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Corporate Social Responsibility and Effective Tax Rates:

Higher Ratings, Lower Rates

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Author Note

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Abstract

In recent years, it has become popular for firms to engage in socially responsible and ethical activities, whether through charitable donations or fair business and employment policy. However, perhaps never before in the history of American politics has the practice of corporate interest lobbying been such a dominating factor of policy. Of the numerous issues a firm may lobby for, one of the most lobbied-for issues is taxes. Although the motives of those firms that lobby for taxes and tax-related issues often vary, their motives can seem questionable when compared to their corporate social responsibility marketing and policy. In my analysis, I attempt to uncover whether firms with higher corporate social responsibility ratings are more effective at reducing their effective tax rates from lobbying ventures than those firms with lower ratings. I find that, among firms who lobby for tax issues, those with high corporate social responsibility ratings are best positioned to effectively leverage tax lobbying expenditures to reduce effective tax rates.

Keywords: Corporate social responsibility, tax lobbying, effective tax rate.
Corporate Social Responsibility and Effective Tax Rates:
Higher Ratings, Lower Rates

INTRODUCTION

Objectives

According to the Center for Responsive Politics database, 1,818 firms lobbied for tax issues in 2016, making it the third highest lobbied-for issue just behind health issues and the federal budget and appropriations (2017). In this paper, I provide a general discussion of the significance of the relationship between a corporation’s corporate social responsibility ratings and its lobbying activities for tax-related issues. I utilize a clear method for estimating tax-lobbying expenditures (TLE) based on total annual lobbying expense (TALE) and the relative importance tax-related issues hold across each firm in question. I analyze the ways in which corporate social responsibility ratings, TLE, and effective tax rates (ETR) relate and interact with each other. I hope to promote further studies reflecting the specific roles and behaviors of various lobbying expenditures on ETR, as well as studies regarding the effect corporate social responsibility ratings have on lobbying effectiveness.

Topics

**Tax Lobbying.** According to Roberts and Bobek (2004), “corporate interests play a substantive role in the development of tax accounting policy.” In order to understand that role, I find it necessary to analyze the motivations behind tax lobbying, as well as whether a firm’s perceived CSR provides it more political leverage, which may effectively lower its effective tax rate. Several studies indicate a variety of motivations for tax lobbying, whether it be to lower the firm’s effective tax rate (Richter, et al., 2009) or to secure tax credits (Brown, et al., 2013). There are a few motivations for lowering effective tax rate; however, one reason, and most likely the
greatest reason, for lowering ETR is for the benefit of the shareholders and the attractiveness of
the company shares on the stock market, as ETR is one deciding measure investors use for stock
acquisition.

Tax lobbying may have adverse financial consequences for larger firms. Drope and
Hansen (2008) state their findings as indicative of “free-riding” among smaller firms, which
directs the positive results of tax lobbying paid for by larger firms towards smaller firms, who
stand to benefit greater from changes in tax legislation. Brown, et al. (2013) find that even large
firms with “transitive investments” do not lower their effective tax rates as ideally as those firms
establishing long-term relationships in Washington.

Although there are lobbying regulations established, some firms have tried to circumvent
the legal processes involved with lobbying reporting, and this is troubling. Firms are required to
report lobbying expenditures on a quarterly basis in the period in which they lobby and to specify
any of the issues lobbied for under the Lobbying Disclosure Act of 1995 (LDA). According to
the Office of the Clerk for the U.S. House of Representatives, some firms attempt to report only
specific pieces of legislation lobbied for, instead of the particular issues that legislation concerns
(2017). This is significant because it reveals a tendency that many fear is present in Washington,
which is to conceal evidence of ethically or legally questionable behavior on the part of the firms
and the politicians involved. The Senate Office of Public Records (SOPR) is in charge of
reviewing lobbying reports and uses the LDA to determine if firms are in compliance with
lobbying laws and reporting standards.

**Corporate Social Responsibility.** In order to portray the significance of the relationship
between a corporation’s corporate social responsibility and their involvement with lobbying for
tax-related issues, I must first define “corporate social responsibility.” I assume Holme and
Watt’s (2000) definition of corporate social responsibility (CSR) as being “the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.” Although many today may agree that firms have an obligation to the “community-at-large,” as it were, there are still widely held opinions in opposition to that notion.

Recent studies have uncovered much on the rifts in management theory over the last century, and perhaps no point is as divisive as the question to whom do firms primarily owe their attention. Within the literature of business management, there rises, according to Moser and Martin (2012), two classes of thought concerning what the behavior focus of any business should be: the shareholder theory and the stakeholder theory. I define a shareholder as an individual or entity owning shares of ownership interest in a firm; whereas, I define a stakeholder as an individual or entity affected, directly or indirectly, through any activity a firm engages in. Being the oldest theory between the two of them, shareholder theory thrives in firms most motivated by profit, as its foundational principle holds profits above all other goals (Friedman, 1970). On the contrary, firms adhering to stakeholder theory are deeply concerned with the impact their decisions have on individuals and entities other than their shareholders, such as the local community or the environment (Carroll, 1991).

Carroll’s (1991) study, published in Business Horizons, focuses largely on moral stakeholder management as the prescribed key to effective and necessary management practices. The theories he developed out of this discussion have been instrumental to the progression of CSR advocacy, as the premise of his work is that firms should engage in socially responsible activities for the benefit of those affected by those activities. This should, in effect, provide
benefits to the firm's profit as well. The way in which firm managers effectively leverage this stakeholder theory would be to give situationally appropriate significance to all stakeholders, including shareholders, when coming to a decision (Carroll, 1991).

Intuitively, proponents of shareholder theory think placing importance on individuals and entities other than the firm's shareholders directs profits away from the shareholders and gives it to those not fit enough to return revenues on the investment (Friedman, 1970). However, some firms who invest in CSR activities, in line with the stakeholder theory, have seen increases in sales (Garcia, 2016). If a firm's management is going to adopt a stakeholder perspective, it will most likely participate in CSR activities, such as reducing waste in the firm's processes or providing information to the public on ways the firm behaves ethically. Because of its focus on ethical management decisions, CSR activities bring into question the motives behind firms' lobbying behavior. In this paper, I intend to determine how CSR activities and tax lobbying are related to ETR.

Hypotheses Development

Ultimately, I am asking the question "Do high-CSR firms decrease their ETR when they lobby?" Or, "Do ETRs decrease for high-CSR firms that lobby over a given period of years?" It is important to ask this question on the basis of ETRs instead of tax expenses because ETR takes into consideration how the firm's tax expense is spread across its net income, which contains all revenues and expenses for a given period. This inclusive ratio recognizes the effects of lobbying expenditures as they decrease the denominator, making the ETR higher assuming all other factors stay the same.

There is a significant amount of research surrounding the topics of lobbying and tax legislation, but the key focus of this paper is not on the political or legal dynamics of lobbying
activities. Rather, I intend to uncover the relationship between CSR position and ETR by controlling for firm size and year and assuming relative similarity in lobbying behavior among the firms in my sample. In effect, I will research corporations having received a CSR rating from the MSCI ESG database and participating in tax lobbying efforts. This will allow me to determine whether and to what degree corporations, having received a CSR rating, effectively utilize TLE to lower their annual ETRs.

According to Richter et al. (2009), effective tax rates are lowered by firms that lobby for tax related issues. Their research has been cited numerous times since 2009, as their findings have been heavily influential to the current direction of the accounting, policy, and political literature. One of the reasons why their findings are so important is that they comprised their sample of firms from the years 1998 through 2004, including, additionally, over 2,000 firms which began lobbying during that time period. This dataset is arguably one of the largest formed in all of accounting literature, which allows their research to have more credibility as an academic piece. Furthermore, their research also included analyses of specific tax rate determinants, which are benefited by tax lobbying, to show that firms that lobby for tax-related issues and also invest more in certain activities, such as research and development, experience a much higher tax benefit than firms simply involved in tax lobbying. The main difference between their method and mine is that I also include a variable for corporate social responsibility ratings, as shown in Garcia (2016). This measure will allow me to expound on the work of Richter et al. (2009) in regards to uncovering other motivations and financial relationships of the lobbying cycle.

The thought that environmentally and socially responsible corporations are immune to the pervasive forces in Washington and the sometimes-questionable politics of lobbying efforts
may be the cause of limited research on this topic. I will attempt to depart from the usual
narrative – one which is problematic in that it could hide corrupt behavior under an innocent
guise – by assuming there exists a relationship between tax lobbying expenditures and effective
tax rates among any corporation participating in tax lobbying.

Hypothesis

**H1. Large firms with high corporate social responsibility ratings are more likely to have lower effective tax rates than are large firms with low corporate social responsibility ratings.**

A significant assumption of this hypothesis is that a firm’s CSR rating will influence the ETR the firm reports. Relating to the findings of Garcia (2016) for measuring tax lobbying effectiveness, I predict that congressional representatives favor firms with higher corporate social responsibility ratings.

*Dependent Variable.* My dependent variable is the Effective Tax Rate, calculated by dividing Total Income Taxes (TXT) by Pretax Income (PI)

*Independent Variables.* One independent variable is Tax Lobbying Expenditures (TLE), calculated via multiplying the Total Annual Lobbying Expenditure (TALE) by a ratio of the number of Tax-specific Lobbying Reports (TAXREP) to Total Annual Lobbying Reports (TOTREP). I explain this estimation in detail in the METHOD section.

Other independent variables of this hypothesis are indicators for levels of CSR measures, calculated based on strengths and concerns derived from the MSCI ESG database. I control for firm year, industry, and size, which are some of the more common controls in the accounting literature. This allows me to isolate the effects the CSR indicators have on ETR, as further discussed in the METHOD section of this paper.
METHOD

Sampling Description

I sourced my sample from the Standard and Poor’s 100 List (S&P100), which is an index of the top 100 companies on any given year from its inception in 1983 to the present based on a series of criteria, of which, ultimately, firm size is the largest determinate. Being that the nature of this list is to retain all company information from its inception regardless of the current companies occupying the top 100 places, there are over 200 companies included in the original sample of this study. Due to the scope of this study being the years 2011 to 2015, I selected companies that matched the criteria of being listed every year from 2010 to 2016, and I arrived at a sample of 80 firms.

Data Gathering

Lobbying Data. I matched all firms listed in the sample with lobbying information provided in the Center for Responsive Politics database. Since the scope of this study focuses on firm behavior between 2011 and 2015, I filtered the firms in the sample for lobbying participation during those years. I selected firm years between 2011 and 2015 to reduce the likelihood that financial implications of the housing market crash in the years 2006 to 2009 would be present in the data sample. Originally, I considered selecting fewer years to reduce the likelihood of special interest lobbying expenses surrounding election years; however, consistent with commonly accepted methods for analyzing financial data found across accounting literature, I retained a total sample period of four years, showing transitional results. All 80 firms lobbied each year; however, not all firms reported lobbying for tax purposes. Since the focus of this study is to analyze the effects of tax lobbying behavior, those firms not reporting “Tax” as a lobbied-for issue were removed, resulting in a total of 68 firms.
CSR Data. Of the 68 initial sample firms, 66 firms were found to have been rated for a series of CSR strengths and concerns by the MSCI ESG database, formerly known as KLD Ratings. Using Garcia’s (2016) method for averaging a total CSR rating per firm, I find a net CSR rating for the year 2011 and hold it constant across each year in question per firm. This net CSR rating is comprised of strengths, which increase the rating, and concerns, which decrease the rating. Each strength and concern relate to various topics, which include “Community”, “Diversity”, “Employee Relations”, “Corporate Governance”, “Environment”, “Human Rights”, and “Product” quality and safety. Due to my findings that the average change in CSR ratings across the period in question is minimal (less than 1 percent), I justify holding CSR rating constant in the years going forward from 2011.

Empirical Model

For this study, I use the model:

\[ ETR_i = \beta_0 + \beta_1 TLE_i + \beta_2 CSRhi_i + \beta_3 CSRLo_i + \]

\[ \beta_4 \ln SIZE_i + \Sigma_i \beta_i INDUSTRY_i + \Sigma_t \beta_t YEAR_t + \epsilon_{it} \]

I describe the calculation for the dependent variable, ETR, as well as the independent variable, TLE, estimation, in the following section.

The two independent variables, which represent CSR ratings, are CSRhi and CSRLo. I use an indicator for firms with CSR ratings above nine, for CSRhi, or below one, for CSRLo. This ranking indicator implies a third level of CSR ratings, which I call CSRmid, and it represents firms with CSR ratings between one and nine.

I introduce a series of controls in my model, which are some of the most widely used in the accounting literature. First, I control firms for size, SIZE, as it is commonly understood that firms are financially positioned based heavily on their total assets to behave in ways unique to
their own interests, usually indicated by degree of total assets (AT). The last two controls involve separating groups of observation by the firm's industry and the year in question.

**TLE Estimation.** As expressed earlier in this paper, firms are required to report lobbying expenditures on a quarterly basis in the period in which they lobby and to specify any of the issues lobbied for. All lobbying firms must include details regarding particular legislation the firm supported or opposed with lobbying expenditures. However, it is uncommon to disclose issue-specific lobbying expenses. Many of the largest firms lobby across several industries and issues, so it was challenging to develop an accurate measure of significance firms place on tax-related issues.

I used the tax lobbying expenditures measure laid out by Brown, et al. (2013), which assumes a relationship between degree of involvement and degree of significance in regards to the ways in which firms perceive issue-specific lobbying. I take the total number of lobbying reports, per firm per year, listing "Tax" as an issue (TAXREP) and divide by the total number of all lobbying reports for the year (TOTREP). This measurement assumes a firm's degree of involvement in Tax-issue lobbying mirrors its perceived level of importance. When multiplied by Total Annual Lobbying Expenditures (TALE), the measure assumes further that a firm's Tax Lobbying Expenses (TLE) mirrors its degree of involvement in Tax-issue lobbying.

The formula for this calculation could be shown as:

\[
TLE = \left( \frac{TAXREP_{it}}{TOTREP_{it}} \right) \times TALE_{it}
\]

**ETR Calculation.** The formula for calculating ETR is as follows:

\[
ETR_{it} = \frac{TXT_{it}}{PI_{it}}
\]
Instead of using Garcia’s (2016) method for representing the relationship between CSR strength and domestic ETR, I find the GAAP ETR calculation to be more applicable to my research, as I am studying firms from the S&P100, which are all publicly traded, and thus, are required to report these balances in accordance with GAAP.

Data for any given year is usually not reported until \( t+1 \), thus I only include those data points reported in 2011 and forward. The data returned from COMPUSTAT was insufficient for the year 2016, as some firms have not yet reported their financial statements. For sample homogeneity, data for the years 2010 and 2016 have been excluded from further analysis and are not present in the multivariate regression. The multivariate regression was tested using the commonly accepted standardized residual of \( (r_i > |2.9|\sigma^2) \) to determine outliers and remove them from the analysis, resulting in a total of 261 observations.

**CSR Ratings.** Although Garcia (2016) analyzes various strengths and weaknesses of CSR ratings among the firms in the sample, I take the more relevant assessment of the firms’ overall CSR rating. For the 66 out of the 68 firms in my initial sample, Garcia had generated this overall CSR rating by adding all strengths (positive) and concerns (negative) ratings together to create a net CSR rating. I include Garcia’s CSR ratings results, and, as described in the previous section, I use a three-part ranking indicator of CSR ratings to determine my independent variables for CSR.

**RESULTS**

**H1 Analysis**

Statistically significant findings \( (p=0.002) \) conclude that, among sample firms, those with CSRhi ratings experience lower ETR than those with CSRlo ratings. In fact, there appears to be no statistically significant relationship between low CSR firms and changes in ETR. This finding
matches my assumption that firms with low CSR ratings are unable to lower their ETR via tax lobbying. Since TLE was a variable in the regression, its presence affects the distribution of coefficients along the sample regression. Intuitively, one may claim low CSR firms do not effectively leverage their TLE to reduce ETR. There are several reasons for this to be true. First, low CSR firms and their lobbyists could be less well-received in the company of certain politicians, due to their history or lack of socially responsible activity. This may impede the lobbying process. Another reason for this could be that low CSR firms may have to spend more on lobbying to build relationships, as per Brown, et al. (2013). Alternatively, firms with high CSR ratings experience a significant reduction in ETR of about two percent as per Table 1.

**INSERT TABLE 1 HERE**

Across 261 observations, controlling for firm year, size, and industry, descriptive statistics show an average firm ETR to be 29%, with a standard deviation of .06. Of the 261 observations, 59 were firms indicating high CSR ratings, while 42 observations indicated low CSR ratings, omitting an incredibly large middle range of 160 observations. Being that these ratings were separated into thirds to create a multivariate regression analysis, I expected a larger number of observations accumulating in the middle range of CSR ratings, from 1 to 9. This allows me to isolate those firms with considerable higher or lower CSR ratings than the average, which provides a more accurate picture of the effects high and low CSR ratings have on ETR.

**INSERT TABLE 2 HERE**

Table 2 shows correlations for all variables in the model. A significantly larger correlation exists between CSRhi and ETR (-0.25) than between CSRlo and ETR (-0.03). This confirms my prior assumptions that firms with high CSR ratings are better positioned to affect changes in ETR than firms with low CSR ratings.
INSERT TABLE 3 HERE

Being that the firms in my sample are all of similar size and political clout, I find no reason to accept the Drope and Hansen (2008) concept of “free-riding” as an explanation for lowering of effective tax rates among my sample firms. However, I find a statistically significant negative relationship between CSRhi and ETR, which means, for my sample firms, those firms with high CSR ratings (above 9) have lower ETR, over the period in which they lobby.

Limitations

A perceived limitation of this study arises with the infrequent lack of financial information, whether due to periods with reporting or inability of the researcher to access certain databases. One example of this is in the ETR calculations. For those companies not providing financial information in 2016, I find the average change in ETR to be minimal and the Average ETR to be consistent with the year-to-year ETR calculation in that there are no significant changes in ETR which would lead me to remove the company from my sample due to a lack of information for the year 2016. I consider the financial information to continue with the same trend. In order to remove the potential risks inherent with analyzing insufficient data, I chose to filter out all data for the year 2016 from further analysis to keep sample homogeneity.

A limitation in using the TLE measure for assuming degree of tax lobbying significance in firms is that it cannot accurately predict the level of importance the firm places on lobbying for tax-related issues, and therefore cannot accurately calculate real tax lobbying expenses. One reason for using this measure over other assumptions is that firms are unable to render specific tax lobbying expenditures, as a large portion of lobbying expenses are paid to lobbying firms who act on the firm’s behalf. Although this measure implies an almost certain overstatement or
understatement of issue-specific lobbying expenditures, it allows the user the general perspective needed to make critical claims.

A second limitation of this study concerns the CSR ratings list in that it does not take into consideration the CSR ratings for the entire period in question, only the first year of the period. Although I was unable to access CSR ratings for this period, in cases that I had access to 2012 ratings, I noticed overall that the CSR ratings are slow to change. This justification along with the controls for industry and size allows me to hold CSR ratings constant for firms over the period in question.

A third limitation of this study depends on the firm size of the sample firms, which are all large corporations on the S&P100. One may find different results among other firm sizes (e.g. Drope and Hansen, 2008). However, the firms represented here, as well as many other large firms not included, provide the majority of lobbying expenditures to congress, so it may be difficult to gather much lobbying data on firms with a smaller size.

CONCLUSION

The firms present in my sample have lobbied for taxes every year during the period 2011 to 2016. Each firm’s lobbying-year effective tax rate was calculated, and outliers were removed from the multivariate regression. Given a statistically significant negative relationship between firms with high corporate social responsibility ratings and changes in effective tax rates, I find that firms lobbying for tax purposes are more successful at lowering their effective tax rates if they also have a high corporate social responsibility rating. This result, when taken in context with my claim that congressional representatives favor firms with higher corporate social responsibility ratings, suggests these firms effectively leverage their tax lobbying expenditures to
lower their effective tax rates. Although my research delivers supporting evidence to this claim, political research confirming that congressional favor of lobbying firms is dependent on factors effected by corporate social responsibility ratings would provide legitimizing evidence. In addition, sample firms with low corporate social responsibility ratings are unable to effectively leverage their lobbying expenditures to lower effective tax rates. In fact, there appears to be little to no correlation between low corporate social responsibility ratings and changes in effective tax rates. These results show that firms who engage in socially responsible activities may have motivations to lower their effective tax rates.

These motivations have positive impacts for society and the economy, as charitable donations and product safety regulations benefit health and wellbeing of all parties affected. With that in perspective, increasing socially responsible activities becomes not only an investor’s issue but also that of the average American, who also stands to benefit from these actions. Knowing that these behaviors can increase dividends to shareholders by decreasing effective tax rates, and thus increasing income, which can then be shared as dividends, firms have financial incentive to invest in socially responsible activities. In addition, being aware that employees and the greater community will benefit from these actions should incentivize firms to invest in socially responsible activities to improve employee relations and customer satisfaction.

But firms are not the only interested parties to this matter, as many citizens express the need for lobbying reform and stricter regulations on firm behavior, as well as increased firm involvement with socially responsible activities. Educated citizens should know the financial and societal ramifications of the tax laws, lobbying cycle, and socially responsible behavior. The results of this study indicate that firms under scrutiny by the public for irresponsible or unethical behavior do not receive a benefit to their effective tax rates in the way that firms with impeccable
behavior may. As studies move further into specific behavior analyses, we may be able to isolate particular activities as being capable of lowering effective tax rates. However, as it is today, the economy and society as a whole seem to benefit from corporate social responsibility and its results.
References


Footnotes

1Unless otherwise stated all measures (other than TLE, TAXREP, TOTREP, ETR, CSR, TALE, CSRhi, CSRlo, and CSRmid) have been taken from the COMPUSTAT database.

2The Center for Responsive Politics website is www.opensecrets.org. There, one may find a complete database of information regarding lobbying activities of all firms who lobby.

3Access to the MSCI database was limited for this study, so I have used the CSR ratings Garcia calculated.
### Table 1

**Descriptive Statistics for Sample Firms**

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Std. Dev.</th>
<th>Sum</th>
<th>Confidence Level (90%)</th>
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<tbody>
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<td><strong>ETR</strong></td>
<td>261</td>
<td>0.11</td>
<td>0.42</td>
<td>0.29</td>
<td>0</td>
<td>0.06</td>
<td>74.40</td>
<td>0.01</td>
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<tr>
<td><strong>TLE</strong></td>
<td>261</td>
<td>20.34</td>
<td>2635.80</td>
<td>841.45</td>
<td>34.67</td>
<td>560.17</td>
<td>219619.36</td>
<td>57.24</td>
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<td><strong>CSRhi</strong></td>
<td>261</td>
<td>0</td>
<td>1</td>
<td>0.23</td>
<td>0.03</td>
<td>0.42</td>
<td>59.0</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>CSRlo</strong></td>
<td>261</td>
<td>0</td>
<td>1</td>
<td>0.16</td>
<td>0.02</td>
<td>0.37</td>
<td>42.0</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>Y12</strong></td>
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<td>0</td>
<td>1</td>
<td>0.19</td>
<td>0.02</td>
<td>0.39</td>
<td>50.0</td>
<td>0.04</td>
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<tr>
<td><strong>Y13</strong></td>
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<td>1</td>
<td>0.21</td>
<td>0.03</td>
<td>0.41</td>
<td>54.0</td>
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<tr>
<td><strong>Y14</strong></td>
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<td><strong>Y15</strong></td>
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<td>0.02</td>
<td>0.39</td>
<td>50.0</td>
<td>0.04</td>
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<tr>
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<td>1</td>
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<td>0.23</td>
<td>15.0</td>
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<tr>
<td><strong>SIC 3</strong></td>
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<td><strong>SIC 4</strong></td>
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<td>0.07</td>
<td>1.20</td>
<td>2995.37</td>
<td>0.12</td>
</tr>
</tbody>
</table>

**Note:** Descriptive statistics for dependent variable (ETR), independent variables of interest (TLE, CSRhi, CSRlo) and several control variables.

Variable Definitions: (COMPSTAT variable names are bolded and in parentheses)

- **ETR:** Effective tax rate. Total income tax expense (TXT) divided by pre-tax income (PI).
- **TLE:** Tax lobbying expenditure. Shown in thousands. Ratio of tax-specifying lobbying reports to total lobbying reports in a given year per firm (TAXREP/TOTREP) multiplied by total annual lobbying expenditure.
- **CSRhi:** An indicator for firms having CSR ratings greater than 9.
- **CSRlo:** An indicator for firms having CSR ratings less than 1.
- **Y12:** An indicator for observations in the year 2012.
- **Y13:** An indicator for observations in the year 2013.
- **Y14:** An indicator for observations in the year 2014.
- **Y15:** An indicator for observations in the year 2015.
- **SIC1-SIC7:** A series of indicators for industry segment within the first seven segments of the 9-segment code. (Note: No firms were present for the industry segment 8, which is services and not-for-profits.)
- **ln(SIZE):** The natural logarithm of total assets. (AT)
Table 2
Correlations

Correlation coefficients for dependent variable (ETR), independent variables of interest (TLE, CSRhi, CSRlo), and control variables outlined in the notes of [Table 1].

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<th>CSRlo</th>
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<th>SIC 6</th>
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### Table 3

**Empirical Model Analysis**

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</table>

Results of multivariate regression analysis of the relationship between the dependent variable (ETR), the independent variables (TLE, CSRhi, CSRlo), and the control variables defined in the notes of [Table 1].