The Relationship between the Productivity Fluctuation and Tax Avoidance in Firms: Considering their Commercial Level Among the Accepted Firms in Tehran Stock Exchange

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ABSTRACT

The study aimed to investigate the relationship between the stock productivity fluctuation and tax avoidance in firms considering their commercial level among the accepted firms in Tehran Stock Exchange. The required data were collected from accepted firms in Tehran Stock Exchange from 2005 to 2013. In order to analyze the data and test the hypothesis, multi-variable regression model was used. The results revealed a significant positive relationship between high commercial risk and tax avoidance and a significant negative relationship between low commercial risk and tax avoidance at %95 degree of certainty.

KEYWORD

Tax avoidance, Fluctuation, Firm stock productivity, Commercial risk, Tehran stock exchange

INTRODUCTION

The issue of tax avoidance seems to be related to the firm with separation of the ownership since real individuals are less likely to avoid paying tax due to the possibility of being fined and avoiding risks and some internal motives e.g. social responsibility [1]. Nevertheless, stakeholders generally expect the managers to pursue their own benefits and try to decrease financial debts and tax avoidance until the extra benefits resulting from a decrease in possible debts outnumber the expected extra costs. Hence, one challenge with which the stakeholders and board of directors are confronted is that tax avoidance can reflect the agency theory and may lead to tax decisions in order to minimize the agency costs [2], also maintain that managers who are pursuing their own benefits complicate the firm structure and make contracts which decrease tax. They employ the firm resources to reach their personal benefits. They believe that the presence of strong tax officials would increase monitoring the managers and would decrease misusing the internal resources. They also pinpointed that the governance and leadership style would influence tax avoidance. Weak corporate governance would lead to an increase in tax avoidance [3] holds that tax avoidance would decrease the ultimate benefits and tax shelters and might make an impact on decisions related to the asset structure. On the other hand, if tax officials detect tax avoidance, the firm has to undergo extra costs and fine which would decrease the equity flow input and stakeholders’ assets [4].

According to another view regarding the tax avoidance, despite separation of control from ownership, tax avoidance phenomenon seems to be valuable and if owners are able to build up the required motives in managers to lead them to make effective tax decision through appropriate tax planning, the firm value and thereby, the stakeholders’ wealth would increase [5].

RESEARCH HYPOTHESES

Hypothesis one:

There is a significant relationship between the fluctuation of the stocks productivity and tax avoidance.

Hypothesis two:

There is a significant difference between the fluctuation of the stocks productivity and tax avoidance in high-risk commercial firms and that of low-risk ones.
THE RESEARCH VARIABLES

Dependant variables:
Tax avoidance
In the current study [5] formula was used for calculating the tax avoidance:

\[ GETR_i = \frac{TXT_{it}}{PI_{it}} \]

GETR: Rate of effective tax based on accepted principles of accounting.
Txt: Total tax expense i for time t.
Pi: pre-tax income i for time t.

Independent variable:
%ROA: the productivity fluctuation
The productivity fluctuation means the difference of total asset and asset of the beginning of the period divided by asset of the beginning of the period.
High risk, low risk: part of the total risk in the firm which relates to the asset configuration and the operational decisions. Commercial risk is mostly defined in terms of the flexibility of the operational benefit. The higher the degree of operational drive is, the higher the amount of the commercial risk will be. It is calculated through dividing the long-terms debts by total assets of the beginning of the period.

Control variable:
Size: the firm size is calculated through natural algorithm of official value for the total assets of the firms.
M/B: the market value/official value: it is calculated through dividing the market value of the stakeholders’ rights by the official value of the stakeholders’ rights.

RESEARCH MODEL
In the current study, the influence of different dimensions of corporate governance on tax avoidance was examined based on the following model:

\[ GETR = \%ROA + \%ROA + SIZE + M/B \]

RoA: the productivity fluctuation
Size: logarithm of the market value of the stakeholders’ rights.
M/B: the market value of the stakeholders’ rights divided by the official value of the stakeholders’ rights.

In order to obtain a representative sample of the statistical population, screening sampling procedure was adopted. To this end, the following criteria were taken into account, i.e. a firm that had the following criteria was included in the sample. Table 1 displays the sampling procedure.

1. The firm should have been accepted in Tehran Stock Exchange before 2007.
2. The financial year of the firm should end in Esfand.
3. The firm financial year should not have undergone any changes within the period under the study.

4. The firms under the study should not be affiliated to the investment, holding, financial mediation and insurance companies.
5. The information and data of the firm should be accessible.
6. The firms stocks should have been exchanged constantly in Tehran Stock Exchange with no trading pause more than three months regarding those stocks.

Examining the descriptive statistics for the research variables.
Table 2 displays the descriptive statistics e.g. mean, median, minimum, maximum observed value and standard deviation. The main measure of central tendency is mean which indicates the balance point and the centre of distribution. It is an appropriate index for showing the centrality of the data.

Hypotheses one:
There is a significant relationship between the fluctuation of the stocks productivity and tax avoidance.
In order to test all these hypotheses, the results of estimation in the proposed model are used (See table 3). The probability value (or level of significance) F is 0.000. Since it was less than 0.95, the null hypothesis is rejected at %95 level of certainty, i.e. the model was significant. The value of Watson Durbin was 1.966 which indicates
lack of interdependence. The results of the determination coefficient shows that independent and control variables of the model account for almost %47 of the changes in dependent variable.

In general, the results indicate that variable coefficient is 0.007567 indicating the positive influence of the productivity fluctuation on tax avoidance. Taking t-value into account, it is significant and thereby, the first research hypothesis is confirmed i.e. there is a significant relationship between the productivity fluctuation of the stock productivity and tax avoidance. In other words, increasing the fluctuation of the stock productivity would increase the firm tax avoidance.

Hypotheses two:
There is a significant difference between the fluctuation of the stocks productivity and tax avoidance in high-risk commercial firms and that of low-risk ones.

In order to test all these hypotheses, the results of estimation in the proposed model are used (See table 3). The probability value (or level of significance) F is 0.000. Since it was less than 0.95, the null hypothesis is rejected at %95 level of certainty, i.e. the model was significant. The value of Watson Durbin was 1.966 which indicates lack of interdependence. The results of the determination coefficient shows that independent and control variables of the model account for almost %47 of the changes in dependent variable.

In general, the results demonstrated that γ are -0.008842 and 0.015053, respectively indicating that in low-risk firms, the stock productivity fluctuation makes a negative impact on tax avoidance.

Taking into account t-value, the difference between variable coefficients γ is significant. Hence, the second null hypothesis is also confirmed i.e. there is a significant different between the fluctuation of the stock productivity and tax avoidance in high-risk firms and that of low-risk firms.

### Tab. 3. the results for the estimation of the research model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimation coefficient</th>
<th>Standard error</th>
<th>T-value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.198418</td>
<td>0.19753</td>
<td>1.00449</td>
<td>0.3154</td>
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<tr>
<td>ΔROA</td>
<td>0.007567</td>
<td>0.00836</td>
<td>2.90486</td>
<td>0.0027</td>
</tr>
<tr>
<td>ΔROA + D1</td>
<td>-0.008842</td>
<td>0.01059</td>
<td>2.83424</td>
<td>0.0043</td>
</tr>
<tr>
<td>ΔROA + D2</td>
<td>0.015053</td>
<td>0.01059</td>
<td>2.72903</td>
<td>0.0056</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.004034</td>
<td>0.01402</td>
<td>-0.28760</td>
<td>0.7737</td>
</tr>
<tr>
<td>M/E</td>
<td>-0.000217</td>
<td>0.00038</td>
<td>0.56472</td>
<td>0.5724</td>
</tr>
<tr>
<td>Determination coefficient</td>
<td>0.469</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Regulated determination coefficient</td>
<td>0.396</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**CONCLUSION**

According to these research hypotheses:
There is positive and significance relationship between oscillation of shares efficiency of company and their tax avoidance. On the other word, by increasing oscillation of shares efficiency of company, company’s tax avoidance also increases. Also, there is a significance difference between oscillation of shares and their tax avoidance with high business risk with this relation in companies with low business risk.

### REFERENCES


