The Effect of Overconfidence in the Presentation of Financial Statements on Corporate Tax Avoidance

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The present study aims to evaluate the relationship between overconfidence in the presentation of financial statements on corporate tax avoidance. This project is descriptive-correlational and the statistical population under study is listed companies on the Iraqi Stock Exchange during 2014-2018, among which are 28 companies. Four hypotheses were designed for this study, all of which were examined by the ordinary least squares regression method and Eviews Version 9 Software. The results of the study show that there is a significant relationship between conservatism and underpricing in the initial and secondary stock offerings. Other results also suggest that there is a positive relationship between conservatism and underpricing in an initial and secondary offering in an information asymmetry setting. Since no similar study has been conducted in Iraq, so far, this paper can contribute significantly to the field.

Key words: tax avoidance, overconfidence, cash effective tax rate, increased investment expenditure and overinvestment

Introduction

A tax is an expense imposed on all profit units by the government. If corporations and legal entities are regarded as units that work for profit, they can be expected to seek solutions to reduce their tax payments. In the financial literature of foreign countries, the companies’ legal efforts and solutions to reduce their tax expenses are known as tax management, tax avoidance and bold tax procedures. In order to reduce the expense of taxation, they identify themselves with various names such as tax management, tax avoidance and aggressive tax procedure. Tax
avoidance activities are commonly referred to as tax saving tools that transfer resources from the state to shareholders and thereby increase the after-tax firm value (Desai & Dharmapala: 2009).

Income tax reduces the revenues of business units. Therefore, one of the measures that can be taken to maximise the value of the company and the wealth of shareholders is to use tax reduction strategies. Tax avoidance is defined as ways to reduce the amount of tax considered for the profits of business entities. Tax avoidance involves a chain of fully legal and progressive tax exemption activities and strategies that create a gray space in providing financial and tax information and reports to outsiders (Hanlon et al., 2009).

Experimental evidence suggests that companies are trying to reduce or delay their income taxes. Tax avoidance and profit management are tools that companies may use to reduce taxation depending on the situation. Previous studies have indicated a significant relationship between managers and tax avoidance (Dyreng et al., 2010; Chyz, 2013). Chyz et al. (2014) also showed that there was a significant relationship between managers' overconfidence and tax avoidance.

Overconfidence is one of the most important findings of psychology about decision-making. Psychologists have found that individuals overestimate their abilities to perform tasks correctly, and this overestimation has a direct relationship with the importance one attaches to tasks. Psychologists have found that individuals weigh outstanding or prominent information when making decisions and judgments. It is important to investigate the effect of managers' overconfidence on corporate procedures including accounting procedures because overconfidence may lead to wrong decisions and inappropriate policies of investment, accounting and financing, thereby imposing high expenses on the company (Khodamipour et al., 2015).

Therefore, the key question is “Is there a significant relationship between managers' overconfidence and tax avoidance, and if so, what kind of relationship is it?” The present study seeks to investigate the effect of management's overconfidence on tax avoidance of the companies listed on the Iraq Stock Exchange.

Theoretical Foundations and the Extension of Hypotheses

Tax avoidance has been defined differently by researchers. It has been defined as the explicit tax reduction of each dinar of pre-tax profits (Hanlon & Heitzman: 2010). The legitimate type of tax avoidance arises from the difference between tax laws and accepted principles of accounting. An example of this is the accounting method of depreciation expense. The tax law requires firms to depreciate assets using the method required by law. However, the accepted principles of accounting allow companies to calculate depreciation expenses in such a way that better information can be transferred to users of financial statements (Slemrod, 2004).
There are generally two perspectives on tax avoidance activities. The first perspective is that managers perform tax avoidance activities in order to reduce their financial obligations and save their funds. Therefore, from the investors' point of view, tax avoidance increases the value of the company and managers need to be encouraged and rewarded for implementing such activities. The second perspective relates to the issue of agency, in which case tax avoidance is used by managers as a shield to divert resources out of the firm (Kim et al., 2010). Tax avoidance strategies require hiding the facts in order to reduce the tax rate. As a result, it has a reverse effect on the company's information environment and allows managers to divert resources out of the firm (Desai & Dharmapala, 2006). Therefore, this will increase transparency problems and information asymmetry among investors, shareholders, creditors, managers, etc. One of the potential expenses of tax programs is their effect on the transparency of corporate financial reporting. Transparency imposes a set of expenses on companies, including the high expense of gaining capital through equity and debt, exacerbating governance problems and reducing investment productivity (Biddle & Hilary, 2006).

Increasing investment in capital projects increases capital expenditure, thereby increasing depreciation and other operating expenses and reducing corporate tax expenses. In other words, investment in tax abatement programs increases tax avoidance (Chyz et al., 2014).

However, Baker, 2004 and Chen et al (2001) argued that investment decisions are influenced not only by economic indicators and rationality, but also by psychological categories. Kim et al. (2014) pointed out that management behaviours in hiding bad news can stem from not only personal motives, but also from a behavioural attribute called management's overconfidence. Overconfidence can be defined as a baseless belief about one's cognitive abilities, judgments and intuitive reasoning. The concept of overconfidence has been explored in a wide range of psychological and cognitive tests, which have shown that individuals overestimate both their ability to predict and the accuracy of their information. Such people estimate the probabilities poorly and often consider events with far less than 100% probability to be definite events (Prestey & Abbott, 2013; Pompian, 2011).

And two behavioural factors associated with managers' overconfidence lead to higher expectations of future demand: (1) incorrect or inaccurate grading (an effect lower than variance): implies too low a confidence in expected results. The most common type of overconfidence in finance literature is sometimes referred to as overconfidence in forecasts, in which individuals usually estimate the accuracy of their knowledge and the risk and variance of random variables less than they are and they have very narrow confidence intervals in their forecasts (Libby & Rennekamp, 2012).

2) Excessive or unrealistic optimism (Effect above average): This concept of finance literature is derived from the concepts of psychology and unrealistic optimism. In this type of overconfidence, individuals estimate their skills unrealistically (Hribar & Yang, 2012). In fact,
over-optimistic attitudes toward future earnings lead managers to make decisions based on their own forecasts (Hribar & Yang, 2016). Generally, people tend to have an unrealistic positive view toward themselves and their skills. Many people in a group of classmates or colleagues consider the level of their abilities and skills above the average level of the abilities and skills of other members of the group.

The explanation of managers' overconfidence is distinct from the economic explanations in previous studies. From an economic point of view, it is assumed that managers have little tendency toward future expectations, while overconfidence implies managers' positive tendency toward future expectations. In addition, overconfidence is distinct from the descriptions of the agency theory in prior literature. Kama & Weiss, 2013 and Gervais et al, 2010 argued that overconfident managers tend to work in companies with risky growth. In management literature, overconfidence means both overestimation of project results and excessive confidence about the probability of results. An overconfident manager systematically overestimates the future return of investment projects and cash inflows from their investment projects, and is very confident about his/her ability to have a good performance. Accordingly, such managers invest more in investment projects (Heaton, 2002; Malmendier et al., 2011). This leads to an increase in depreciation expense that results in less profit and less tax expense. Increased investment also results in higher operating expenses, which will in turn reduce the taxable income of the company and ultimately reduce its tax expense (Chyz et al., 2014).

Hypotheses

Managerial overconfidence was calculated using the two criteria of increased investment expenditure and overinvestment. In addition, tax avoidance was calculated using the two criteria of a cash effective tax rate and the difference between accounting profit and taxable profit. The following four hypotheses were formulated:

**First hypothesis:** Increased investment expenditure positively affects the cash effective tax rate.

**Second hypothesis:** Overinvestment positively affects the cash effective tax rate.

**Third hypothesis:** Increased investment expenditure positively affects the difference between accounting profit and taxable profit.

**Fourth hypothesis:** Overinvestment positively affects the difference between accounting profit and taxable profit.
Methodology

A descriptive-analytical method was used in this study to investigate the effect of variables on each other. It was also an applied study using the past approach of the companies. Descriptive research included a set of methods intended to describe the conditions or phenomena under study and their effects.

As the study was intended to investigate the effect of managerial overconfidence on tax avoidance in companies listed on the Iraq Stock Exchange, the analytical method was used. Moreover, the data were extracted from the financial statements of the companies listed on the Iraq Stock Exchange as the statistical population during the 5-year period starting from 2014 up to 2018 through the official website of the Iraq Stock Exchange. The collected data were then entered in Excel for initial calculations. Linear regression models were then used to analyse it through Eviews Version 9.

Four models were used in order to test the research hypotheses. Model (1) was for examining hypothesis 1 and model (2) was for testing hypothesis 2, model (3) for testing hypothesis 2, and model (4) to test hypothesis 4. Research models and the manner of calculation each component are as follows:

Model (1)
\[ ETR_{i,t} = a + \beta_1IIE_{i,t} + \beta_2LEV_{i,t} + \beta_3SIZE_{i,t} + \beta_4ROA_{i,t} + \sum FixedYear + \sum FixedIndustry + \varepsilon_i \]

Model (2)
\[ ETR_{i,t} = a + \beta_1Overi_{i,t} + \beta_2LEV_{i,t} + \beta_3SIZE_{i,t} + \beta_4ROA_{i,t} + \sum FixedYear + \sum FixedIndustry + \varepsilon_i \]

Model (3)
\[ BTD_{i,t} = a + \beta_1IIE_{i,t} + \beta_2LEV_{i,t} + \beta_3SIZE_{i,t} + \beta_4ROA_{i,t} + \sum FixedYear + \sum FixedIndustry + \varepsilon_i \]

Model (4)
\[ BTD_{i,t} = a + \beta_1Overi_{i,t} + \beta_2LEV_{i,t} + \beta_3SIZE_{i,t} + \beta_4ROA_{i,t} + \sum FixedYear + \sum FixedIndustry + \varepsilon_i \]

Research Variables

Independent Variables

1- Increased investment expenditure (IIE)

The Ahmed & Duellman's (2013) model was used to calculate the investment expenditures of the companies under study. This model divides the tangible fixed assets into the sum of the total assets of the company, next measures the median of all the companies, and then compares the ratio of investment expenditures and the median of all the companies. If the obtained
number is greater than the median, it indicates the overconfidence of managers in that company and takes the number one. However, if it is less than the median, it takes zero and indicates the managers' lack of overconfidence in that company. This criterion is based on the findings of Malmendier & Tate, 2005 and Ben-David *et al.*, 2010, who found that companies with overconfident managers have greater capital expenditures.

2- Overinvestment (Overi)

The regression technique is a technique used to examine and model the relationship between variables and means returning to an average rate or the mean, meaning that some phenomena tend to move slightly toward an average rate over time. Overinvestment was developed by Scherand & Zechmar, 2005. The index, which shows the rate of investment in assets, is derived from the residual of a regression of total asset growth on total sales. If the residual error of the regression is greater than or equal to zero, the managerial overconfidence in that company is confirmed and takes the number 1, while it shows the lack of managerial overconfidence in that company if the residual error is negative. The use of this index is based on the fact that in companies where assets grow at a higher rate than sales, managers invest more than their counterparts. The Richardson's (2006) model was used to calculate this index.

\[
INV_{i,t} = a + \beta_1 GROW_{i,t} + \beta_2 LEV_{i,t} + \beta_3 AGE_{i,t} + \beta_4 CASH_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 R_{i,t} + \\
\beta_7 \text{Lag}(INV_{i,t}) + \varepsilon_i
\]

**INV**: Ratio of change in net total fixed assets, long-term investment, and intangible assets to the mean assets of company t in year i.

**GROW**: Revenue growth rate of company t in year i

**LEV**: Total debt divided by total assets in the fiscal year

**Cash**: Cash and short-term investments divided by average assets in the year t-1

**Age**: The logarithmic ratio of the company's years of investment to its average assets in the year t-1

**Size**: Natural logarithm of assets at the beginning of the year.

**R**: Annual return on stocks purchased each year

**Lag (INV)**: Investment time interval.

**Dependent Variables**

**ETR**: This index is calculated by dividing the tax expense of the company i at the end of fiscal year t into the pre-tax income of the company i at the end of the fiscal year t. The larger the index, the lower the tax avoidance level of the company.
**BTD**: The difference between the accounting profit and taxable profit of the company i in the year t, which is calculated by the difference between the pre-tax accounting profit and the taxable profit. It was also divided into the book value of the assets in order to be homogenised.

**Control variables**

*Size*: The natural logarithm of total assets as a representative of the size of the company  
*Lev*: Obtained by dividing total debt by total assets at year-end  
*ROA*: This index is obtained by dividing the pre-tax income into the total assets

**Research findings**

**Indexes of descriptive statistics**

The descriptive statistics of the research variables are depicted in Table (1). The number of companies under study was 69. The study period is from 2014-2018 that is a total of 140 companies were selected.

Table (1): descriptive statistics of the research variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Max.</th>
<th>Min.</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETR</td>
<td>-0.08469</td>
<td>-0.06111</td>
<td>1.660346</td>
<td>-1.4973</td>
<td>0.211963</td>
</tr>
<tr>
<td>BTD</td>
<td>0.2988</td>
<td>0.2402</td>
<td>0.9290</td>
<td>-0.0234</td>
<td>0.2357</td>
</tr>
<tr>
<td>OVER1</td>
<td>0.4357</td>
<td>0.000</td>
<td>1</td>
<td>0.000</td>
<td>0.4976</td>
</tr>
<tr>
<td>OVER2</td>
<td>0.5429</td>
<td>1</td>
<td>1</td>
<td>0.000</td>
<td>0.4999</td>
</tr>
<tr>
<td>LEV</td>
<td>0.2842</td>
<td>0.1930</td>
<td>3.3023</td>
<td>0.0063</td>
<td>0.3531</td>
</tr>
<tr>
<td>SIZE</td>
<td>9.6960</td>
<td>9.5681</td>
<td>12.5569</td>
<td>8.2940</td>
<td>0.7867</td>
</tr>
<tr>
<td>ROA</td>
<td>0.4386</td>
<td>0.2492</td>
<td>5.1154</td>
<td>-0.0234</td>
<td>0.6363</td>
</tr>
</tbody>
</table>

According to Table (1), on average, the sample companies were negative of the variable of ETR, but positive of the variable of BTD. This shows that profit before tax more than the taxable profit, so most sample companies use tax avoidance.

**The results of the first hypothesis testing**

In Table (2), the summary of obtained results from model (1) estimation are presented.

Table (2): the results of the first hypothesis testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T statistic</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$</td>
<td>12.004</td>
<td>0.2359</td>
<td>--</td>
</tr>
<tr>
<td>OVER1</td>
<td>1.816</td>
<td>0.7489**</td>
<td>1.4</td>
</tr>
<tr>
<td>LEV</td>
<td>0.202</td>
<td>2.0043*</td>
<td>1.3</td>
</tr>
<tr>
<td>SIZE</td>
<td>-5.266</td>
<td>-0.525**</td>
<td>1.4</td>
</tr>
<tr>
<td>ROA</td>
<td>1.739</td>
<td>0.4398</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Fixed effects of the year: Controlled
As can be seen in Table (2), the F statistic of models (1) has the value of 2.0371 and its significance is less than 0.05, so the generality of the regression model is accepted, which means there is a significant relationship between the independent variables of the study and the dependent variable and at least one independent variable has a significant relationship with the dependent variable. The coefficient of increased investment expenditure has a positive value and its level of significance is less than 0.05; the obtained result indicates that after considering the control variables there is a positive relationship between increased investment expenditure and cash effective tax rate. Therefore, the first hypothesis is accepted. Moreover, the results also show that the coefficient of LEV has a positive value and its level of significance is less than 0.05, so we conclude that there is a positive relationship between LEV and ETR. Also, the results show that the coefficient of SIZE has a negative value and its level of significance is less than 0.05, so we conclude that there is a negative relationship between SIZE and ETR.

### The results of the second hypothesis testing

In Table (3), the summary of obtained results from model (2) estimation are presented.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T statistic</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$</td>
<td>0.003</td>
<td>0.236*</td>
<td>-</td>
</tr>
<tr>
<td>OVER2</td>
<td>0.002</td>
<td>0.749*</td>
<td>1.103</td>
</tr>
<tr>
<td>LEV</td>
<td>0.006</td>
<td>2.004*</td>
<td>1.176</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.001</td>
<td>-0.525</td>
<td>1.081</td>
</tr>
<tr>
<td>ROA</td>
<td>0.078</td>
<td>3.44**</td>
<td>1.076</td>
</tr>
</tbody>
</table>

As can be seen in Table (3), the F statistic of models (2) has the value of 1.073 and its significance is less than 0.05, so the generality of the regression model is accepted, which means there is a significant relationship between the independent variables of the study and the dependent variable and at least one independent variable has a significant relationship with the dependent variable. The coefficient of overinvestment has a positive value and its level of significance is less than 0.05; the obtained result indicates that after considering the control variables there is a positive relationship between overinvestment and a cash effective tax rate.
Therefore, the second hypothesis is accepted. Moreover, the results also show that the coefficient of LEV and ROA has a positive value and its level of significance is less than 0.05, so we conclude that there is a positive relationship between LEV, ROA and ETR. Also, the results show that the coefficient of SIZE has a negative value and its level of significance is less than 0.05, so we conclude that there is a negative relationship between SIZE and ETR.

The results of the third hypothesis testing

In Table (3), the summary of obtained results from model (2) estimation are presented.

Table (4): the results of the Third hypothesis testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T statistic</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$</td>
<td>46.603</td>
<td>2.893*</td>
<td>--</td>
</tr>
<tr>
<td>OVER1</td>
<td>2.711</td>
<td>1.078**</td>
<td>1.041</td>
</tr>
<tr>
<td>LEV</td>
<td>0.929</td>
<td>0.252</td>
<td>1.119</td>
</tr>
<tr>
<td>SIZE</td>
<td>-5.399</td>
<td>-3.317*</td>
<td>1.078</td>
</tr>
<tr>
<td>ROA</td>
<td>1.995</td>
<td>0.994**</td>
<td>1.083</td>
</tr>
</tbody>
</table>

Fixed effects of the year | Controlled
Fixed effects of the industry | Controlled
F statistic | 2.115*
Adjusted $R^2$ | 0.64
No. of observations | 140

*significance at 95% confidence level
**significance at 99% confidence level

As can be seen in Table (4), the F statistic of models (3) has the value of 2.115 and its significance is less than 0.05, so the generality of the regression model is accepted, which means there is a significant relationship between the independent variables of the study and the dependent variable and at least one independent variable has a significant relationship with the dependent variable. The coefficient of increased investment expenditure has a positive value and its level of significance is less than 0.05; the obtained result indicates that after considering the control variables there is a positive relationship between increased investment expenditure and a difference between accounting profit and taxable profit; therefore, the third hypothesis is accepted. Moreover, the results also show that the coefficient of ROA has a positive value and its level of significance is less than 0.05, so we conclude that there is a positive relationship between ROA and between accounting profit and taxable profit. Also, the results show that the coefficient of SIZE has a negative value and its level of significance is less than 0.05, so we conclude that there is a negative relationship between SIZE and between accounting profit and taxable profit.
The results of the fourth hypothesis testing

In Table (4), the summary of obtained results from model (4) estimation are presented.

Table (4): the results of the Fourth hypothesis testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T statistic</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$</td>
<td>0.003</td>
<td>0.227**</td>
<td>--</td>
</tr>
<tr>
<td>OVER</td>
<td>0.0004</td>
<td>0.21**</td>
<td>1.037</td>
</tr>
<tr>
<td>LEV</td>
<td>0.006</td>
<td>2.225*</td>
<td>1.121</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.0007</td>
<td>-0.567**</td>
<td>1.082</td>
</tr>
<tr>
<td>ROA</td>
<td>0.095</td>
<td>2.766*</td>
<td>1.084</td>
</tr>
</tbody>
</table>

Fixed effects of the year Controlled
Fixed effects of the industry Controlled

F statistic 1.024**
Adjusted $R^2$ 0.78
No. of observations 140

*significance at 95% confidence level
**significance at 99% confidence level

As can be seen in Table (4), the F statistic of models (4) has the value of 1.024 and its significance is less than 0.05, so the generality of the regression model is accepted, which means there is a significant relationship between the independent variables of the study and the dependent variable and at least one independent variable has a significant relationship with the dependent variable. The coefficient of overinvestment has a positive value and its level of significance is less than 0.05; the obtained result indicates that after considering the control variables there is a positive relationship between overinvestment and a difference between accounting profit and taxable profit; therefore, the fourth hypothesis is accepted. Moreover, the results also show that the coefficient of LEV and ROA has a positive value and its level of significance is less than 0.05, so we conclude that there is a positive relationship between LEV, ROA and between accounting profit and taxable profit. Also, the results show that the coefficient of SIZE has a negative value and its level of significance is less than 0.05, so we conclude that there is a negative relationship between SIZE and between accounting profit and taxable profit.

Results and recommendations

The results show that managers' overconfidence in financial statements affects tax avoidance of companies listed on the Iraqi Stock Exchange. According to the results of the indicators of overconfidence in managers, such as increased investment spending and investing too much on tax avoidance in the company, have a significant effect, according to the hypotheses identified in the research. In short, managers have an overconfidence of corporate tax avoidance (a positive and significant effect on the Iraqi Stock Exchange, in all four hypotheses). Because overconfidence in management increases investment spending and over-investment, we can say that overconfidence is effective in avoiding corporate tax avoidance.
And managers should try to be overconfident about the probability of results to avoid paying corporate taxes. Because the manager is overly confident, they systematically overestimate the future returns of their investment projects and derive greater cash inflows from their investment projects, as well as their ability to get good performance. Accordingly, they invest more in investment projects (Heaton:2002; Malmendier et al: 2011). This causes the depreciation expense to increase, leading to lower profits and lower tax expenses. Increasing investment also results in higher operating expenses. This increase in operating expenses makes the company taxable income lower, ultimately reducing the company tax expense (Chyz, at al: 2014). From the practical research proposal based on the underlying hypothesis it can be suggested that companies pay more attention to managerial overconfidence to increase their tax expense. Based on the results of the study, it can be suggested for future researchers. It can be suggested that the effect of overconfidence in management on corporate tax avoidance should be considered in light of corporate growth.


Slemrod, J (2004), The Economics of Corporate Tax Selfishness, National Tax Journal, 57, pp877-899