What does tax aggressiveness signal? Evidence from stock price reactions to news about tax avoidance in Korea

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Abstract

The present study examines the market reaction to news of corporate tax aggressiveness from 1990 to 2012. On average, the sample shows a statistically significant negative stock price reaction of 0.5 percent in response to news of involvement in tax aggressiveness. The market reacts less negatively for firms with a higher cash effective tax rate (ETR), indicating that the firm is not aggressive enough, resulting in news of tax aggressiveness being considered in a positive light. The companies spending high advertising expenses get more negative market reactions, suggesting that negative market reaction may be based on the loss of reliability of the firm and a customer backlash. For governance, measured using the percentage ownership of the controlling shareholder and of foreign shareholders, the results do not indicate a significant difference in market reactions between poorly governed and well governed companies. However, the estimated coefficient CASH ETR is positive and significant only for firms with higher proportions of foreign shareholders than the sample median proportions of foreign shareholders.

1. Introduction

Shareholders typically expect firms to minimize corporate tax payments to maximize the value of the firm; thus, tax avoidance has been rampant throughout recent decade. In the present study, a broad search of Mediagaon\(^1\) from 1990 to 2012 was conducted to identify Korean companies involved in tax avoidance. The form of tax avoidance changes over time. In the nineties, about the most common tax avoidance strategies involved gift and estate tax evasion by using abnormal stock transactions, the change of type of income to take advantage of to lower tax rates, and recognition of expenses not reported for tax purpose. Notable companies involved in the above-mentioned transaction included Hanjin, Hyundai, Daerim, and Taepyeongyang among others. Some companies engaged in these tax avoidance transactions changed the companies’ name or were forced into reorganization. In the 2000s, the form of tax avoidance was focused on tax havens: engaging in off-shore financing and backdoor listing. Currently, many listed

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\(^1\) Media portal services articles from KINDS(Korean Integrated Newspaper Database System), contents from Korea Press Foundation and more than 20 Korean media related organizations, media groups and web sites. Among the several search sections, I only captured articles from national daily news paper section.
companies operate through tax haven, as least in part. As mentioned above, the form of tax avoidance has changed over 22 years and in ever-increasing efforts to maximize the value of the firm and to escape the supervision of tax authorities.

This paper examines the consequence of tax aggressiveness from the perspective of market reaction to news of tax aggressiveness in Korea; this is focused on the analysis of the viewpoint of benefits and costs of corporations of being tax aggressive. There is a considerable body of literature that examines tax avoidance; however, there is very little rigorous research on the firms that engage in tax aggressiveness. Specifically, prior literature has not investigated the market response to news of corporate tax aggressiveness in Korea.

The sample is extracted from searches of newswire in Mediagao for the term “Talse” along with “Corporation” between January 1, 1990 and December 31, 2012. “Tax aggressiveness” in this paper is defined as a broad range of activities including tax avoidance, tax savings, and tax evasion as well as downward manipulation of taxable income through tax planning that may or may not be considered fraudulent tax evasion.

On average, companies in the sample underwent a statistically significant negative stock price reaction of 0.5 percent when news of involvement in tax aggressiveness emerged. Several consequence of tax aggressiveness of cross-sectional variation in the return are pointed out below. The market reacts less negatively for firms with a higher cash ETR, thereby indicating a perception that the firm is not aggressive enough, and resulting in the news of tax aggressiveness being taken as a positive signal. The company spending higher advertising expenses get more negative market reaction to the news of tax aggressiveness, suggesting that negative market reaction may constitute the loss of reliability of the firm and a customer backlash. For governance, considering the percentage of controlling shareholder and the percentage of foreign shareholders, the results do not indicate a statistically significant difference in market reactions between poorly governed and well governed companies. However, the estimated coefficient CASH ETR is positive and significant only for firms with higher proportions of foreign shareholders than the sample median proportions of foreign shareholders.

The remainder of the paper is organized as follows. Section 2 presents the theoretical background of the study with a review of prior literature on the market responses to corporate misdeeds by using an event-study methodology and relevant empirical tax research. Section 3 presents and discusses hypotheses. Section 4 discusses the sample and research design along with event date and univariate statistical test. Section 5 reports and discusses statistical significance and regression results of the study. Section 6 provides concluding remarks.

2) Talse means tax avoidance in Korean. The terminology represented by tax aggressiveness in Korean could be listed as follows: Talse, Josehoipi, Chojing, JosePotal according to professionals including CPAs and CTAs. I choose the word of Talse corporation since most it is seen on the articles more often.
2. Theory Background

2.1 The event-study methodology

Prior research has examined the market price reaction to announcements regarding corporate misdeeds by using the event-study methodology. For example, Munkee Cho at al. (2009) and Seokgon Yoon (1999) examined the stock price reaction to announcements of unfair trade practices from the Fair Trade Committee and found the average abnormal return was negative during the announcement period (day-1 to day+1). Jinwan Kim (1998) analyzed the 72 companies that committed unfair trade practices between 1988 and 1977, finding statistically significant negative abnormal returns during the announcement period, day-1 to day+1, of about \(-0.67\%\) and \(-0.76\\%\), respectively. Bosch and Eckard (1991) examined the stock price reaction to federal indictments for price fixing for 127 firms during the period 1962 to 1980, finding an average abnormal return over the WSJ indictment announcement date and the day before is statistically significant \(-1.08\%\). This corresponds to a total value loss of $2.18 billion ($1982), of which only about 13% can be attributed to various legal costs. The $1.89 billion residual might be, in all or part, the present value of monopoly profits lost because of conspiracy dissolution. Karpoff and Lott (1993) studied the market reaction to announcements during 1978 to 1987 concerning corporate fraud cases in which the damaged party does business with the accused firm, finding alleged or actual corporate fraud announcements of stockholders or the government correspond to an economically and statistically significant loss in the accused firm’s common stock market value.

There have been numerous studies that investigate the market reaction to specific financial accounting misdeeds such as earnings management. For example, Seonghwan et al. (2007) examined the market reaction to the announcement of financial statements post-audit review and the behavior of companies being accused of earnings management via audit review executed by Financial Supervisory Service. Their finding indicated no statistically significant abnormal return during the earning announcement period, day-5 to day+1, on the announcement of restatement of the financial statements of the firms having undergone audit review, thereby losing the reputation and investor trust after the news of the audit review. Euncheol Lee (2009) studied the market reaction to the announcement of earnings for companies which had committed earnings management and forced to change their financial statements after audit review. Findings indicated the companies’ earnings response coefficient after audit review was lower than before the audit review, resulting in losing the investors’ trust. Palmrose et al. (2004) examined the market reaction to restatement announcements to correct non-GAAP accounting. They found negative average abnormal returns of about 9% over a 2-day announcement window, day 0 to day+1. In addition, the abnormal return was found to be more negative with indications of fraud, larger adjustment sizes, and for restatements
attributed to the auditors.

In sum, prior research has investigated market reaction to the announcements of corporate misdeeds and financial misdeeds, generally finding negative market responses. While the nature of the misdeeds considered varies from study to study, the relevance of the findings to the present analysis of aggressive tax reporting is clear in light of the fact that the previous and present subjects of study were all under the umbrella of corporate misdeeds. Thus, the aggressive tax reporting company is liable to suffer reputation loss and lack of trust in the market.

2.2 Relevant Empirical Tax Research

While there are no previous analyses of the stock market reaction to news of tax aggressiveness in Korea, there are several related studies. For example, Yunsung Koh et al. (2007) analyzed market reaction to companies committing tax avoidance resulting in the penalties, finding that the market reacts negatively to such events. Woonoh Jung et al. (2010) investigated market responses to tax audits and revealed that the stock prices of the sample firms declined significantly on the day after the penalty announcement. Jaehyun Jung (2011) found that the market reacts negatively on the day of negative judgment in the course of litigation of companies. Although Desai and Dharmapala (2006) is not an event study, they investigated how investors value managerial actions designed solely to minimize corporate tax obligations and find that their proxy for tax avoidance, cash ETR, is positively related to firm value for well governed firms, but insignificantly related to firm value for poorly governed firms. In other words, the managers’ tax sheltering decisions are related to their ability to divert value, so that tax sheltering in poorly governed firms signals a higher likelihood of managerial wealth diversion and, thus, on net, adds no value.

Previous research presents the consequences of tax avoidance. Desai and Dharmapala (2008) examined the effects of tax avoidance on firm value; Jennings et al. (2009) found an association between tax avoidance and implicit taxes; Graham and Tucker (2006) examined whether tax shelter firms carry less debt; and Wilson (2009) provided evidence that shelter firms have higher market returns as long as the firm’s governance is “good” (measured by the Gompers et al. [2003] governance index).

There is existing literature concerning the firm value and corporate governance. Kyunbong Lee (2010) investigated whether aggressive tax reporting affects a firm’s value and how the corporate governance structure influences aggressive tax reporting’s interaction with firm’s value. Findings showed that the relationship between aggressive tax reporting and firm’s value is statistically significantly negative or positive, resulting in relieving these relationship depending on the nature of corporate governance structure. In other words, relationship between aggressive tax reporting and firm’s value in some situation is positive in contexts of good corporate governance. Byoung Ho Kim (2002) examined the relation between management ownership and valuation of the firm in the
Korean stock market, as measured by Tobin's Q, accounting return, and security return. It was found that there is a statistically significant non-monotonic relationship on Tobin’s Q and a non-significant impact of management ownership on accounting return and security return. Baek et al. (2004) examined the importance of corporate governance measures in determining firm value during a crisis. Firms with larger equity ownership by foreign investors experience a smaller reduction in their share value. In contrast, chaebol\(^3\) firms, where ownership is concentrated in owner-managers and/or affiliated firms, exhibit a larger drop in equity value.

The present study into the market effects of reported tax aggressiveness extends the previous research since no research has addressed market reactions to the companies exposed in media with False Corporation. Thus, this study adds valuable data for consideration in analysis of the cross-sectional variation in stock market reactions.

3. Hypotheses

The following hypotheses are tested as potential explanations for market reactions to reported tax aggressiveness.

**H1: The market reacts negatively to news that a firm is involved in tax aggressiveness.** Tax aggressiveness is hereby defined as a broad range of activities including tax avoidance, tax savings, tax evasion, and downward manipulation of taxable income through tax planning that may or may not be considered fraudulent tax evasion. Not all of these transactions would be deemed inappropriate by tax authorities, but all reflect some degree of tax reporting aggressiveness. (Frank at al. 2009). Tax avoidance is defined as the reduction of explicit taxes (Dyreng et al. 2008). Aggressive tax reporting results in both benefits and costs for any given firm. The benefit of tax aggressiveness is that it significantly reduces tax liability with respect to the shareholders and rent extraction as well as income diverted from the shareholders by the managers, with respect to the managers. The managers, considering their private benefits diverted from the company, make a decision of optimal aggressive tax planning to maximize the firms' value. Similarly, shareholders want the company to be optimally aggressive to reduce tax payments thereby maximizing the firm’s value. However, the shareholders may doubt the validity of the company’s financial statements, as the aggressive tax reporting might be assumed to be mirrored in an avoidance of their responsibilities to the shareholders. In other words, aggressive tax avoidance can damage shareholders’ trust in the management and the financial reporting. From the viewpoint of the cost, the company risks being subject to penalties depending on the aggressiveness being detected and deemed non-compliant by National Tax Service, resulting in reputational cost and political costs as well as fines. Given this framework,

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\(^3\) Chaebol refers to business groups in Korean.
negative reactions to news of tax aggressiveness are caused by declines in future cash flows and increase in the doubt of managers' reliability. Thus, the market reacts negatively to news that a firm is tax aggressive, substantiating H1.

H2: Firms with a higher CASH ETR will have a relatively less negative (i.e. more positive) reaction to news about tax aggressiveness. Aggressive tax reporting encompasses a wide range of transactions whose primary intent is to lower the tax liability without involving a real response by the firm and is a subset of tax avoidance activity more generally (Slemrod 2004; Slemrod and Yitzhaki 2002). The companies perform tax aggressiveness to reduce tax liability, resulting in an increase in after-tax income going to the shareholders (Desai 2003). There is general consensus in the research that companies achieve lower ETRs as a result of tax aggressiveness. However, there is little empirical evidence that ETR difference among companies are a consequence of tax avoidance.

Various means of measuring tax avoidance are discussed previous literature. The present study utilize Cash ETR, defined as cash taxes paid divided by pre-tax accounting income, to address how aggressive the firm performs in reducing tax liabilities, (i.e., tax aggressiveness). Although Cash ETR could mismatch the numerator and denominator if the cash taxes paid include taxes paid on earnings in a different period, this method explains how much the company actually pay taxes. Consequently, tax aggressive firms should have lower Cash ETRs.

H3: Firms in the retail industry will have a more negative reaction than other firms. Tax aggressiveness reporting leads to reputation cost for the subject firm imposed through the market. Reputation cost can be defined as the present value of lower output prices or higher input prices being internalized by the market mechanism. Desai et al. (2006) investigated the reputational penalties to managers of firms announcing earnings restatements and found significant penalties for such managers of firms. Karpoff and Lott (1993), in their study of corporate fraud posited that a reputational penalty alone is sufficient to generate the optimal total sanction when the sole damaged party is a customer or other related party, such as supplier or employee. They also reported that firms incur significant losses in equity value at news of fraud if the damaged party is a customer or other related party. For reasons mentioned above, news of tax aggressiveness is detrimental to the customers' perception of the firm, especially in the retail industry. In other words, firms in the retail industry will have a more negative reaction than other firms. In the present study, samples categorized by industry into retail and non-retail as a proxy for the customers' reaction to see if there are statistically significant correlations to market reactions to tax aggressiveness.
H4: Poorly governed firms will have a more negative market reaction relative to well-governed firms.

Several prior studies show that firm’s value is related to corporate governance; however, the results of prior literature on the effect of tax avoidance on corporate governance vary depending on the research design and the measurement. Before Desai and Dharmapala (2006)’ study, tax avoidance including tax aggressiveness should increase the wealth of the shareholder without considering the agency perspective on corporate tax avoidance. Desai and Dharmapala (2006) examined the effect of incentive compensation and governance structures on tax avoidance at the firm level and found a negative association between equity-based compensation and tax avoidance (measured by abnormal book-tax difference). Employing cross-sectional variation in their tests, they report that the negative association holds only among firms with weaker shareholder rights and lower institutional ownership. Additionally, they found that cash ETR, their proxy for tax avoidance, is positively related to firm value for well governed firms, but insignificantly related to firm value for poorly governed firms.

Lee (2010) found that the relation between aggressive tax reporting and firm’s value is statistically significant, finding this relation can be mitigated to some degree by corporate governance structure. Gompers et al. (2003) constructed a corporate governance index to measure the strength of shareholder rights for a large sample of US firms, finding their corporate governance index $G^H$ is highly correlated with firm performance. Jongkook Park et al. (2009) studied the impact of foreign ownership on tax strategies, finding that a statistically significant negative effect results from tax aggressiveness in firms with high foreign ownership. In other words, managers of firms with higher foreign ownership should be more concerned with the nontax costs of tax aggressiveness. Jaeseong Baek et al. (2004) study that firm-specific measures of corporate governance affect firm performance during a crisis, also finding that economic crisis in Korea has a significant negative effect on the market value of firms. Firms with larger equity ownership by foreign investors experience a smaller drop in share value, compared to chaebol firms, with concentrated ownership by owner-managers and those with concentrated ownership by affiliated firms. All in all, higher foreign shareholders proportions increase shareholder influence and increase the role of supervision of managers, thereby increasing the wealth of shareholders by reducing income diverted from the shareholders by the managers. As a result, the market reacts less negatively to news of tax aggressiveness because the benefit arising from tax aggressiveness goes to the shareholders. For controlling shareholders, the present author conjecture that market reactions to the news of tax aggressiveness vary according to the conflict of interests hypothesis and convergence of interests. The present study only considers the side of convergence of interests with respect to controlling shareholder in

4) Gomper et al. (2003) present governance index to proxy for the level of shareholder rights at about 1500 large firms during the 1990s.
this paper since a higher ownership percentage of controlling shareholders as part of firms’ shareholders increases shareholders’ rights, thereby increasing the proportion of after-tax income earned through tax aggressiveness going to shareholders by causing agency cost to decrease. Thus, market response to the news of tax aggressiveness is less negative with a lower percentage ownership by controlling shareholders. In this study, “poorly governed firms” refers to weaker shareholder rights, and “well governed firms” represents stronger shareholder rights. In addition, ownership percentage of controlling shareholders and of foreign shareholders is a proxy for the level of shareholder rights, thereby defining well-governed firms in this paper as those with higher ownership percentage of foreign shareholders or of controlling shareholder, and poorly governed firms with a lower ownership percentage of foreign shareholders or of controlling shareholders. In this framework, poorly governed firms will have a more negative market reaction to news of tax aggressiveness relative to well-governed firms.

4. Sample and Research Design

4.1 Sample selection

The sample was drawn from the Mediagaon database. The keywords “Talse” and “Corporation” were used to capture national daily news articles that contain those terms. The data range used was January 1, 1990 to December 31, 2012. This found 7397 newswire release initially. The articles were reviewed, and only those that contain in the name of a company associated in some way with having tax avoidance were retained. For a given article, the first appearance of the newswire for each sample is used as the event date (event \( t=0 \)). To minimize confounding events, once an initial event date is found, the firm is screened to ensure that no additional announcements appear in the sample. Samples pertaining to the topic of tax avoidance generally, without mentioning any particular company, were discarded. Multiple observations of the same event were discarded, retaining only the first article about the sample. These exclusions reduced sample size to 313.

I exclude samples about newswire pertaining to confounding issues initiated from the Fair Trade Commission, the Public Prosecutor or Financial Supervisory Service because the tax avoidance news in such samples is presumably altered in impact given the political considerations. Observations with missing data in the Kis-value, and for various other reasons spelled out in Table 1, are excluded. This leaves 164 samples. Table 1 presents a summary of the sample selection process.
4.2 Event date and univariate statistical test

An event-study methodology is employed to evaluate the market reaction to news that a firm has engaged in tax aggressive behavior. The 3-day window centered on the day of the event is used. This is done to capture any effect of news available to the market before the story and the day after to provide time for the market to react. For the appropriate statistical test, t-tests focusing on the event day measure are reasonably well-specified. The market adjusted model is employed using an equally-weighted index return (EWI) to estimate abnormal returns. According to Brown and Warner, the differences between methodologies including market model and market adjusted model are quite small where securities and event dates were randomly selected. EWI as a proxy for stock return is appropriate in the present study because composite stock price index is affected factors other than stock return, resulting in incorrect beta and the fluctuation of a few large capital stocks (Kim 1998). Additionally, tests based on an EWI provide noticeably improved performance over tests based on a value weight index (VWI) with Asia-Pacific data. (Corrado and Truong 2008). The abnormal return for firm \( i \) on day \( t \), is defined in the event window as

\[
\text{AR}_{it} = R_{it} - R_{mt}
\]

where \( R_{it} \) and \( R_{mt} \) are the returns on firm \( i \)'s common stock on day \( t \) and the KOSPI and KOSDAQ equally-weighted index of market return on day \( t \), respectively; thus, \( \text{AR}_{it} \) is the excess return for firm \( i \) on day \( t \). Results are reported on a 3-day event windows (days \( \tau = -1 \) to +1 relative to announcement date). The abnormal return observations must be aggregated for the event window and across observations of the

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5) At the news of Jaebol group about tax avoidance, I count subsidiaries of Jaebol group at the time of news as the samples since they are also affected from the news due to the effect of value chain.

6) For example, political considerations including the campaign for the presidential election comes into matter and then leads to tax matters.
event to draw the inference for the event of interest. The cumulative average abnormal return (CAR) is thus defined as

$$\text{CAR}^\circ = \sum \text{AR}^2$$

The null hypothesis to be tested is that the cumulative abnormal return over the event period (-1, +1) is equal to zero, and thus concerns the average effects of an event on returns to shareholders.

5. Results

5.1 Descriptive statistics

Table 2 presents descriptive statistics and univariate results for the test. Panel A presents the number of samples by event year\(^7\). Panel B presents simple descriptive statistics of the variables. Using market-adjusted abnormal returns, statistically significant negative mean market reaction to the news of tax aggressiveness of −0.005 over a 3-day event window (day-1 to day +1) was found. The average CAR of the sample firms is −0.005, which is the same as the mean of CAR in Hanlon and Slemrod (2009).

The mean and median CASHETR are 24%\(^8\) and 21%, respectively, both significant at the 0.01 level. CASHETR is measured as the firm’s average cash ETR (cash taxes paid / total pre-tax book income over the two years prior to newswire release) to evaluate degree of tax aggressiveness. Three ways were employed to have cash taxes payments of the samples for the period of 1990 - 2012. First, cash tax payments for the period of 1990-1998 were used, since no adoption of deferred income taxes was possible at that time. Secondly, two accounts, income tax expenses and deferred tax expenses, were used to compute the cash taxes payment\(^9\) from 1999 to 2001. Lastly, the notes from the financial statements in the section of income tax expense were used to determine cash taxes payment after 2002. If the firm has a negative pre-tax book income, an indicator variable labeled LOSS is included for these firms.

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7) As shown on Panel A, the event dates of my samples are not clustered. Therefore, cross-sectional dependence is not a problem.
8) Even though these firms are in newswire of tax aggressiveness, the cash effective tax rates are a little high relative to the statutory tax rate of 22% since the statutory tax rate (30%-34%) in the earlier year of my research is high.
9) I use income taxes account and deferred taxes account to compute the cash taxes payment from 1999 to 2001 since the inception of deferred taxes in 1999. Thus, there is a discrepancy between the computed cash taxes payment and the real cash taxes payment because the items supposed to be included in the deferred taxes computation - tax credits, tax reductions and expenses recognized as capital - are not considered.
Retail as a proxy for the customers’ reaction is engaged in approximately 12% of the samples. To examine whether there is a CAR differential for firms in their retail industry, an indicator variable is set to one for firms in the retail industry (KSIC 45.47) and zero otherwise. In addition, the firms’ advertising expenses were examined as another proxy for the consumers’ reaction. When the firm does not disclose the advertising expenses, the missing value is set to zero. An indicator variable for advertising expenses set to one is used if the ratio of advertising expenses to current year sales is greater than the sample median, and zero otherwise. Currently, the mean of advertising expenses and high advertising are equal, at 0.00710 of sales, respectively.

To investigate the effect of market reaction on governance, the percentage of controlling shareholder11) is used as a proxy for inside shareholders in ownership structure. And the percentage of foreign shareholders is used as a proxy for outside shareholders in ownership structure. The mean and median of controlling shareholders are 21% and 16.4%, respectively, substantially high ownership percentage of controlling shareholders in the listed company. The mean and median of foreign shareholding ownership are 8% and 3%, respectively. Firms with stronger shareholder rights (well governed firms) have a positive relation between cash ETR as a proxy for tax avoidance and firm value; firms with weaker shareholder rights (poorly governed firms) have insignificant relations between cash ETR and firm value (Desai and Dharmapala 2006). Higher foreign shareholders ownership makes the firm more transparent and improves information asymmetry, thereby increasing the firm value. Thus, a higher ownership percentage of foreign shareholders or of controlling shareholders is used as a proxy for well-governed firms in this paper, and a lower ownership percentage of foreign shareholders or of controlling shareholders is used as a proxy for poorly governed firms.

5.2 Overall and by-category averages

Table 3 summarizes the results of the tests conducted to address the hypotheses posed above. The first row of Panel A shows that the average CAR is –0.58%, which is significantly different from zero based on the t-test. Thus, the event-study methodology suggests that, on average, the market reacts negatively to news that a firm is in a Talse Corporation. Therefore, H1 is supported.

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10) Since the scale of advertising expenses is so small, I don’t see the much difference even in high advertising.
11) The characteristic of ownership structure is well explained with the rate of controlling shareholders rather than rate of managers under management environment in Korea. (Kim and Lee 2000)
Table 2
Descriptive statistics

<table>
<thead>
<tr>
<th>Panel A Number of Samples by Year</th>
<th>'90</th>
<th>'91</th>
<th>'93</th>
<th>'97</th>
<th>'98</th>
<th>'99</th>
<th>'00</th>
<th>'02</th>
<th>'03</th>
<th>'06</th>
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<td>31</td>
<td>9</td>
<td>20</td>
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<td>16</td>
<td>11</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>167</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B Samples</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>Minimum</th>
<th>Median</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR</td>
<td>164</td>
<td>-0.005</td>
<td>0.017</td>
<td>-0.061</td>
<td>-0.003</td>
<td>0.041</td>
</tr>
<tr>
<td>CASH ETR</td>
<td>164</td>
<td>0.247</td>
<td>0.254</td>
<td>0</td>
<td>0.214</td>
<td>1</td>
</tr>
<tr>
<td>LOSS</td>
<td>164</td>
<td>0.213</td>
<td>0.410</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>RETAIL</td>
<td>164</td>
<td>0.121</td>
<td>0.328</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ADVERTISING</td>
<td>164</td>
<td>0.007</td>
<td>0.015</td>
<td>0</td>
<td>0.001</td>
<td>0.109</td>
</tr>
<tr>
<td>HIGH ADVERTISING</td>
<td>164</td>
<td>0.007</td>
<td>0.015</td>
<td>0</td>
<td>0.001</td>
<td>0.109</td>
</tr>
<tr>
<td>FOREIGN(12)</td>
<td>164</td>
<td>0.082</td>
<td>0.101</td>
<td>0</td>
<td>0.036</td>
<td>0.334</td>
</tr>
<tr>
<td>CONTROLLING(11)</td>
<td>164</td>
<td>0.210</td>
<td>0.134</td>
<td>0.059</td>
<td>0.164</td>
<td>0.514</td>
</tr>
</tbody>
</table>

Notes:

CAR: the cumulative abnormal returns calculated over a 3-day window centered on the date of the news and calculated using market adjusted returns (i.e. taking the raw return for the firm less the KOSPI-KOSDAQ equally-weighted index return for the same day)

CASH ETR: the sum of cash taxes paid over two years prior to the news of tax avoidance and divided by the sum of pre-tax book income over the two years prior to the news of tax avoidance and reset to zero for a minimum and 1 for a maximum to eliminate the effect of outliers.

LOSS: an indicator variable set equal to one for firms with negative pre-tax book income in the calculation of CASH ETR and zero otherwise.

RETAIL: an indicator variable set equal to one for firms in the retail industry and zero otherwise. (KSEC codes 45, 47)

ADVERTISING: a continuous variable of advertising expense scaled by current year sales.

HIGH ADVERTISING: an indicator variable set to one for firms that have a greater than median ratios of advertising expense to sales and zero otherwise.

CONTROLLING: the percentage of controlling shareholders owned by the year nearest to the year of the news article.

FOREIGN: the percentage of foreign shareholders owned by the year nearest to the year of the news article.

The remaining panels of Table 3 present the CAR by subcategories of firms. Panel B parses samples into those with a CASH ETR at or above the sample median and those with CASH ETR below the sample median. Panel B presents the results for the entire sample of 164 observations. The firms with a CASH ETR below the median value have an average CAR of -0.47%, which is significantly different from zero at p=0.5. Average CAR of firms with a CASH ETR at or above the median value is -0.16%, which is not significantly different from zero; notably, tests for difference in the mean CASH ETR between CASH ETR at or above median and CASH ETR below median are significant at the 0.01 level. Therefore, firms with a higher CASH ETR, acting less tax aggressive than lower CASH ETR firms, will have a relatively less negative reaction on stock market to news about tax aggressiveness, supporting H2.

Panel C present samples divided into two groups, retail and non-retail firms. It is found that the average CAR for retail firms is -0.61%, compared to -0.58% for the

12) The upper and lower 5% of the samples is eliminated for the outliers.
non-retail firms which is significantly different from zero, though the difference is not significantly different from zero. Therefore, H3 that retail industry most likely affected by consumers' reaction will have a more negative reaction is not supported. The result explains that consumer in retail industry tend to ignore the news of tax aggressiveness of the firm.

Panels D and E are about corporate governance in firms with high controlling shareholder ownership and foreign shareholder ownership, respectively. The results of Panels D and E suggest that both firms owned by controlling shareholder and by foreign shareholders have a negative market reaction to the news of tax aggressiveness. On panel D, the mean CARs for higher controlling shareholder and lower controlling shareholders are \(-0.50\%\) and \(-0.67\%\), respectively. These are statistically different from zero at \(P=0.01\) (and the difference between the returns is insignificant). Firms with higher controlling shareholders have less negative response to the news of tax aggressiveness. Panel E shows that the average CARs for higher foreign shareholders and lower foreign shareholders are \(-0.45\%\) and \(-0.71\%\), respectively. The result shows that firms with higher foreign shareholders will have a less negative reaction to news about tax aggressiveness relative to firms with lower foreign shareholders. In other word, well governed firms, owned by higher foreign shareholders or higher controlling shareholder, want to optimize the value of the firm by utilizing aggressive tax planning. Therefore, H4 that poorly governed firms with lower controlling shareholder or lower foreign shareholder will have a more negative market reaction relative to well-governed firms is supported.

5.3 Cross-sectional analysis of excess return

Table 4 present regression results for the cross-sectional relation between firm characteristics and the event window returns. The estimated coefficient for CASH ETR is positive and significant. In other words, the market acts negatively when firms engage in tax aggressiveness.

It is hypothesized above that firms in the retail sector might be more negatively affected by news of tax aggressiveness involvement because of the possibility of a negative consumer reaction(H3). This hypothesis is not supported by this data. The estimated coefficient on the indicator variable for being in the retail sector is \(-0.0037\), which is insignificantly different from zero. Additionally, the indicator variable high advertising is included as another proxy for the potential of consumer backlash, and the estimated coefficient is significant. The news of tax aggressiveness affects customers' perceptions, incurring the reputation cost if the company has higher advertising expenses. Thus, customers' reaction in the retail industry is not significant in market reactions, while customers' reaction for those with higher advertising expenses is significant in market reaction. In addition, H3 was considered by industry, including
construction, manufacture, driving and service to see market reactions. No industry has significantly different market reactions to news of tax aggressiveness.

Table 3
Cumulative abnormal returns

<table>
<thead>
<tr>
<th>Panel A: Cumulative abnormal returns presented by subsample</th>
<th># obs</th>
<th>Mean CAR (%)</th>
<th>Pos/Neg</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1: All firms</td>
<td>164</td>
<td>-0.58</td>
<td>52/112</td>
<td>-4.41***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: cumulative abnormal returns -equal to or above median CASH ETR and below median CASH ETR</th>
<th># obs</th>
<th>Mean CAR (%)</th>
<th>Pos/Neg</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASH ETR equal to above median</td>
<td>57</td>
<td>-0.18</td>
<td>31/51</td>
<td>-0.70</td>
</tr>
<tr>
<td>CASH ETR below median</td>
<td>57</td>
<td>-0.47</td>
<td>21/61</td>
<td>-2.47**</td>
</tr>
<tr>
<td>No CASH ETR(loss firms)</td>
<td>50</td>
<td>-1.19</td>
<td>10/25</td>
<td>-4.80***</td>
</tr>
<tr>
<td>Total sample</td>
<td>164</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C: Cumulative abnormal returns for retail industries compared to non-retail industries</th>
<th># obs</th>
<th>Mean CAR (%)</th>
<th>Pos/Neg</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETAIL</td>
<td>20</td>
<td>-0.61</td>
<td>6/14</td>
<td>-1.52</td>
</tr>
<tr>
<td>Non-RETAIL</td>
<td>144</td>
<td>-0.58</td>
<td>46/98</td>
<td>-4.12***</td>
</tr>
<tr>
<td>Total sample</td>
<td>164</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel D: Cumulative abnormal returns by governance group-Controlling shareholders</th>
<th># obs</th>
<th>Mean CAR (%)</th>
<th>Pos/Neg</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher controlling</td>
<td>82</td>
<td>-0.50</td>
<td>27/55</td>
<td>-2.71***</td>
</tr>
<tr>
<td>Lower controlling</td>
<td>82</td>
<td>-0.67</td>
<td>25/57</td>
<td>-3.5***</td>
</tr>
<tr>
<td>Total sample</td>
<td>164</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel E: Cumulative abnormal returns by governance group-Foreign shareholders</th>
<th># obs</th>
<th>Mean CAR (%)</th>
<th>Pos/Neg</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher foreign</td>
<td>82</td>
<td>-0.45</td>
<td>27/55</td>
<td>-2.32**</td>
</tr>
<tr>
<td>Lower foreign</td>
<td>82</td>
<td>-0.71</td>
<td>25/57</td>
<td>-3.99***</td>
</tr>
<tr>
<td>Total sample</td>
<td>164</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:  
CAR: the cumulative abnormal returns calculated over a 3-day window centered on the date of the news and calculated using market adjusted returns (i.e., taking the raw return for the firm less the KOSPI-KOSDAQ equally-weighted index return for the same day)  
CASH ETR above median: if average CASH ETR over the two years prior to the news is at or above the sample median of this measure  
CASH ETR below median: if average CASH ETR over the two years prior to the news is below the sample median of this measure  
No CASH ETR: if the firm has zero or negative total pre-tax book income over the two years  
RETAIL: if the firm is in the retail sector (KSIC code 45-47)  
Higher controlling: if the percentage of controlling shareholders is at or above the sample median.  
Lower controlling: if the percentage of controlling shareholders is below the sample median.  
Higher foreign: if the percentage of foreign shareholders is at or above the sample median.  
Lower foreign: if the percentage of foreign shareholders is below the sample median.  
Significance levels are as follows: ***indicated significance at .01, ** at .05, and *at.10, two tailed.
The hypothesis that poorly governed firms will have a more negative market reaction relative to well-governed firms (H4) is not supported by this data. The estimated coefficient on higher foreign shareholders, lower foreign shareholders, a higher controlling shareholder, and a lower controlling shareholder is statistically insignificant. Considering controlling shareholder and foreign shareholders, the findings indicate that these governance measures may be correlated with other unmeasured characteristics of the firm that affect the market valuations on news of tax aggressiveness. This is a limitation of this study.

Additionally, I analyze the relation between firm-specific measure of corporate governance (untabulated in this paper) and the event window returns were analyzed. It was found that the estimated coefficient on CASH ETR is positive and significant only under firms with higher foreign shareholders. This result supporting prior literature shows that foreign shareholders think that the cost of tax aggressiveness exceeds the cost of decrease of firm’s transparency and the increase of information asymmetry resulting from tax aggressiveness. The results showing relation between firms with higher controlling ownership as well-governed or lower controlling ownership as poorly governed and the event window returns is insignificant, indicating that the market seems to be indifferent about whether firms have higher controlling ownership or lower controlling ownership. In other words, market seems to have already considered the effect of the firms having a controlling shareholder, and thus investors do not react negatively to news of tax aggressiveness.

In sum, the multivariate regression analyses shown in Table 4 support H1 and H2. News about tax aggressiveness involvement, on average, affects a firm’s stock price negatively. The impact, though, varies depending on the type of firm, being worse for firms having a big number of advertising expenses, and with low cash ETRs. Without some standardized corporate governance score in Korea, it is difficult to address the market reaction with regard to corporate governance in this study, which is another limitation.

It is worth noting that the pattern of estimated coefficients implies that, for certain kinds of firms, the release of news of involvement in tax avoidance will cause the stock price to increase. This would more likely be the case with high cash ETR firms. This conclusion is consistent with the fact that 46% of the abnormal return samples (52 out of 112 cases) are positive.

13) Four models are comprised: Controlling shareholder above the sample median; controlling shareholder below the sample median; foreign shareholders above the sample median; and foreign shareholders below the sample median.
Table 4
Regression analysis

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.01386** (0.00686)</td>
</tr>
<tr>
<td>CASH ETR</td>
<td>0.01366** (0.00619)</td>
</tr>
<tr>
<td>LOSS</td>
<td>-0.00222 (0.00382)</td>
</tr>
<tr>
<td>RETAIL</td>
<td>-0.00337 (0.00428)</td>
</tr>
<tr>
<td>HIGH ADVERTISING</td>
<td>0.18915** (0.08814)</td>
</tr>
<tr>
<td>HIGHER FOREIGN</td>
<td>0.01953 (0.01412)</td>
</tr>
<tr>
<td>LOWER FOREIGN</td>
<td>-0.01797 (0.17829)</td>
</tr>
<tr>
<td>HIGHER CONTROLLING</td>
<td>0.00641 (0.01023)</td>
</tr>
<tr>
<td>LOWER CONTROLLING</td>
<td>0.02013 (0.05613)</td>
</tr>
</tbody>
</table>

Samples 164
R-squared 0.1103

Notes:
Standard errors are in parentheses.

CAR: the cumulative abnormal returns calculated over a 3-day window centered on the date of the news and calculated using market adjusted returns (i.e., taking the raw return for the firm less the KOSPI-KOSDAQ equally-weighted index return for the same day)

CASH ETR: the sum of cash taxes paid over two years prior to the news of tax avoidance and dividing by the sum of pre-tax book income over the two years prior to the new of tax avoidance

LOSS: an indicator set to one for firms with negative pre-tax book income in the calculation of CASH ETR, and zero otherwise.

RETAIL: an indicator variable set equal to one for firms in the retail industry and zero otherwise. Use KSIC codes 45-47

HIGH ADVERTISING: an indicator variable set to one for firms that have a greater than median ratios of advertising expense to sales and zero otherwise

HIGHER FOREIGN: if the percentage of foreign shareholders is above the sample median.

LOWER FOREIGN: if the percentage of foreign shareholders is below the sample median.

HIGHER CONTROLLING: if the percentage of controlling shareholder is above the sample median.

LOWER CONTROLLING: if the percentage of controlling shareholder is below the sample median.

Significance levels are as follows: ***indicates significance at .01, **at .05, and * at .10, two-tailed.

Dependent variable: cumulative abnormal returns.

6. Conclusions

Shareholders would like to minimize corporate tax payments to maximize the value of the firm; in other words they want the company to be optimally aggressive. The present study addressed the consequence of tax aggressiveness from the perspective of market reaction to news that a firm has been involved in tax aggressiveness.

On average, the sample as a whole underwent a statistically significant negative stock
price reaction of 0.5 percent when there is news involvement in tax aggressiveness. The findings highlight several consequence of tax aggressiveness of cross-sectional variation in the return. The market reacts less negatively for firms with a higher cash ETR, which indicates that the firm is not aggressive enough, resulting in the news of tax aggressiveness being taken positively. Firms with higher advertising expenses get more negative market reaction, suggesting that negative market reaction may constitute the loss of reliability of the firm and a customer backlash. For governance (using the percentage of controlling shareholder and the percentage of foreign shareholders), the results do not present that the difference in market reactions between poorly governed and well-governed is significant. However, the estimated coefficient on CASH ETR is positive and significant only for firms with higher foreign shareholders.
References


