The study of relationship between earnings management and the issuance of Bonds and rent Exchange in companies listed in capital Market of Iran

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ABSTRACT: In the present research we have investigated about the relationship between earnings management and the issuance of bonds and rent exchange in firms present in capital market of Iran. First we used Pearson's correlation analysis to study the dual relationship between the variables by using SPSS15 software and then by using a multiple-regression analysis we tested the hypotheses. The statistical society for the present research entails all companies which have financed during the years between 2005 and 2011 through the issuance of bonds and rent exchange. To measure earnings management we used Jones’s adjusted model. The research results showed that managers manage earnings but there is not any meaningful relationship between current exchange optional accruals and the issuance of bonds and rent exchange in previous year and two years before the issuance of these bonds.

Keywords: Current exchange optional accruals, bonds and rent exchange.

INTRODUCTION

During the recent decades the financial issues in companies has deserved a certain status in financial management field in a way that different exchange methods have been utilized up to now to absorb the surplus liquidity of the people in our society. Regarding the cultural and economic conditions in Iran the design of financial tools should be in a way that first it should not contradict with Islamic principles and then it should accord the financial and economic conditions in Iran. Bonds and rent exchange are among financial tools which observe both market requirements and Islamic aspects of the issue (Ezaziu& et al, 2011). In the present research we have chosen companies which have financed through bonds and rent exchange as firms included in our research society.

According to article 16 of the administrative principles of bonds issuance in Iran the companies applying for bonds issuance should have been profitable at least during the two financial periods before the application for partnership bonds issuance. Regarding the above mentioned issues which reveal the high importance of earnings firms may carry out earnings management in the negative side (manipulation in order to overstate the company) to issue bonds. Because the information is not accessible evenly among the users, there exists an information asymmetry between managers and investors. Information asymmetry is a condition in which managers have more information about the operations and different exchange aspects of the company in the future in comparison with the investors. This may create a stimulus and an opportunity among managers for earnings management (Ebrahimi&Hassani-e-Azar, 2006). Thus the main task in the present research is to find some relationships between earnings management through the utilization of current exchange optional accruals as the independent variable and the value of bonds and rent exchanges issued as the dependent variables if the relationships above are investigated the research results may lead to the awareness of the guarantee suppliers, creditors, investors and other users of financial reports to enforce lack of transparency or transparency of the reports related to the earnings of companies issuing those bonds. The high importance of earnings regarding the bonds’ issuers, lack of enough knowledge of the users of the information listed in financial reports, lack of researches about all bonds, and the freedom of managers in using different exchange accrual accounting approaches, earnings management can help greatly for more awareness in decision makings of the users and the creditors specially and the stockholders to assess the role of management in
earnings management in order to issue bonds and rent exchange and the role of the managers (Baradaren-e-Hassanzadeh&Kamranzadeh, 2009).

**Review Of Literature**

Earnings management is in fact the intentional efforts of the management in the type of earnings management in order to achieve certain goals in a way that it does not contradict with accepted accounting principles and the related rules. Now we tend to study the relationship between earnings management (through current exchange optional accruals) and the issuance of bonds.

**Local researches**

Mashayekhi et al. (2005) concluded in a research entitled: "the role of optional accruals in earnings management of the firms accepted in Tehran Stock Exchange" that in companies under investigations in this research, earnings management has been utilized.

Noravesh et al. (2005) showed in a research paper entitled: "studying earnings management in firms accepted in Tehran Stock Exchange" that big companies in Iran have tried earnings management and the motives to enforce this type of management become more by increasing debts. Also the research findings showed that big companies use accruals to reduce taxes and by enlarging the companies, the tendency of managers for earnings management increases.

Kordestani&Modafee (2012) concluded in a research paper entitled: "studying the model capability based on optional income compared to the model based on accruals for earnings management assessment" that the seasonal optional incomes model has more ability to assess earnings management compared with Jones's models and adjusted Jones's models. Also the research findings do not show a meaningful difference between this model and the integrative model of Dichaw and Dichew.

**Foreign researches**

Ion & Miller (2002) studied earnings management in Korean companies in a research and found out that in companies under investigation, earnings management has been carried out by using optional accruals. This is done specifically when cashes resulting from operations show a weak performance of the company. In the present research it has been stated that market reacts positively to changes in net earnings but this reaction is negative considering the changes in accruals.

Hertzel & et al. (2002) studied the long-period performance of firms in New York bourse which issued bonds. The research results showed that along with the increasing of stock value in supply time and after stock issuance, the performance (yield) has been better compared to the conditions before bonds issuance.

Ghosh & Olson (2009) studied the amount of using optional accruals by managers in ambiguity conditions and stated that managers use optional accruals to reduce the fluctuations in the reported earnings.

Liu & et al. (2010) presented in their research entitled: "earnings management in bonds" all American companies issuing bonds during the years between 1970 and 2004. The results of the research were as follows: 1- There is not any evidences showing the utilization of current exchange optional accruals during the two years before the issuance of bonds. 2- During the year before bonds' issuance, DAC became positive and is in %1 level. In other words, the additive earnings management is done for the year before the bonds' issuance in IPO companies a lot more than the companies issuing bonds. 3- Also the results above showed that increasing earnings through the manipulation of current exchange accruals will lead to a reduction in debt cost.

**Research goals**

The ideal goal of the present research is to try to reduce the information asymmetry in order to present transparent exchange, related, and reliable information for the users by the suppliers of the information. By using the results of the present research the investors and creditors can analyze the financial reports of the companies with more awareness in their decision makings. In other words, this research helps them to get more information about the relatedness of the information. Also the overall goal is to study the relationship between the issuance of bonds and rent exchange and earnings management through testing the hypotheses utilized in the research.

**RESEARCHES METHODOLOGY**

The present research is post incidental based on the financial data of the companies in the past to study the hypotheses. The goal is to carry out an applied research. Also it is an analytical research by using the
data gained and stating some hypotheses and testing them. To discover the relationship between these two variables we have used correlation method.

The information of the present research entail the data gained by financial reports of the companies present in capital market in Iran which have been extracted by referring to data bases, calculating them and estimating research models based on them to prepare a basis for testing the hypotheses. The raw data needed for the companies in order to test the research hypotheses were collected through Rahaward-e-Novin software and in most cases through Tehran Stock Exchange organization’s website and they were transferred to SPSS15 software for final analysis after being compared and removing lack of harmony and being transferred into Excel broadsheet.

The statistical population of the present research includes all companies present in capital market in Iran during the time period between 2005 and 2011. Of course, there were some limitations in collecting the data from the statistical society and in identifying the research sample which have been listed below:

Due to the specific type of the research those companies were included which had presented bonds and rent exchange bonds.

The needed financial information and the financial statements of companies audited should be available completely for the years between 2005 and 2011.

The companies in the society should not be among the banks and financial and credit entities (investment companies, leasing companies, financial intermediaries) because in these companies the earnings’ manipulation is mainly carried out through investments’ sales and other methods.

Regarding the limitations above our sample companies included 10 companies issuing bonds (from among 13 companies) and 4 companies issuing rent exchange bonds (from among 7 companies).

Research hypothesis

H1: There is a relationship between optional current exchange accruals (during two years before issuing bonds and rent exchange) and the value of bonds and rent exchange issued.

H2: There is a relationship between optional current exchange accruals (during the years before issuing bonds and rent exchange) and the value of bonds and rent exchange issued.

Independent variable

The independent variable of the present research is items in optional current exchange accruals. To isolate items in optional current exchange accruals from total items in accruals we have utilized different exchange models such as Healy, Deangelo, Jones, and adjusted Jones and in the present research we have used the adjusted model presented by Jones which was utilized by Dichow et al. (1998) to discover earnings management. According to information presented by some researchers this model would be the most powerful method for earnings management prediction. Additionally, models of Healy, Di Angelo, and Jones’ adjusted model are more in line with the economic atmosphere of western countries (Bahar-e-Moghaddam, 2008).

Also the researchers reasoned that incomes are not free from freedom in activities and manipulation. Thus they proposed to adjust the changes in income through the subtraction of the changes in accounts and notes receivable. Teoh et al. (1998) showed that most deviations in total accruals are emerged from current exchange accruals. Therefore, we measure earnings management through current exchange optional accruals. In other words, this measurement is carried out through flowing capital of accruals [(current exchange assets-cash) - (current exchange debts-current exchange part of long-term dents)] (Ijhin Liu et al., 2010).

To do so first we have used Jones’s model to calculate the parameters $\gamma_0$ and $\gamma_1$.

\[
\frac{CA_jt}{TA_{j,t-1}} = \gamma_0 \frac{1}{TA_{j,t-1}} + \gamma_1 \frac{\Delta sales_j}{TA_{j,t-1}}
\]

$CA_jt$ represents current exchange accruals of the industry. $TA_{j,t-1}$ represent total assets in the industry during the previous year. $sales_j$ represents changes in industry sales (sales during current exchange year – sales during the previous year). $\gamma_0$ and $\gamma_1$ are special parameters of the industry. J represents the industry and $t-1$ represents the previous year.

Then we calculated nonoptional current exchange accruals through the following formula:

\[
NDCA_i = \gamma_0 \frac{1}{TA_{i,t-1}} + \gamma_1 \frac{\Delta sales_i - 
\Delta sales_{i,t-1}}{TA_{i,t-1}}
\]

$NDCA_i$ represents nonoptional current exchange accruals of the company. $AR_i$ represents the changes in accounts and current exchange notes receivable of the company (current exchange accounts and current exchange year notes receivable of the company - current exchange accounts and previous year notes receivable of the company).
Finally by using the adjusted Jones’ model and the estimated parameters, optional current exchange accruals was calculated through the following formula:

$$DCA_{it} = \frac{CA_{it}}{TA_{it-1}} - NDCA_{it}$$

**Dependent variable**

The dependent variable in the present research is the value of bonds and rent exchanges. To collect the information related to dependent variables of the research first we identify those companies which have issued the bonds during the research period and then we gain the nominal value of the bonds which represent the dependent variables of the present research through the financial statements and finally we calculated the logarithm of the data given to achieve the analyzing capability in the multiple regression determined.

**Control variables**

The control variables of the present research are: the ratio of earnings to assets, the ratio of debts to assets, the ratio of long-term debts to assets and the logarithm of assets. The data needed to calculate control variables were collected by using balance sheets and income statements of the companies and were transferred into Excel and were applied in the research models.

**Research findings**

**Testing the normality of dependent variables**

Normality of the residuals of the regression model is one of the regression presuppositions which show the validity of regression tests because normality of the dependent variables results in normality of the model residuals (the difference between the estimated amounts and real amounts).

Now that the companies in our statistical society in the present research is less than 30, the normality of the dependent variables of the research could be studied by using the numerical test of Kolomogrov-Smirnov in p-p plot graph. The results showed that the dependent variable of the research were normal as shown in the dual table below.

### Table 1. the results of normality of the dependent variables of first and second hypotheses

<table>
<thead>
<tr>
<th>Name of test</th>
<th>Amount of statistics</th>
<th>Meaningfulness level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolomogrov-Smirnov</td>
<td>0.338</td>
<td>1</td>
<td>Log Bond Issued data are normal.</td>
</tr>
</tbody>
</table>

![Diagram pp plot](image)

**The Statistical Analysis Of The Data Related With First Hypothesis**

The basic model to examine the first hypothesis:

$$\log Bonds\ Issued = \beta_0 + \beta_DCA_{it-1} + \beta_{ROA_{it-1}} + \beta_{Log Assets_{it-1}} + \beta_{TotalLev_{it-1}} + \beta_{LdLev_{it-1}} + \epsilon_i$$

In the table below the results of the analysis of multiple regression variances (ANOVA statistics) have been estimated.

### Table 2. Testing first hypothesis model

<table>
<thead>
<tr>
<th>Name of test</th>
<th>Amount of F statistics</th>
<th>Meaningfulness level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>variance analysis</td>
<td>2.705</td>
<td>0.178</td>
<td>The model posed was not appropriate.</td>
</tr>
</tbody>
</table>
The table above represents testing the variance analysis which proposes the appropriateness of the posed model. The probable amount (meaningfulness level) of F statistics equals 0.178. This amount is more than 0.05 and thus there is not any appropriate model. Therefore, the deletion of some aid variables presents another model and it will be tested afterwards.

The novel model presented is:

$$\text{Log Bonds Issued} = \beta_0 + \beta_1 \text{DCA}_{-2} + \beta_2 \text{log Assets}_{-2} + \epsilon_i$$

In the table below the results of the analysis of multiple regression variances (ANOVA statistics) have been estimated.

<table>
<thead>
<tr>
<th>Name of test</th>
<th>Amount of F statistics</th>
<th>Meaningfulness level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>variance analysis</td>
<td>3.817</td>
<td>0.046</td>
<td>The model posed was appropriate.</td>
</tr>
</tbody>
</table>

The table above represents testing the variance analysis which proposes the appropriateness of the new model. The probable amount (meaningfulness level) of F statistics equals 0.046. This amount is more than 0.05. Therefore, there exists an appropriate model in an assurance level of %95.

**First Hypothesis**

There is a relationship between current exchange optional accruals (during the two years before the issuance of bonds) and the participation bonds value issued.

The final model utilized to study the first hypothesis was:

$$\text{Log Bonds Issued} = \beta_0 + \beta_1 \text{DCA}_{-2} + \beta_2 \text{log Assets}_{-2} + \epsilon_i$$

In the table above, the adjusted coefficient equals 0.385, which means %38.5 of the changes in dependent variable can be expressed by the independent variables. This amount of the index shows the amount of severity of the relationship between the variables. The amount of Durbin-Watson statistics equals 1.743. This amount shows the lack of self-correlation of the residuals which shows the correctness of another regression hypothesis.

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Identification coefficient</th>
<th>Adjusted identification coefficient</th>
<th>Estimation criterion error</th>
<th>Watson-Durbin statistics' amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.772</td>
<td>0.922</td>
<td>0.385</td>
<td>0.267</td>
<td>1.743</td>
</tr>
</tbody>
</table>

In the table above, the amount of adjusted coefficient equals 0.385, which means %38.5 of the changes in dependent variable can be expressed by the independent variables. This amount of the index shows the amount of severity of the relationship between the variables. The amount of Durbin-Watson statistics equals 1.743. This amount shows the lack of self-correlation of the residuals which shows the correctness of another regression hypothesis.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients not standardized β coefficients</th>
<th>Criterion deviation</th>
<th>Standardized β coefficients</th>
<th>t statistics</th>
<th>Meaningfulness level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed coefficient</td>
<td>3.405</td>
<td>0.854</td>
<td>0.792</td>
<td>3.989</td>
<td>0.005</td>
</tr>
<tr>
<td>Logarithm of assets</td>
<td>0.348</td>
<td>0.126</td>
<td>0.792</td>
<td>2.762</td>
<td>0.028</td>
</tr>
<tr>
<td>Optional current exchange assets</td>
<td>0.242</td>
<td>0.204</td>
<td>0.340</td>
<td>1.187</td>
<td>0.274</td>
</tr>
</tbody>
</table>

As it can be seen in the table above, the meaningfulness level for the DCA variable is more than 0.05 and it shows that the coefficient is not meaningful statistically. The meaningfulness level for log Assets variable is less than 0.05. Thus, regarding the fact that the amount of meaningfulness level of the coefficients of all variables (except the logarithm of assets) is not meaningful statistically, the individual control variables were extracted from the model and were analyzed again. Although each of the variables was deleted, the primary result of lack of meaningfulness of the coefficients was achieved statistically.

**The Statical Analysis Of The Data Related With Second Hypothesis**

The basic model to examine the second hypothesis:

$$\text{Log Bonds Issued} = \beta_0 + \beta_1 \text{DCA}_{-2} + \beta_2 \text{ROA}_{-2} + \beta_3 \text{log Assets}_{-2} + \beta_4 \text{Log Leverage}_{-2} + \beta_5 \text{Total Leverage}_{-2} + \epsilon_i$$

In the table below the results of the analysis of multiple regression variances (ANOVA statistics) have been estimated.

<table>
<thead>
<tr>
<th>Name of test</th>
<th>Amount of F statistics</th>
<th>Meaningfulness level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>variance analysis</td>
<td>2.93</td>
<td>0.047</td>
<td>The model posed was appropriate.</td>
</tr>
</tbody>
</table>

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The table above represents testing the variance analysis which proposes the appropriateness of the posed model. The probable amount (meaningfulness level) of F statistics equals 0.047. This amount is more than 0.05. Therefore, we can tell that there is an appropriate model with an assurance level of %95.

Second Hypothesis

There is a relationship between current exchange optional accruals (during one year before the issuance of bonds) and the participation bonds value issued. The final model utilized to study the second hypothesis was:

\[ \text{Log Bonds Issued} = \beta_0 + \beta_1 \text{DCA}_{-1} + \beta_2 \text{ROA}_{-1} + \beta_3 \text{Log Assets}_{-1} + \beta_4 \text{Total Lev}_{-1} + \beta_5 \text{LtLve}_{-1} + \epsilon_i \]

Table 7. Results of regression analysis of the second hypothesis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients not standardized</th>
<th>Standardized Coefficients</th>
<th>t statistics</th>
<th>Meaningfulness level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed coefficient</td>
<td>3.804</td>
<td>1.032</td>
<td>3.686</td>
<td>0.021</td>
</tr>
<tr>
<td>Optional current exchange assets</td>
<td>0.144</td>
<td>0.221</td>
<td>0.233</td>
<td>0.549</td>
</tr>
<tr>
<td>Ratio of earnings to assets (ROA)</td>
<td>-2.703</td>
<td>1.763</td>
<td>-0.492</td>
<td>-1.533</td>
</tr>
<tr>
<td>Ratio of debts to assets (Total Lev)</td>
<td>0.319</td>
<td>0.129</td>
<td>0.697</td>
<td>2.480</td>
</tr>
<tr>
<td>Ratio of long-term debts to assets (LtLve)</td>
<td>-0.110</td>
<td>0.624</td>
<td>0.069</td>
<td>-0.175</td>
</tr>
<tr>
<td>Logarithm of assets</td>
<td>0.189</td>
<td>0.686</td>
<td>0.114</td>
<td>0.275</td>
</tr>
</tbody>
</table>

In the table above, the adjusted coefficient equals 0.378, which means %37.8 of the changes in dependent variable can be expressed by the independent variables. This amount of the index shows the amount of severity of the relationship between the variables. The amount of Durbin-Watson statistics equals 1.941. This amount shows the lack of self correlation of the residuals which shows the correctness of another regression hypothesis.

As it can be seen in the table above, the meaningfulness level for all variables posed in the model is more than 0.05 and it shows that the coefficient is not meaningful statistically. Thus, regarding the fact that the amount of meaningfulness level of the coefficients of all variables is not meaningful statistically, the individual control variables were extracted from the model and were analyzed again. Although each of the variables was deleted, the primary result of lack of meaningfulness of the coefficients was achieved statistically.

Research limitations

As it is the case in most developing countries, one of the limitations in this research was lack of complete access to financial statements through different exchange ways on the contrary to the fact that the data should be presented to the users completely. The highest amount of limitation was the limitation to access data related to earnings management which was generally needed regarding the information before the issuance of bonds of the companies. Also we have used Jones's (1995) adjusted model to calculate optional accruals and the intrinsic limitations of this pattern in estimating earnings management is not deniable. For example, it does not pay attention to the interferences of the management resulted from real events. Finally the capability of Jones's model and Jones's adjusted model in careful isolation of accruals and the constituents of optional accruals and non-optional accruals is still questionable.

Suggestions resulted from the present research

The evidences gained from the research showed that managers manipulate current exchange optional accruals in order to achieve their goals (earnings management through optional accruals). Now it can be proposed that the devisers of accounting standards in accruals should devise standards which do not let earnings management through manipulating these items.

Suggestions for future researches

Using other models to isolate optional accruals and total accruals such as: Healy’s model, De Angelo’s model, and Kizern’s model.
Regarding the fact that there was not any research found in the field of earnings management and participation bonds and rent exchanges in Iran, doing similar researches during different exchange time periods can foster the industry isolation or the isolation of each of the constituents of bonds can describe these relationships better.

Using optional accruals (current exchange and non-current exchange) to study earnings management.

**RESEARCHERESULTS**

We have dealt with studying earnings management and the issuance of bonds and rent exchange in capital market in Iran. The results of the statistical tests of the research hypotheses showed that there is not a meaningful relationship between the current exchange optional accruals and the issuance of bonds and rent exchanges during the previous year and two years before the issuance of these bonds. But it does not mean that the managers of the companies have not done earnings management through the manipulation of the current exchange optional accruals because the evidences gained from the present research approved this issue that the companies issuing the bonds mentioned have done earnings management but there is not any meaningful relationship between earnings management and the issuance of bonds and rent exchange.

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