STUDY THE RELATIONSHIP BETWEEN FINANCIAL LEVERAGE AND CORPORATE GOVERNANCE MECHANISMS BASED ON THE APPROACH OF COMBINED DATA

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ABSTRACT

Mechanisms of corporate governance have been one of the most common words in terms of global trade at the beginning of the new millennium and its influence on many parameters of companies is not secret. The purpose of this research is to study the relationship between financial leverage and corporate governance mechanisms during 2006-2011. In this research, financial leverage is considered as a dependent variable of research – as well as corporate governance mechanisms (percent of non-executive members of the board of directors, percent of managers’ ownership and free cash flows) as an independent variable of research and the age and size variables of the company as a control variable. To test the hypotheses, multiple regression analysis based on combined data is used (data panel techniques). Data panel suggests the absence of a significant relationship between corporate governance mechanisms (except the percent of non-executive members of the board of directors) and financial leverage. Consequently, the corporate governance mechanisms have not caused the reduction of financial leverage.

KEY WORDS: corporate governance mechanisms - financial leverage - data panel techniques.

Many researches have been done on corporate financial decisions. Many theoretic activities have described the choice between financing through debt or capital stock by companies that choose optimal debt ratio according to the cost and benefit. Traditionally the tax savings due deducting the interest expense of profits are presented as the first advantage of financing through dept. When investors are deciding to invest in stocks of companies, creditors pay attention to the companies’ debt levels. The creditors consider the quality of corporate governance in the companies to estimate risk of non-payment. Therefore, the quality of corporate governance has the influence on the cost of companies’ debt. (Ahmadpour et al,2010) corporate governance is a system which defines the rules and procedures for determining decision-making processes in the company, including goal setting, determining means to achieve the goals and designing control systems, has a closely relationship with the solutions by which the sponsors of funds ensure the return of their investment. In this study, the influence of corporate governance on financial leverage as a criterion for evaluating the debt capacity of company is being checked.

BACKGROUND OF RESEARCH

Noravesh and others (2009) have studied the relationship between corporate governance mechanisms and agency costs of listed companies in Tehran Stock Exchange. The results of this study indicate the effective and active influence of institutional investors on company management decisions and the reduction conflicts of interest between managers and the owners. HassasYeganeh and Dadashi(2010) have studied the effect of corporate governance on independent auditors comment and concluded that there is a significant relationship between the quality of corporate governance in companies with medium and poor governance ratings, and provided qualified opinion by independent auditors but didn’t observe such relationship about on employers with a strong governance and provided acceptable opinion. Newmran and Salteh(2010) have studied the relationship between corporate governance and profit management and concluded that the adequacy of corporate governance is one of effective decisive factors on profit management. Arping and Suvatner(2010) have studied the effect of corporate governance on financial leverage in Netherland companies and found that in Netherland companies, corporate governance causes the reduction of financial leverage. Table 1. Phytoremediation includes the following processes and mechanisms of contaminant removal (Ghosh and Singh, 2005)

THE METHOD OF RESEARCH

The method of research in this paper is superfine and forth incidental. In order to analyze data and test the hypothesis of research, the multiple regression analysis based on panel data is used. Therefore this research deals with the analysis of data and test of hypothesis, after taking the library and field research phase and extract enough data and calculate the values of each variables, by using software such as excel in order to collect and sort data EVIEWS, (for testing data panel and) STATA in order to perform the variance dissimilarity and autocorrelation testing). In Figure 1, the statistical method of research is presented (Toobrehrizi, and, Piri,2012).
Research Population and Statistical Sample

Hence the goal of the present study is the effect of corporate governance on the financial leverage of the accepted companies in Tehran stock exchange, therefore, based on research statistical society, all the accepted companies TSE are in 6 years timeframe. Therefore, using the method of systematic removal and based on the following conditions, sampling and determining sample of members have been defined:

- In order to ensure comparability of financial data comparison, the financial year end of company will be March 20.
- Financial data of companies will be available in studying period.
- Stock of companies trading is done at Tehran Stock Exchange continuously and trading does not stop for more than 6 months.
- Financial statements of company are used in collecting data and consolidated financial statements have been applied.

According to the subjects given above, statistical community of the present survey are all companies listed in Tehran Stock Exchange and statistical samples are related to the companies that their data is annually extracted and from 2006 to 2011.

3.2. Variables of research

In this research, the variables are divided into 3 categories as following:

3.2.1. Dependent variable of research

Dependent variable is the variable that is affected by independent variable. According to the definition above and the study of research literature, dependent variable of research, is financial leverage.

3.2.2. Independent variable of research

Regarding to the main question of research and based on conducted studies, independent variable of the present research had been corporate governance mechanisms, which its influence is measured the dependent variable is. Therefore, to measure corporate governance mechanisms such as the percentage of non-executive members of the board of directors, the percentage of managerial ownership and free cash flows are used.

3.2.3. Control variables of research

Most studies attempt to control the effective variables in this field in order to study corporate governance. In this study also the size and age control variables of company have been used.

Research hypotheses and their test method

Formulation of hypotheses and using models

Hypotheses of research consist of a main hypothesis and three sub-hypotheses as following:

The main hypothesis: There is a significant relationship between the mechanisms of corporate governance and financial leverage.

Leverage it = β0 + β1 NonExBrdMmbrit + β2 MangrlOwnit + β3 FCFit + β4 AGE it + β5 SIZEit + it

For further analyzing and identifying the type and extent of the relationship, the corporate governance mechanisms have been presented in terms of three sub-hypothesis, in order the addressed person a better can analyze the relationship of these mechanisms with financial leverage better, for this purpose, the following three sub-hypothesis related the main hypothesis can be explained as following:

The first sub-hypothesis: There is a significant relationship between the presence of non-executive members in the board of directors and financial leverage.

Leverage it = β0 + β1 NonExBrdMmbrit + β2 AGE it + β3 SIZEit + it

The second sub-hypothesis: There is a significant relationship between the percentage of managers’ ownership and financial leverage.

Leverage it = β0 + β1 MangrlOwn it + β2 AGE it + β3 SIZEit + it

The third sub-hypothesis: There is a significant relationship between free cash flows of the company and financial leverage.

Leverage it = β0 + β1 FCFit + β2 AGE it + β3 SIZEit + it
Leverage it = β0 + β1 FCFit + β2 AGEit + β3 SIZEit + it

Components of each of the models above have been presented in Table 1.

Testing of the research hypotheses

Studying descriptive statistics

Table 2 presents descriptive statistics of the research variables during the studied period. After adjustment, total observations have been equal to 90 companies after regulation for ineligible companies as well as the removal of outliers.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Average</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVERAGE</td>
<td>0.65</td>
<td>0.66</td>
<td>2.75</td>
<td>0.11</td>
<td>0.21</td>
</tr>
<tr>
<td>NonEx BrdMmbr</td>
<td>0.52</td>
<td>0.60</td>
<td>0.80</td>
<td>0.20</td>
<td>0.11</td>
</tr>
<tr>
<td>MangrIOwn</td>
<td>0.02</td>
<td>0.02</td>
<td>0.04</td>
<td>0.0001</td>
<td>0.014</td>
</tr>
<tr>
<td>FCF</td>
<td>0.04</td>
<td>0.04</td>
<td>0.09</td>
<td>0.005</td>
<td>0.02</td>
</tr>
<tr>
<td>AGE</td>
<td>33.15</td>
<td>34</td>
<td>60</td>
<td>7</td>
<td>11.93</td>
</tr>
<tr>
<td>SIZE</td>
<td>13.31</td>
<td>13.11</td>
<td>19.61</td>
<td>9.79</td>
<td>1.50</td>
</tr>
</tbody>
</table>

Testing the reliability of research variables

Using conventional econometric in estimating the model is based on the assumption that the variables of the pattern are stable. If the variables of the pattern are unstable or have a unit root, in this case the common TF test will not be valid. The results of Lion, Lean and Choy test, have stated that durability of all variables of research are apart from the independent variable of non-executive members of the board of directors and in order to check the long-term durability of this variable, the accumulation test of Cao has been used as continuing.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Lion, Lean and Choy</th>
<th>F</th>
<th>P(VALUE)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVERAGE</td>
<td>F</td>
<td>11.44</td>
<td>0.000</td>
<td>Durable</td>
</tr>
<tr>
<td>NonEx BrdMmbr</td>
<td>F</td>
<td>1.56</td>
<td>0.94</td>
<td>Non-durable</td>
</tr>
<tr>
<td>MangrIOwn</td>
<td>F</td>
<td>20.88</td>
<td>0.000</td>
<td>Durable</td>
</tr>
<tr>
<td>FCF</td>
<td>F</td>
<td>21.63</td>
<td>0.000</td>
<td>Durable</td>
</tr>
<tr>
<td>AGE</td>
<td>F</td>
<td>3.76</td>
<td>0.000</td>
<td>Durable</td>
</tr>
<tr>
<td>SIZE</td>
<td>F</td>
<td>23.64</td>
<td>0.000</td>
<td>Durable</td>
</tr>
</tbody>
</table>

The accumulation test of Cao

To study the presence or absence of long-term relationship between the variables of model, the accumulation test of Cao has been used. It should be noticed that for studying long-term relationship, for all models in which non-durable variable has not been used; accumulation test of Cao has to be done. Therefore, because of using independent variable of non-executive members of the board in the first main hypothesis and sub-hypothesis, the accumulation of Cao should be done for the first main hypothesis and sub-hypothesis. Table 4 justifies the long-term relationship of this variable in the models very well (the related hypotheses).
Correlation table of Spearman

Intensity dependency between two variables is called correlation. Generally, the correlation coefficients have been changed between -1 to 1, and the relationship between two variables can be positive or negative. The correlation coefficient is a symmetric relation, if the correlation coefficient is closer to 1, the dependency of two variables will be more. According to Table 5, there is no significant correlation between independent variables and control variables of research (right side variables of the equation).

Variance dissimilarity testing and hypotheses autocorrelation of research

Table 6 confirmed the existence of dissimilarity variance for all hypotheses of research and the existence of autocorrelation for all hypotheses of research. As noted, to solve the problem of dissimilarity, estimating generalized least squares method (EGLS) and to solve the problem of autocorrelation, parameter AR (1) or AR (2) have been used, each of which can estimate the model parameters included fixed effects well.
4.5. Hypotheses of research testing in a board status

Hypotheses of research testing:

The main hypothesis: There is a significant relationship between the mechanisms of corporate governance and financial leverage.

The first sub-hypothesis: There is a significant relationship between the presence non-executive members of the board of directors and financial leverage.

The second sub-hypothesis: There is a significant relationship between the percentage of managers’ ownership and financial leverage.

The third sub-hypothesis: There is a significant relationship between the amount of free cash flows of the company and financial leverage.

According to the results of tables 6 and 7, all models of research have dissimilarity and autocorrelation problems. In other words, estimating generalized least squares method is used for testing all hypotheses of research. The results of hypotheses testing can be seen in Table 8. Table 8 shows the alignment results of sub-hypotheses with the main hypothesis, in other words all results of sub-hypotheses confirm the results of the main hypothesis.

The results related to the possibility of statistics E (0.0000) shows that the model is generally significant, it means that accept or reject the assumptions judgment can be done based on the achieved results, and also statistics of Watson’s camera (between 1.5 and 2.5) state the removing of autocorrelation in all models of research, (the first-order auto regression parameter has been used because it has estimated model parameters with fixed effect) and in addition, the results related to the coefficient of adjusted determination indicates that during the period of study, almost 0.91 of financial leverage changes has been affected by independent variables (corporate governance mechanism) and control variables (size and age of company). The percentage variable of non-executive members of the board of director has a significant and positive relationship with financial leverage. This relationship based on the regression coefficient of 0.05 has been weak but significant, in other words, as the number of non-executive managers of the board of directors increases, companies will face more dept. Therefore, the first sub-hypothesis will be approved based on the existence of significant relationship between the presence of non-executive managers in the board of directors and financial leverage. The percentage variable of managers’ ownership has a positive relationship with financial leverage of companies. That
the relationship based on the regression coefficient of 0.11 has been weak but not significant. Therefore, the second sub-hypothesis will not be approved based on the existence of significant relationship between the presence of managers’ ownership and financial leverage. The variable of free cash flows has a positive relationship with financial leverage of companies, that the relationship based on the regression coefficient of 0.11 has been weak but not significant. Therefore, the third sub-hypothesis will not be approved based on the existence of significant relationship between the free cash flows and financial leverage. Control variables of the size and age of the company in order of 0.03 and 0.10 based on the regression coefficients have a positive and significant relationship with financial leverage of the studied companies. In other words, as the companies are bigger and older, they will face more dept. Therefore, due the second and third assumptions have not been approved, the main hypothesis of research have not been approved based on the existence of a significant relationship between corporate governance and mechanisms financial leverage.

**CONCLUSION**

In this study, it has been attempted to deal with more analysis of corporate and guidance system and achieving its goals by studying the relationship between corporate governance mechanism and financial leverage. In order to do this research, data related to 90 companies have been collected during the time 2006-2011 and by using the approach of combined data (techniques of data panel), assumptions of the research testing has been carried out, that the results had indicated the rejection of all assumptions (except the first sub-hypothesis). Generally, the results of this study are not harmonized with the research which was done by Arping and Swatner in Netherlands and concluded that corporate governance reduces the financial leverage. One of the reasons can be derived the differences in related legal fields with corporate governance in these countries.

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