risk does not affect conditional conservatism and unconditional conservatism.

3. Methodology

This paper analyzes the relationship between systematic risk and accounting conservatism. The study uses Basu model. The present study, based on its objectives, is a practical research and its results can be used by managers, investors and in general all users. Methodologically speaking, this is a correlation research which examines relationship between systematic risk and accounting conservatism in firms which were accepted in Tehran stock market. This study aims to examine the relationship between the variables, it uses a correlation method to test the assumptions of multi variable regression, which according to assumptions the following models will be presented and tested.

4. Research Hypotheses

\( H_1 \): Accounting conservatism is negatively related to systematic risk.

\( H_2 \): The timeliness of good news recognition is negatively related to systematic risk.
5. Research Variables and their Measurement

To study the relationship between systematic risk and accounting conservatism, we have used (Basu, 1997) model in this research.

\[
EARN = \alpha_0 + \alpha_1 RET + \alpha_2 D + \alpha_3 RET \times D + e
\]

EARN: accounting return (earning before unexpected items divided by owners' equity value at the end of year) that is considered as the dependent variable in this model.

RET: return on equity per year in firm i during the year t. D is the Dummy variable that would be equal to 1 if the return is negative, otherwise it would be 0.

In this research we have used market model to measure systematic risk (Beta coefficient) as follows:

\[
\beta_i = \frac{Cov(Ri, Rm)}{Var(Rm)}
\]

Where, Ri is the average return of the company, Rm is the average return of the market, and Rm is the return variance of the market.

Cov (Ri, Rm): it is the covariance between firm stock return and return of total bonds in market.

Var (Rm): variance of return of total market bonds and \( \beta_i \) is the systematic risk index.

Model used to test the hypothesis are explained below:

\[
EARN = \alpha_0 + \alpha_1 (RET) + \alpha_2 (RET \times D) + \alpha_3 (BETA) + \alpha_4 (BETA \times RET) + \alpha_5 (BETA \times D) + \alpha_6 (BETA \times RET \times D) + e
\]

If \( \alpha_7 \) coefficient is negative and significant, the first hypothesis is confirmed.

If \( \alpha_5 \) coefficient is negative and significant, the second hypothesis is confirmed.

If \( (\alpha_5 + \alpha_7) \) coefficient is negative and significant, the third hypothesis is confirmed.

6. Sampling Method, Sample Size and Data Collection Method

The statistical population in this study includes the listed firms in Tehran Stock Exchange in the period of 2004 - 2013. Existence of some heterogeneousness among the listed firms in Tehran
Stock Exchange led to consider some special conditions for selection of studied companies as follows:

a. Firms should have been accepted in TSE since 2003.
b. Fiscal periods of these firms should be leading to the end of the year.
c. Firms should not have changed their year-ends.
d. Firms should not be in a financial or investing industry.
e. There is a need for availability of data.

Upon above conditions, we select 132 firms. We collect data from database of Tehran Stock Exchange and Rahavarde Novin software. Then we analyze these data by SPSS and Eviews software.

7. Descriptive Statistics

The basic descriptive statistics are shown in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>EARN</th>
<th>RET</th>
<th>BETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.1369</td>
<td>0.2789</td>
<td>0.4516</td>
</tr>
<tr>
<td>Median</td>
<td>0.1633</td>
<td>0.1130</td>
<td>0.3200</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>0.2642</td>
<td>0.7367</td>
<td>1.8186</td>
</tr>
<tr>
<td>Minimum</td>
<td>-3.53</td>
<td>-0.8</td>
<td>-1.231</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.94</td>
<td>8.20</td>
<td>3.684</td>
</tr>
</tbody>
</table>

8. Hypotheses Test Results

In this section, we present the important finding of our analysis. Data is analyzed by panel data regression model under Panel Least Squares Method with Fixed Effect. The coefficient of determination R-square ($R^2$) indicates that 42.25% behavior of dependent variable can be explained by the independent variables.
Overall, F-statistic 123.365 with p value 0.00 indicates that the regression model is feasible. The result of financial ratios indicate RET and RET*D are statistically significant and have positive influence on the EARN, whereas RET*BETA, BETA*D and BETA*RET*D has significant but negative influence to EARN. See Table 2 for complete results.

<table>
<thead>
<tr>
<th></th>
<th>F-stat</th>
<th>P-value</th>
<th>Coefficient</th>
<th>T-test</th>
<th>P-value</th>
<th>R²</th>
<th>Adj-R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant coefficient ($\alpha_0$)</td>
<td></td>
<td></td>
<td>0.1393</td>
<td>14.705</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RET ($\alpha_1$)</td>
<td>123.365</td>
<td>0.000</td>
<td>0.0596</td>
<td>4.7047</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D ($\alpha_2$)</td>
<td></td>
<td></td>
<td>-0.0198</td>
<td>-1.2779</td>
<td>0.2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RET*D ($\alpha_3$)</td>
<td></td>
<td></td>
<td>0.0887</td>
<td>4.7446</td>
<td>0.0000</td>
<td>0.4225</td>
<td>0.4191</td>
</tr>
<tr>
<td>BETA ($\alpha_4$)</td>
<td></td>
<td></td>
<td>-0.0795</td>
<td>-17.7743</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BETA*RET ($\alpha_5$)</td>
<td></td>
<td></td>
<td>-0.3055</td>
<td>-8.0741</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BETA*D ($\alpha_6$)</td>
<td></td>
<td></td>
<td>-0.1142</td>
<td>-153705</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BETA<em>RET</em>D ($\alpha_7$)</td>
<td></td>
<td></td>
<td>-0.0286</td>
<td>-7.0585</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td></td>
<td></td>
<td></td>
<td>1.885</td>
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</tbody>
</table>

The first hypothesis testing: To investigate the relationship between systematic risk and accounting conservatism, According to Fisher's F test Can say that the regression model is significant (p-value <0.05). Also test variables regression model coefficients (T-student) is that the coefficients are significant (exception of D). The result of panel data regression model as presented in Table 2 indicates that systematic risk has a negative correlation with accounting conservatism, Because coefficient of BETA*RET*D (-0.1142) with p-value (0.000). Thus Hypothesis 1 is accepted.

The second hypothesis testing: To investigate the relationship between good news recognition and systematic risk, The result of panel data regression model as presented in Table 3 indicates that good news recognition a negative correlation with systematic risk, Because coefficient of BETA*RET (-0.3055) with p-value (0.000). Thus Hypothesis 2 is accepted.
The second hypothesis testing: To investigate the relationship between bad news recognition and systematic risk, the result of panel data regression model as presented in Table 3 indicates that bad news recognition has a negative correlation with systematic risk. Because the total coefficients of (BETA*RET + BETA*RET*D) or (α5+α7) -0.3055 with p-value (0.000). Thus Hypothesis 3 is accepted.

9. Conclusion

This paper attempts to analyze the relationship between systematic risk and accounting conservatism of public firms listed in Tehran Stock Exchange (TSE) for the period of 2003-2011, by using Panel Data Least Square Regression Model and EViews software.

Results showed that the relationship between systematic risk and accounting conservatism is negative and significant. By reducing the systematic risk of the firm, accounting conservatism increases. So we can say that by increasing the firm’s current ratio can be reduced and accounting conservatism. Also, there is a relationship negative and significant between good news recognition and bad news recognition with systematic risk.

Consistent with hypothesis, we find a significant and negative association between systematic risk and accounting conservatism. Furthermore, examining the bad news and good news samples separately reveals that the effect of systematic risk on conservatism is likely to originate from delaying the recognition of bad news rather than accelerating the recognition of good news. Findings highlight the important role that systematic risk may play in shaping managers’ reporting behaviour. The results suggest to use other variables such as systematic risk to assess the amount of conservatism applied in financial reporting by managers.

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