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Corporate Political Connections and Tax Aggressiveness

ABSTRACT

This study investigates the relation between corporate political connections and tax aggressiveness. We study a broad array of corporate political activities, including the employment of connected directors, campaign contributions, and lobbying. Using a large hand-collected dataset of U.S. firms' political connections, we find that politically connected firms are more tax aggressive than non-connected firms, after controlling for other determinants of tax aggressiveness, industry and year fixed effects, and the endogenous choice of being politically connected. Our findings are robust to various measures of political connections and tax aggressiveness. These results are consistent with the conjecture that politically connected firms are more tax aggressive because of their lower expected cost of tax enforcement, better information regarding tax law and enforcement changes, lower capital market pressure for transparency, and greater risk-taking tendencies induced by political connections.

JEL classification: D72; G34; H26

Keywords: Political connection, tax avoidance, campaign contribution, lobbying

1. Introduction

This study explores political connections as one potential determinant of corporate tax aggressiveness. The political economy literature shows that political connections are valuable resources to individual firms in both developing and developed countries and are important domestic arrangements affecting firms' strategic choices (e.g., Faccio 2006; Goldman et al. 2009; Guedhami et al. 2014; Leuz and Oberholzer-Gee 2006).[1] The impact of political connections on aggressive tax planning, however, is largely unknown in the academic literature. Hanlon and Heitzman (2010) view tax avoidance as a continuum of tax planning strategies with perfectly legal and low-risk strategies at one end and something akin to tax evasion or tax sheltering at the other end. We are particularly interested in those tax avoidance strategies closer to the more aggressive end of the continuum because their determinants are the least understood (Hanlon and Heitzman 2010). Thus, we label our construct of interest tax aggressiveness or tax sheltering. We conjecture that politically connected firms are more tax aggressive because these firms can have lower detection risk, better information regarding future changes in tax regulation or enforcement, lower capital market pressure for transparency, lower political costs associated with aggressive tax planning, and higher risk-taking tendencies. We briefly discuss each of these reasons below.

First, to the extent that politicians provide protection to connected firms, the detection risk of tax shelters can be lower, which leads to lower expected costs of tax sheltering. One may argue that career concerns can motivate federal employees to be less lenient toward connected firms (Fama 1980). For example, government officials may treat the tax planning activities of connected firms with extra caution to defend themselves against future accusations. While there is such a possibility, it does not rule out our conjecture. In fact, recent empirical evidence appears to be inconsistent with the career concern argument. For

[1] Faccio (2006) and Guedhami et al. (2014) use international data, Goldman et al. (2009) use U.S. data, and Leuz and Oberholzer-Gee (2006) use Indonesian data.

example, Duchin and Sosyura (2012) find that connected firms in the United States receive more generous allocations of government capital but use the capital less efficiently than non-connected firms. Hunter and Nelson (1995) and Young et al. (2001) find that political connections are negatively associated with the U.S. Internal Revenue Service (IRS) audit rates of individual income tax returns. The recent IRS scandal over non-profit conservative groups being put under extra scrutiny also indicates that the IRS can be susceptible to political pressure.

Second, political connections can help firms gain access to legislators in the United States (e.g., Hall and Wayman 1990; Milyo et al. 2000). This access can then provide connected firms with confidential information regarding future changes in tax laws or government resources allocated to tax enforcement (i.e., strictness of tax enforcement). Because of better information or less uncertainty, connected firms can better explore time-series differences in tax laws or tax enforcement using complex tax strategies. As a result, we expect connected firms to be more tax aggressive than non-connected firms in the cross section.[2]

Third, politically connected firms can afford more complicated and aggressive tax planning because they have less capital market pressure for transparency. Aggressive tax strategies can increase organizational complexity and reduce financial transparency, leading to higher financing costs (e.g., Balakrishnan et al. 2013; Hasan et al. 2014). However, prior research shows that politically connected firms have better access to debt capital than non-connected firms do. For example, Houston et al. (2013) find that politically connected firms in the United States have lower bank loan costs and more so for firms with weaker bank monitoring, suggesting a substitution effect between creditor monitoring and political connections. As a result, managers of connected firms have less pressure to provide

[2] We thank Mara Faccio and the reviewers for suggesting this mechanism.

transparent information to their creditors and thus they can worry less about the informational consequences of aggressive tax planning. In addition, preferential access to the debt market can alleviate equity market pressure for transparency because connected firms simply have less need for equity financing relative to non-connected firms.[3]

Fourth, political connections can potentially reduce the political costs of being tax aggressive. Mills et al. (2012) find that U.S. firms relying more on government contracts pay more taxes, suggesting that these firms can suffer the cost of losing contract work for being tax aggressive. However, Goldman et al. (2013) find that political connections can increase the value of the procurement contracts of U.S. public firms, suggesting that connected firms worry less about losing government contracts.[4] Therefore, politically connected firms can potentially afford more aggressive tax planning because their connections can alleviate the political cost concerns of being tax aggressive.[5]

Finally, political connections can be associated with a higher degree of tax aggressiveness because of their impact on risk taking. Recent tax research argues that aggressive tax avoidance represents a kind of risky investment (e.g., Hanlon et al. 2014; Hutchens and Rego 2013; Rego and Wilson 2012). For example, Kim et al. (2011) show that aggressive tax planning is associated with higher stock price crash risk. Rego and Wilson (2012) find that managers' risk-taking incentives are associated with greater tax aggressiveness. On the other hand, the political connection literature documents that politically connected firms are more likely to be bailed out during times of economic distress in the United States and other countries (Duchin and Sosyura 2012; Faccio et al. 2006), implying that connected firms can afford more risky investments. Boubakri et al. (2013) find that political connections are positively associated with corporate risk taking for a sample of

[3] This conjecture is likely to be true because of pecking order theory, according to which firms prefer to issue debt instead of equity when seeking external financing. In our U.S. sample, politically connected firms use significantly more financial leverage than non-connected firms do (Table 4).
[4] Our argument, however, is not limited to the political cost related to government contracts.
[5] We thank the reviewers for suggesting this mechanism.

international firms. Duchin and Sosyura (2012) argue that political connections serve as an insurance mechanism against extreme events. Thus, connected firms can engage in more risky tax planning because of their higher risk-taking tendencies induced by political connections.

To conduct our empirical tests, we manually construct a new and comprehensive database of U.S. firms' political connections. Specifically, for all firms in the Compustat/Center for Research in Security Prices (CRSP) database from 1999 to 2009, we collect information regarding their employment of politically connected directors, their campaign contributions, and lobbying efforts from a variety of public sources. Then, we develop three indicators of political connections according to these three types of political activities. For additional tests, we construct several measures of the strength of political connections for the sample of firms that are politically connected.

Given that our construct of interest is tax aggressiveness or tax sheltering, we choose the following proxies used by prior research: the discretionary permanent book–tax difference (*DTAX*), the tax shelter prediction score (*SHELTER*), and the inverse of industry-size adjusted effective tax rates (*TA_ETR*). Rego and Wilson (2012) use both *DTAX* and *SHELTER* to capture risky tax positions. Balakrishnan et al. (2013) develop the *TA_ETR* measure to proxy for overall tax planning aggressiveness. To address the potential measurement errors of each individual proxy, we also use principle component analysis to extract one principle factor from the above three measures. Finally, we use the amount of unrecognized tax benefits (UTBs) as an additional proxy for tax aggressiveness, recently made available by Financial Accounting Standard Board Financial Interpretation No. 48 (FIN48). Lisowsky et al. (2013) find that the ending balance of UTBs is positively and significantly associated with the usage of tax shelters, supporting UTBs as a reliable measure of tax sheltering.

After merging our political connection database with tax aggressiveness variables as well as other control variables, we obtain a sample of 32,898 firm–year observations over the period 1999 to 2009. To examine the relation between political connections and tax aggressiveness, we employ the Heckman two-stage model to mitigate the concern of the endogenous choice of establishing political ties. In the first-stage probit regression, we examine the determinants of a firm being politically connected. The first-stage results show that politically connected firms in the United States are generally larger, with higher financial leverage and more complex business operations. These findings are generally consistent with prior research using international data (e.g., Chaney et al. 2011; Faccio 2006). In addition, politically connected firms tend to be from more concentrated industries and industries that are more politically active. Finally, firms whose headquarters are geographically closer to Washington, D.C., are more likely to be politically active.

From the results of the first-stage regressions, we calculate inverse Mills ratios and include them in the second-stage regressions. The second-stage results show strong evidence that politically connected firms are significantly more tax aggressive than their non-politically connected counterparts, after controlling for other firm-level determinants of tax aggressiveness and industry and year fixed effects. Our results are consistent across all three measures of political connections and all four main measures of tax aggressiveness. In an event study, we also examine the effect of the nomination of a politically connected director on tax aggressiveness. Using a difference-in-differences regression with firm fixed effects, we find that the addition of politically connected directors increases the degree of tax aggressiveness. For a smaller sample of firm–year observations over 2007–2009, we also find that politically connected firms have significantly higher ending balances of UTBs. We also explore the variation in the strength of political connections within the sample of politically connected firms. Overall, we find evidence that the strength of political connections is

positively associated with the degree of tax aggressiveness. For example, we find that firms supporting more political candidates, firms with longer firm–candidate relationships, firms supporting more powerful candidates, firms with higher total lobbying expenditures, and firms with multiple political ties are generally more tax aggressive.

Our study contributes to the literature in the following ways. First, it contributes to the literature on the determinants of corporate tax aggressiveness. Recent research has examined the effect of ownership structure (e.g., Badertscher et al. 2013; Chen et al. 2010; Cheng et al. 2012; McGuire et al. 2014), top executive incentives (e.g., Desai and Dharmapala 2006; Rego and Wilson 2012), division/tax manager incentives (e.g., Armstrong et al. 2012; Phillips 2003; Robinson et al. 2010), corporate governance (Armstrong et al. 2014; Minnick and Noga 2010), country-level characteristics and IRS monitoring (Atwood et al. 2012; Hoopes et al. 2012), auditor tax expertise (McGuire et al. 2012), individual manager characteristics (Dyreng et al. 2010), and stakeholder relationships (Cen et al. 2014; Chyz et al. 2013). Our study extends this line of research by identifying political connections as one significant factor that influences corporate tax aggressiveness. This finding is also interesting because politically connected firms represent a significant component of the U.S. economy: About 25 percent of all public firms actively establish political connections through campaign contributions, lobbying, or hiring directors with political experience. A related study by Faccio (2010) examines, among other things, the association between political connections and effective tax rates for a sample of international firms from 47 countries. Our research differs by focusing on the aggressive tax planning of U.S. firms.

Our research also contributes to the literature on the economic consequences of political connections. Prior studies find that political connections increase firm value.[6] More recent research examines the channels through which political connections add value. Faccio

[6] See Claessens et al. (2008), Faccio (2006), and Fisman (2001) for international evidence on the valuation implications of political connections. Also see Cooper et al. (2010) and Goldman et al. (2009) for U.S. evidence.

et al. (2006) find that politically connected firms around the world are more likely to be bailed out by the government during financial distress. Goldman et al. (2013) find that politically connected firms in the United States are more likely to obtain government procurement contracts. Duchin and Sosyura (2012) show that connected financial institutions in the United States were more likely to be funded by the government during the recent financial crisis. Our study adds to this literature by relating political connections to aggressive tax planning. Moreover, the use of a large and comprehensive dataset of U.S. firms' political connections probably makes our study more generalizable than prior U.S. research. Our dataset can be useful for future works that investigate other intriguing aspects about the political connections of U.S. public firms.

The remainder of the paper is structured as follows. Section 2 reviews the related literature. Section 3 describes the data and the measurement of key variables. Section 4 presents the main empirical analysis. Section 5 presents additional analysis and several robustness checks. Section 6 concludes the study.

2. Literature review and hypothesis

In an important review of empirical tax research in accounting, Shackelford and Shevlin (2001, 378) observe that "little is known about the potential cross-sectional differences in the willingness of firms to avoid taxes." The authors thus call for more research on the determinants of tax aggressiveness. We have since observed significant developments in the tax avoidance literature. Hanlon and Heitzman (2010) and Shevlin (2007) conduct updated and comprehensive reviews of the recent literature on tax avoidance. These reviews generally conclude that, although we have achieved some understanding of corporate tax planning activities, much remains to be done, especially regarding the determinants of aggressive tax planning or tax sheltering.

This study extends the literature by examining the association between corporate political connections and tax aggressiveness or tax sheltering. The political economy literature shows that political connections are valuable resources to individual firms (e.g., Faccio 2006; Fisman 2001; Goldman et al. 2009). Recent research also documents several channels through which political connections add value, including better treatment in the allocation of government contracts, preferential access to government capital investments, and preferential access to bank finance (e.g., Claessens et al. 2008; Duchin and Sosyura 2012; Faccio et al. 2006; Goldman et al. 2013). In this paper, we argue that politically connected firms are more tax aggressive because these firms can have lower detection risk, better information regarding future changes in tax regulation or enforcement, lower capital market pressure for transparency, lower political costs associated with aggressive tax planning, and higher risk-taking tendencies.

Wilson (2009) finds that interests and penalties represent an economically significant cost to firms if the tax authorities successfully challenge the tax sheltering transactions. We argue that political connections can potentially lower the costs associated with the detection of tax sheltering by decreasing the probability of tax shelters being detected by regulators. Hunter and Nelson (1995) and Young et al. (2001) find that political connections are negatively associated with the IRS audit rates of individual income tax returns. Young et al. (2001, 201) conclude that "the IRS is not a rogue government agency, but rather is an effective bureaucratic agent of its political sponsors." The survey-based evidence of Richter et al. (2009, 895) also suggests that "bureaucrats enforce the will of politicians who frequently make 'status calls' to them to ensure that the law is being enforced in ways the politicians see best meet the needs of their constituents." Dean (2002) also argues that campaign contributions by Enron Corporation bought looser government oversight for the

firm's egregious accounting and business practices.[7] Consistent with tax enforcement impacting managers' incentives to avoid taxes, Hoopes et al. (2012) find that the IRS tax audit rate is negatively associated with corporate tax avoidance. Moreover, political connections can help firms to obtain critical information regarding future changes in tax codes or the strictness of tax enforcement, which can facilitate or motivate complex tax planning strategies.

Balakrishnan et al. (2013) argue that aggressive tax planning strategies increase organizational complexity, which, in turn, can reduce financial transparency. Thus, financial opacity appears to be an important non-tax cost of aggressive tax planning. However, using a sample of firms from 19 countries, Chaney et al. (2011) find that politically connected firms face few adverse consequences from their lower-quality disclosures or financial opaqueness because of political pressure and intervention on their behalf in the capital market. One may argue that the findings of Chaney et al. (2011) may not generalize to the U.S. market. However, we note that U.S. firms actually represent a large proportion of the sample used by Chaney et al. (2011). Moreover, Duchin and Sosyura (2012) find that politically connected U.S. firms are more likely to receive government capital in situations of financial distress, suggesting that connected U.S. firms have lower default risk. Houston et al. (2013) find that political connections are associated with lower bank loan costs in the U.S. market, consistent with banks perceiving connected firms as having lower credit risk. Preferential access to bank loans can mitigate managers' pressure to provide transparent financial information. Even if equity investors still have a demand for transparent financial information, the managers of connected firms have less need to respond to such demand, because connected firms can rely less on equity market financing *relative* to non-connected firms. This conjecture is somewhat

[7] Note that the IRS is not the only party that provides potential oversight over corporate tax avoidance, given the complex nature of tax shelters and limited resources of the IRS. Other agencies, such as the Senate Finance Committee, the Senate Permanent Subcommittee on Investigations, and the House Ways and Means Committee, are also actively involved in detecting aggressive tax avoidance.

intuitive, given pecking order theory, according to which firms prefer to issue debt rather than equity because the former is generally cheaper. In our sample of U.S. firms, connected firms use significantly more debt relative to non-connected firms, consistent with the cross-country findings of Faccio (2010). In fact, a growing body of asset pricing literature shows that equity investors also care about downside risk and can value the lower downside risk brought about by political connections (e.g., Ang et al. 2006; Conrad et al. 2013; Santa-Clara and Yan 2010; Yan 2011). For example, Boubakri et al. (2012) find that investors require a lower cost of equity for politically connected firms around the world. In sum, political connections can partially offset the opacity cost engendered by aggressive tax avoidance strategies, thereby increasing tax aggressiveness.

In addition, increased protection against downside risk and reduced penalty on misbehavior can increase politically connected firms' appetite for risk. Rego and Wilson (2012) argue that aggressive tax positions can be seen as a type of risky investment. The authors show that CEO equity risk incentives are associated with more aggressive tax planning. Kim et al. (2011) find that aggressive tax avoidance is related to higher downside risk in the future. Thus, political connections can increase managers' risk-taking activities such as aggressive tax avoidance. Although not focusing on tax risk, Boubakri et al. (2013) find that political connections are positively associated with corporate risk taking. Finally, political connections can mitigate the political cost of being tax aggressive and thus increase tax aggressiveness. For example, Mills et al. (2012) find that the political cost of losing government contracts temper firms' incentives to avoid taxes. Based on the discussion above, we propose the following hypothesis.

HYPOTHESIS: *Politically connected firms exhibit a different level of tax aggressiveness from that of their non-connected counterparts.*

As discussed in Sections 1 and 3, our empirical tests examine a broad array of corporate political activities, including the employment of directors with a political background, campaign contributions, and lobbying. The employment of politicians as directors provides direct political ties and campaign contributions establish ties with politicians by supporting their election campaigns (Cooper et al. 2010; Faccio 2010). Thus, these two types of connections are somewhat similar and can affect tax aggressiveness through all the channels discussed above.

On the other hand, lobbying activities are always issue specific instead of being focused on particular politicians. Several studies examine the effect of lobbying on effective tax rates. Their common argument is that corporations can lobby to obtain or maintain tax breaks, which leads to lower tax rates. For example, Richter et al. (2009) find that firms that spend more on lobbying in a given year pay lower effective tax rates the next year. In contrast, Drope and Hansen (2008) find that firms that spend more in an effort to affect policy generally or tax policy specifically are no more likely to benefit from lower tax rates. Meade and Li (2012) show that firms that engage in aggressive lobbying instead of defensive lobbying exhibit a negative relation between the magnitude of tax lobbying expenditures and future tax rates. Brown et al. (2014) find that campaign contributions can enhance the effectiveness of lobbying in reducing effective tax rates. Overall, the evidence on lobbying and tax rates is somewhat mixed. While the above studies focus on tax codes that generally present at the industry level, our study focuses on the effect of political connections on the firm-level choices of aggressive tax arrangements, such as tax sheltering. Lobbying activities can potentially increase corporate tax aggressiveness by reducing regulatory oversight. For

example, Enron, one of the most politically connected firms in recent U.S. history, spent $3.5 million in 1999 and 2000 on lobbying to influence oversight by regulatory authorities.[8]

Because our motivation is to study the determinants of tax aggressiveness or tax sheltering, we use empirical measures that are designed to capture such constructs instead of using effective tax rates. However, to the extent that our empirical measures also capture some effects of favorable tax policies on politically connected firms, our findings should be interpreted with caveats.[9]

3. Sample and measurements

Sample and data

The initial sample consists of firm–year observations from the intersection of Compustat and CRSP databases over the period of 1999 to 2009. Our sample period starts in 1999 because one of the indicators of political ties (i.e., lobbying efforts) only became available since the second half of 1998. We then delete observations with missing Compustat data needed to calculate our tax aggressiveness variables and control variables. We also exclude firm–year observations with negative book values and observations with total assets of less than $1 million. Firms from the financial services and utilities industries are also excluded. After merging the tax and control variables with our political connections database, we are left with a final sample of 32,898 firm–year observations.[10]

Table 1 displays the annual and industry distributions of our research sample. Panel A of Table 1 shows an increasing trend in the number of politically connected firms over the

[8] *New York Times*, Enron's Collapse: The Havens, January 17, 2002.

[9] In unreported tests, we find that all of our political connection measures are also associated with effective tax rates. However, further investigation suggests that aggressive tax planning plays an important role in the relation between political connections and effective tax rates. Moreover, we find that our main results hold even after the level of effective tax rates is included as an additional independent variable in the regression model.

[10] The sample size for one tax aggressiveness measure (i.e., *TA_ETR*) is smaller (N = 30,376) because of the additional requirement of three years of positive pre-tax income. All the results remain robust if we exclude observations with negative pre-tax income. Henry and Sansing (2014) show that discarding observations with negative pre-tax book income biases tax avoidance measures by treating income and loss years asymmetrically. Therefore, in our main tests, we include both profitable and loss firms.

sample period. On average, about 25 percent of our sample firms are politically connected, suggesting that political activism is relatively widespread in the United States. Panel B shows that the most politically active industries are coal, defense, and tobacco products, all of which have more than 50 percent politically connected firms. The least active industry is textiles, with only 8.1 percent connected firms.

Political connection measures

In this study, we develop a comprehensive dataset of corporate political connections. Specifically, we consider three types of corporate political activities: the employment of former politicians as corporate directors, corporate campaign contributions, and corporate lobbying expenditures.

Political connections via the board of directors

Using the EDGAR database, we manually extract the name and background of each board member for each firm–year observation from SEC filings, including DEF 14a, 10-K, and 8-K. Following Goldman et al. (2009, Table 1), a company is defined as politically connected (*PC_Director* = 1) if it has at least one board member with one of the following former positions: president, presidential candidate, senator, member of the U.S. House of Representatives, secretary, deputy secretary, deputy assistant secretary, undersecretary, associate director, governor, director (CIA, FEMA), deputy director (CIA, OMB), commissioner (IRS, NRC, SSA, CRC, FDA, SEC), representative to the United Nations, ambassador, staff (White House, president, presidential campaign), chairman of a party caucus, chairman or staff of a presidential election campaign, and chairman or member of a

presidential committee/council. Based on this definition, about 13.5 percent of all sample firms are politically connected.[11]

Campaign contributions

Our second measure of political connection is based on corporate campaign contributions. In the United States, firms can contribute to political campaigns indirectly by establishing and sponsoring political action committees (PACs). Our data on PAC contributions are collected from detailed committee and candidate summary contribution files from the Federal Election Commission.[12] Following Cooper et al. (2010), we define a firm as politically connected in a year (*PC_Contribution* = 1) if it registered a PAC in November of that year. Approximately 7.9 percent of our sample firms are politically connected according to this definition.

Lobbying

Lobbying refers to the act of attempting to influence the decisions made by government officials. While some companies host in-house lobbyists, most companies hire an external lobbying firm. We obtain lobbying data from the lobbying reports database maintained by the Senate Office of Public Records. Following Yu and Yu (2011), we define a firm to be politically connected (*PC_Lobby* = 1) in a given year if the firm incurs non-zero lobbying expenditures during the year. About 15 percent of our sample firms are politically connected according to their lobbying activities.

[11] Goldman et al. (2009) document that 153 (30.6 percent) of the Standard and Poor's 500 (S&P500) firms were politically connected at the time of the 2000 election. In our data, we find 32 percent of the S&P 500 companies are connected. Our human tie-based political connections can understate firm connectedness because they do not incorporate cases where corporate directors become politicians. We also exclude local and lower-ranked politicians because these politicians are less influential. However, to the extent that local or lower-ranked politicians also have a significant influence on the IRS or firm-level policies, the effect of political connections can be underestimated.

[12] We do not consider "soft money" contributions (so-called super PACs) due to difficulties in data gathering and data reliability.

Tax aggressiveness/sheltering measures

Our theories focus on aggressive tax positions or complicated tax shelters. Therefore, we choose measures of tax aggressiveness or tax sheltering developed by prior research. Following Armstrong et al. (2012) and Rego and Wilson (2012), our first two measures are discretionary permanent book–tax differences (*DTAX*) and a tax shelter prediction score (*SHELTER*). Prior research suggests that *DTAX* and *SHELTER* are significantly associated with actual cases of tax sheltering. Specifically, *DTAX* is the residual from the following regression, estimated by year and two-digit Standard Industrial Classification (SIC) code:

$$PERMDIFF_{it} = \propto_0 + \propto_1 INTAN_{it} + \propto_2 UNCON_{it} + \propto_3 MI_{it} + \propto_4 CSTE_{it} + \propto_5 NOL_{it} + \propto_6 LAGPERM_{it} + e_{it}, \quad (1)$$

where *PERMDIFF* is total book–tax difference minus the temporary book–tax difference, [{*PI* – [(*TXFED* +*TXFO*)*/STR*]} – *(TXDI/STR*)], scaled by lagged assets (*AT*); *INTAN* is goodwill and other intangible assets (*INTAN*), scaled by lagged assets; *UNCON* is income (loss) reported under the equity method (*ESUB*), scaled by lagged assets; *MI* is income (loss) attributable to minority interests (*MII*), scaled by lagged assets; *CSTE* is current state tax expense (*TXS*), scaled by lagged assets; *NOL* is change in net operating loss carryforwards (*TLCF*), scaled by lagged assets; *LAGPERM* is *PERMDIFF* in year *t* - 1; and *STR* is the statutory tax rate.

The variable *SHELTER* is an indicator variable that takes the value one for firms in the top quintile of the predicted probability that the firm is engaged in tax sheltering, based on Wilson's (2009) model:

$$SHELTER = -4.86 + 5.20 \times BTD + 4.08 \times DA - 1.41 \times LEV + 0.76 \times LAT + 3.51 \times ROA + 1.72 \times FI + 2.43 \times R\&D, \quad (2)$$

where *BTD* is the total book–tax difference, scaled by lagged total assets (*AT*); *DA* is the absolute value of discretionary accruals from the performance-adjusted modified cross-sectional Jones model; *LEV* is long-term debt (*DLTT*) divided by total assets (*AT*); *LAT* is the logarithm of total assets (*AT*); *ROA* is pre-tax earnings (*PI*) divided by lagged total assets; *FI* is an indicator variable equal to one for firm observations reporting foreign income (*PIFO*) and zero otherwise; and *R&D* is research and development (R&D) expenses (*XRD*) divided by lagged total assets.[13]

The third measure of tax aggressiveness is constructed following Balakrishnan et al. (2013). Specifically, the measure *TA_ETR* is the industry- and size-matched *GAAP ETR* less the firm's *GAAP ETR*,[14] where *GAAP ETR* is the total tax expense over the past three years (*t* to *t* – 2) divided by the sum of pre-tax income over the past three years. Industry- and size-matched *GAAP ETR* is the average *GAAP ETR* for the portfolio of firms in the same quintile of total assets and the same industry over the same time period. Positive values of *TA_ETR* imply that the firm pays less tax than its size and industry peers and greater values of *TA_ETR* indicate greater tax aggressiveness.

All the above measures capture the underlying construct with errors. To mitigate the measurement errors of each individual measure, using principle component analysis, we develop a composite measure of tax aggressiveness (*TA Factor*) as the first principle component of the above three measures (e.g., Chen et al. 2010). Finally, in our robustness tests, we consider additional measures of tax avoidance, including the recently available

[13] All the results are robust to the use of Lisowsky's (2010) shelter measure.
[14] All the results hold if we replace total tax expense by total cash tax paid.

measure based on FIN48 UTBs. Table 2 presents the descriptive statistics and Table 3 presents the correlation matrix for all the variables used in our main tests.[15] Table 2 shows that most of the firm characteristics between connected firms and non-connected firms are significantly different. Table 3 shows that the three political connections proxies are positively correlated. In addition, all the tax aggressiveness measures are positively and significantly correlated with the political connections proxies, except that the correlation between *PC_Contribution* and *TA_ETR* is insignificant.

4. Main empirical analysis

In this section, we conduct an empirical analysis of the association between corporate political connections and tax aggressiveness. Firms choose whether to establish political connections or not. Thus, we employ a Heckman two-stage model to address the endogenous choices of corporate political connections. Toward this end, we first examine the determinants of corporate political activism in the United States.

First-stage regressions: Determinants of corporate political activity

In the first stage of the Heckman two-stage procedure, we examine the determinants of corporate political connections (*PC*) using the following probit regression:

$$\Pr(PC_{i,t}) = \alpha \quad + \beta X_{i,t} + \gamma Z_{i,t} + \delta(Industry_{i,t}) + \theta(Year_t) + \varepsilon_{i,t}, \qquad (3)$$

where *PC* is one of the three political connection indicators (i.e., *PC_Director*, *PC_Contribution*, and *PC_Lobby*). The vector $X_{i,t}$ represents the set of control variables in the second-stage regression. The vector $Z_{i,t}$ represents additional selection model variables that

[15] The Appendix provides detailed definitions for all the variables.

are potential determinants of political connections, from prior research on political connections (e.g., Chaney et al. 2011; Cooper et al. 2010). Lennox et al. (2012) argue that it is important to impose exclusion restrictions in implementing the Heckman two-stage regression (i.e., the treatment effect model), even though the inverse Mills ratio can be identified by its non-linear arguments. In other words, we need at least one variable in the first-stage model that affects tax aggressiveness only through its effects on political connections. Specifically, the vector $Z_{i,t}$ includes *Industry % of Connected Firms* and *Distance from Firm HQ to DC*.[16] Based on surveys of prior research on the determinants of corporate tax aggressiveness (e.g., Hanlon and Heitzman 2010), we argue that there are no obvious economic reasons that these excluded variables have a direct impact on the level of corporate tax aggressiveness other than the indirect impact through political connections. For example, by construction, the variable *Industry % of Connected Firms* is positively related to the political connections of each individual firm within the industry. However, there is no clear reason to believe that industry political activeness has a direct impact on firm-level tax aggressiveness through channels other than political connections. Similar arguments can apply to the distance to DC variable. Table 3 shows that *Industry % of Connected Firms* and *Distance from Firm HQ to DC* have zero or very low correlations with the tax aggressiveness measures.

Table 4 reports the results of estimating Eq. (3). Consistent with prior research, we find that firm size is an important determinant of the likelihood of establishing connections. Politically connected firms also have higher leverage and are more complex than non-connected firms (Cooper et al. 2010). Politically connected firms tend to come from more concentrated and more politically active industries. Finally, firms with headquarters closer to

[16] The coefficients of our political connection variables in the second-stage regressions have the same significance levels if only one of the exclusion restrictions (i.e., *Industry % of Connected Firms* or *Distance from Firm HQ to DC*) is included in the first-stage model.

Washington, D.C., are more likely to establish political connections (Chaney et al. 2011). In Table 4, the area under the receiver operating characteristic (ROC) curve ranges from 0.767 to 0.901, depending on different political connection indicators. This suggests that our probit model has acceptable discriminatory power.[17] Moreover, the *Z* variables are jointly significant ($p < 0.00$). Using the estimation results of Eq. (3), we construct inverse Mills ratios for each type of political connection and incorporate these ratios in the second-stage regressions.

Second-stage regressions: Political connections and tax aggressiveness

To examine the relation between political connections and tax aggressiveness, we estimate the following second-stage regression:

$$TAX_{i,t} = \alpha \quad + \beta PC_{i,t} + \gamma X_{i,t} + \varphi Mills_{i,t} + \delta\left(Industry_{i,t}\right) + \theta(Year_t) + \varepsilon_{i,t}, \qquad (4)$$

where *TAX* is one of the four tax aggressiveness proxies (i.e., *DTAX*, *SHELTER*, *TA_ETR,* and *TA Factor*) and *PC* is one of the three measures of political connections, as defined in Section 3. If politically connected firms are more tax aggressive than non-connected firms, we expect β to be significantly positive. The detailed definitions for all control variables are presented in the Appendix.

The set of control variables is taken from prior research (e.g., Armstrong et al. 2012; Chen et al. 2010; Rego and Wilson 2012). We control for return on assets (ROA), loss carryforwards, and changes in loss carryforwards because prior research finds that operating performance impacts a firm's need to avoid taxes. We include standard deviations of ROA because variation in profitability may impact a firm's tax planning strategies (Armstrong et

[17] The proper statistic with which to measure the power of a logit/probit model is the area under the ROC curve instead of the pseudo-R^2 value. An area under the ROC curve of more than 80% is generally considered very good or excellent.

al. 2012; Rego and Wilson 2012). We include foreign assets to control for differences in international tax planning opportunities (Rego 2003). We include change in goodwill to capture the potential impact of merger and acquisition activities. New investments and property, plant, and equipment balance are included to control for a firm's investment activity, since investment can lead to book–tax differences because of different tax and accounting rules. Following Chen et al. (2010), we include intangible assets and equity income in earnings to control for differential book and tax treatments of intangibles and consolidated earnings accounted for using the equity method. We control for abnormal accruals because Frank et al. (2009) find a positive association between financial and tax reporting aggressiveness. Cash is included to account for a firm's cash needs that may motivate tax deferral strategies (McGuire et al. 2012). Firm size, leverage, and market-to-book ratios are included to make sure our results are robust to these commonly used control variables. Complex organization structure can give firms more opportunities for aggressive tax planning (e.g., Armstrong et al. 2012). We control for the complexity of the organization using the number of business and geographic segments. McGuire et al. (2014) find that dual-class firms engage in lower levels of tax planning and thus we include a dual-class firm indicator in the regression. In addition, we include a governance index and institutional ownership to further control for the effect of governance. Mills et al. (2012) find that firms with more government procurement contracts pay higher taxes. To control for this effect, we include the logarithm of the total dollar amount of government contracts in the regression. Finally, we control for industry-level competition. It is possible that firms from more competitive industries have a greater demand for tax aggressiveness. On the other hand, high competition represents a strong external governance mechanism and can thus reduce extreme forms of tax avoidance (e.g., Armstrong et al. 2014). In all specifications, we include industry

and year fixed effects. The inverse Mills ratios constructed using the results in Table 4 are included to control for the endogenous choice of political connections.

Table 5 reports the second-stage regression results. For all regression specifications, the *t*-statistics below the coefficients are based on standard errors corrected for firm and year clustering (Petersen 2009). Panel A of Table 5 reports the results of the association between *PC_Director* and tax aggressiveness. Each column of Panel A reports the regression results with each of the four tax aggressiveness measures as the dependent variable. Panel A shows that *PC_Director* is positively and significantly associated with *DTAX*, *SHELTER*, *TA_ETR*, and the tax aggressiveness factor. These results indicate that the presence of former politicians as directors is related to higher levels of tax aggressiveness or tax shelter usage. The results are also economically significant. For example, the result in column (4) of Panel A suggests that politically connected firms have a level of tax aggressiveness more than one standard deviation higher than that of non-connected firms. The coefficients of the control variables are generally consistent with prior research. For example, Table 5, Panel A, shows that ROA, loss carryforwards, and foreign assets are positively associated with the level of tax aggressiveness. The coefficient of the dual-class indicator is overall negative, consistent with McGuire et al. (2014). On the other hand, the coefficient of governance index is overall positive and significant, suggesting that firms with more anti-takeover provisions are more aggressive in tax planning. The coefficient of government contracts is significantly negative in the *TA_ETR* and tax aggressiveness factor regressions. The coefficients of the Herfindahl–Hirschman index is negative and significant, suggesting that firms in more competitive industries are more tax aggressive. The coefficients of the other control variables are generally inconsistent across different measures of tax aggressiveness. For example, size is negatively related to tax aggressiveness when *DTAX* is the dependent variable, which is somewhat consistent with the political cost hypothesis (Zimmerman 1983). However, the

relation is positive when *SHELTER*, *TA_ETR*, or the tax aggressiveness factor is used to measure tax aggressiveness. The coefficients of the inverse Mills ratio are all significantly negative, suggesting that ordinary least squares (OLS) regressions likely bias the coefficient estimates downward. Supporting this interpretation, untabulated results show that the magnitudes of the coefficients of *PC_Director* estimated by OLS regressions are significantly lower than those from the treatment effect models. A caveat here is that the treatment effect model results are better than the OLS regression results only if at least one of the excluded variables is valid. Nevertheless, we find that *PC_Director* is still positively associated with all tax aggressiveness measures at better than the one percent level, even in OLS regressions.

Table 5, Panel B, reports the results using *PC_Contribution* as the key independent variable of interest and Panel C reports the results using *PC_Lobby* as the key independent variable of interest. Both measures of political connections are also significantly and positively associated with all four measures of tax aggressiveness, suggesting that campaign-contributing firms and lobbying firms engage in more aggressive tax planning. Again, the coefficients of *PC_Contribution* and *PC_Lobby* are positive and significant at the one percent level in OLS regressions, although with significantly smaller magnitudes.

Overall, the results in Table 5 support the prediction that political connections are positively associated with the extent of aggressive tax planning, probably due to the mitigating effect of political connections on the cost of aggressive and complicated tax strategies. The empirical results are obtained after controlling for many other determinants of tax aggressiveness and industry and year fixed effects, as well as the endogenous choice of political connections.

5. Additional analysis and robustness checks

In this section, we conduct several robustness checks and present additional analysis on the strength of political connections.

Reverse causality, omitted variables, and a firm fixed effect method

Both tax aggressiveness and political connections are firm choices. Some unknown factors can drive both tax planning policies and corporate political activities. Moreover, past aggressive tax positions can motivate firms to seek political connections.[18] To address these issues, we include a battery of control variables that are potential determinants of tax aggressiveness. In addition, we explicitly address the potential endogenous choice of political connections by using the Heckman two-stage model (e.g., Lennox et al. 2012).

To further address the endogeneity issue, in this subsection we include firm fixed effects in the second-stage regression. Due to the largely time-invariant nature of the political connection variables, it is inappropriate to use a traditional fixed effect method because this method depends on within-firm variations (Roberts and Whited 2012).[19] Instead, we follow the method of Aghion et al. (2013) to explore the time series of tax avoidance data available before the sample period. Specifically, we first calculate the firm-specific means of the dependent variable (i.e., the four tax aggressiveness measures) during the pre-sample period 1994 to 1998.[20] Then, we include the pre-sample firm-specific means of the dependent variable (i.e., the firm fixed effects) as an additional control variable in the second-stage regression. The results reported in Table 5 are robust to controlling for past tax aggressiveness, alleviating the reverse causality concern that tax-aggressive firms forge political ties to mitigate the costs stemming from tax aggressiveness (untabulated).

[18] However, it is also possible that politicians are less willing to join firms with aggressive tax positions.
[19] As expected, the political connection variables generally load insignificantly in the fixed effect regressions.
[20] The year 1994 is the first year in which we can have consistent tax avoidance variables due to a tax rate change in 1993.

To maximize within-firm variations and better implement the traditional firm fixed effect model, we next examine the effect of nominating politically connected directors. Goldman et al. (2009) show that these nominations are largely driven by the supply of connected directors rather than the demand for them. This is because individuals who are both willing and able to use their political connections to help a company are in limited supply. Therefore, reverse causality is unlikely to be an issue for director-based political connections. To conduct an event study, we first identify a sample of 1,884 newly nominated politically connected directors during the period 1999 to 2009. We then apply the following criteria: i) The connected director stays with the firm for at least three years after his/her nomination, ii) the firm had no political connections before the director nomination, and iii) multiple nominations in the same year for the same firm are counted as one event. After applying these criteria, we are left with 289 unique firms with connected director nominations. To examine the effect of connected director nominations, we run the following difference-in-differences regression:

$$TAX_{i,t} = \alpha_i + \tau_t + \beta POST\_ADD_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t}, \quad (5)$$

where *TAX* is one of the four tax aggressiveness proxies, α_i is a firm fixed effect, τ_i is a time indicator, *POST_ADD* is the interaction term between *POST* and *ADD*, *ADD* is an indicator variable that takes the value of one for firms that appoint politically connected directors and zero otherwise, *POST* is an indicator that takes the value of one for *ADD* firms for the period after the appointment year and zero otherwise, and $X_{i,t}$ is the set of control variables in Eq. (4).[21] For each event firm with a connected director nomination, we include two years of

[21] The indicators *ADD* and *Dual Class* are omitted from the regression model because of the inclusion of firm fixed effects. The results are stronger if we exclude firm fixed effects.

observations before the event year and two years of observations after it.[22] The control firms are all firms that had no political connections of any type throughout the sample period.

Table 6 reports the results of the difference-in-differences regression. We can see that the coefficient of *POST_ADD* is positive and significant for all tax aggressiveness proxies. These results suggest that the addition of politically connected directors leads to an increased level of tax aggressiveness. More importantly, because firm fixed effects (as well as a battery of other control variables) are controlled for, the results are unlikely to be driven solely by omitted variables. Overall, the results in this section partially address the issue of omitted variables and reverse causality. However, we admit that our empirical strategies are unlikely to completely solve the endogeneity issue and readers should take caution in interpreting our results as evidence that political connections have a causal effect on tax aggressiveness.

UTB analysis

In 2006, the Financial Accounting Standards Board issued FIN48, Accounting for Uncertainty in Income Taxes, which requires firms to provide additional disclosures about levels and changes in UTBs. Recent research claims that the FIN48 UTB is theoretically most similar to the underlying construct of tax aggressiveness relative to other publicly available data (Rego and Wilson 2012). Using IRS confidential tax shelter data, Lisowsky et al. (2013) provide empirical support for this claim by documenting a strong and robust association between the ending balance of total UTBs and tax shelter participation.

Following the suggestions of Lisowsky et al. (2013), we construct a measure of tax aggressiveness using Compustat data item "TXTUBEND" (i.e., the ending balance of UTBs). Specifically, the variable *lnUTB* is the natural logarithm of TXTUBEND. Larger firms are likely to have larger reserves for UTBs. Therefore, we also calculate a measure scaled by

[22] The observation for the year of nomination is excluded.

total assets, *SC_UTB*. We note, however, that Lisowsky et al. (2013) document a much stronger predicting power of *lnUTB* for tax shelter participation than of *SC_UTB*, even after controlling for firm size.

Using a sample of 4,426 firms during 2007 to 2009, we re-estimate Eq. (4) using the UTB measures as the dependent variable and report the results in Table 7. Column (1) of Table 7 shows that all three measures of political connections are positively and significantly associated with the UTB levels, as measured by *lnUTB*. Column (2) shows that the results are weaker when using *SC_UTB*.

Rego and Wilson (2012) also use the predicted level of UTBs as a measure of tax aggressiveness. Using the coefficients in Table 1 of Rego and Wilson (2012), we estimate the predicted levels of UTB for our broad sample firms as

$$Pred\_UTB = -0.004+0.011*PT\_ROA + 0.001*SIZE + 0.010*FOR\_SALE + 0.092*R\&D - 0.002*DISC\_ACCR - 0.003*LEV + 0.000*MTB + 0.014*SG\&A - 0.018*SALES\_GR, \quad (6)$$

where *PT_ROA* is pre-tax earnings (*PI*) divided by lagged total assets; *SIZE* is the logarithm of total assets (*AT*); *FOR_SALE* is total foreign sales scaled by total sales; *R&D* is R&D expenses (*XRD*) divided by lagged total assets; *DISC_ACCR* is discretionary accruals from the performance-adjusted modified cross-sectional Jones model; *LEV* is long-term debt (*DLTT*) divided by total assets (*AT*); *MTB* is the market-to-book ratio; *SG&A* is selling, general, and administrative expenses (SG&A) expenses (XSGA) scaled by lagged total assets; and *SALES_GR* is the net sales growth rate.

Column (3) of Table 7 reports the results of estimating Eq. (4) using the predicted UTB as the dependent variable. As seen in column (3), the coefficients of all the measures of political connections are significantly positive. Overall, the results in this section show that

the relation between political connections and tax aggressiveness is robust to the use of UTBs to measure tax aggressiveness.

Strength of connections

In this section, we further explore whether the strength of political connections is associated with the extent of tax aggressiveness for the subsample of connected firms. To do this, we replace the political connection indicator in Eq. (4) with one of the measures of political connection strength. For political connections through directorship, we construct a measure, *Director_freshness*, which is defined as one divided by one plus the elapsed years between the current year and that of the most recent political position held by any connected directors.[23] Higher values of *Director_freshness* indicate more recent positions and thus stronger connections. For example, *Director_freshness* is one if the firm has a director who holds a position in the current year.

Second, following Cooper et al. (2010), we create several contribution indexes for the sample of firms that make political contributions. These indexes include the logarithm of the total number of candidates supported over a rolling five-year window ($PI^{Candidates}$); the weighted sum of the number of months during which a firm has maintained an uninterrupted relationship with each supported candidate ($PI^{Strength}$), where uninterrupted relationships are taken to be those in which the firm did not miss any of the candidate's past reelection cycles; the ability of a candidate to help a firm ($PI^{Ability}$); and the weighted number of the total number of candidates supported(PI^{Power}), where the weight for each candidate is the sum of the candidate's committee rankings. The Appendix provides detailed construction procedures for each of the indexes.[24]

[23] It may be intuitive to measure strength by the number of connected directors; however, for most firms in our sample, there is only one connected director and thus we have little variation for empirical tests.
[24] See Cooper et al. (2010) for more detailed descriptions of the construction of the above contribution indexes.

Finally, we measure connection strength using the logarithm of total lobbying expenditures during the year for the sample of firm–years engaging in lobbying activities. Table 8 presents the results for connection strength. Overall, we find some weak evidence regarding the relation between the measures of political connection strength and the level of tax aggressiveness.[25] For example, Table 8 shows that firms supporting more candidates through campaign contributions, firms with longer firm–candidate relationships, firms supporting more powerful candidates, and firms with higher total lobbying expenditures appear to be marginally more tax aggressive. In addition, we measure the strength of political connections by the number of political connection types. Panel G of Table 8 shows that firms with all three types of connections (i.e., connected directors, campaign contributions, and lobbying) have a greater degree of tax aggressiveness than firms with one or two types of connections and that firms with two types of connections have a greater degree of tax avoidance than firms with only one type of connection. These results suggest that different types of political connections are likely to be complements of each other rather than pure substitutes.[26]

6. Conclusion

This study investigates the relation between corporate political connections and tax aggressiveness. We manually construct a large dataset of U.S. firms' political activities during the period 1999 to 2009, including the employment of former politicians as directors, corporate campaign contributions, and lobbying. Using a Heckman two-stage model to mitigate self-selection bias, we find strong evidence that corporate political connections are associated with higher levels of tax aggressiveness. The results are consistent across different

[25] The coefficients of connection strength variables have the same significance levels in OLS regressions.
[26] We also extract a common factor from the three types of political connections and find that this common factor is positively and significantly related to tax aggressiveness. This suggests that the three types of connections have something in common, although they are not pure substitutes. Moreover, we find no evidence that some types of connections are more strongly related to tax aggressiveness than others.

measures of tax aggressiveness and different types of political connections. In addition, using an event study approach with firm fixed effects, we find that the nomination of politically connected directors increases the degree of tax aggressiveness. We offer several potential interpretations for the positive relation between political connections and tax aggressiveness, including lower detection risk, better information regarding tax regulation and enforcement, lower capital market pressure for transparency, lower political costs of aggressive tax planning, and greater risk-taking tendencies for politically connected firms. However, we acknowledge that our research is largely explorative in nature and we leave the empirical investigation of the underlying mechanisms for future research. For example, one interesting research question could be whether the IRS is less likely to target politically connected firms.

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Appendix
Variable Definitions

Key Tax Variables	
DTAX	The discretionary permanent book–tax difference of Frank et al. (2009), which is the residual from the following regression, estimated by year and two-digit SIC code: $PERMDIFF_{it} = \propto_0 + \propto_1 INTAN_{it} + \propto_2 UNCON_{it} + \propto_3 MI_{it} + \propto_4 CSTE_{it} + \propto_5 NOL_{it} + \propto_6 LAGPERM_{it} + e_{it}$, where *PERMDIFF* = total book–tax difference – temporary book–tax difference = *[{PI – [(TXFED +TXFO) / STR]} – (TXDI / STR)],* scaled by lagged assets (*AT*); *INTAN* = goodwill and other intangible assets (*INTAN*), scaled by lagged assets; *UNCON* = income (loss) reported under the equity method (*ESUB*), scaled by lagged assets; *MI* = income (loss) attributable to minority interest (*MII*), scaled by lagged assets; *CSTE* = current state tax expense (*TXS*), scaled by lagged assets; *NOL* = change in net operating loss carryforwards (*TLCF*), scaled by lagged assets; *LAGPERM = PERMDIFF* in year *t* - 1; and *STR* is the statutory tax rate.
SHELTER	An indicator variable that takes the value of one for firms in the top quintile of the predicted probability that the firm is engaged in tax sheltering, based on Wilson's (2009) model: *SHELTER* = -4.86 + 5.20 × *BTD* + 4.08 × *DA* - 1.41 × *LEV* + 0.76 × *LAT* + 3.51 × *ROA* + 1.72 × *FI* + 2.43 × *R&D*, where *BTD* is the total book–tax difference, scaled by lagged total assets (*AT*), *DA* is the absolute value of discretionary accruals from the performance-adjusted modified cross-sectional Jones model, *LEV* is long-term debt (*DLTT*) divided by total assets (*AT*), *LAT* is the logarithm of total assets (*AT*), *ROA* is pre-tax earnings (*PI*) divided by lagged total assets, *FI* is an indicator variable equal to one for firm observations reporting foreign income (*PIFO*) and zero otherwise, and *R&D* is R&D expenses (*XRD*) divided by lagged total assets.
TA_ETR	The tax aggressiveness measure of Balakrishnan et al. (2013), which is the firm's mean industry- and size-matched *GAAP_ETR* less the firm's *GAAP_ETR*, where *GAAP_ETR* is the sum of total tax expenses (*TXT*) over years *t*, *t* - 1 and *t* - 2, divided by the sum of pre-tax income (*PI*) over years *t*, *t* - 1 and *t* - 2. The mean industry- and size-matched *GAAP_ETR* is the mean *GAAP_ETR* for the portfolio of firms in the same quintile of total assets and the same industry as the firm, where size and industry are sorted independently and industry is based on the Fama-French 48 industries. Note that higher values of *TA_ETR* indicate *greater* tax aggressiveness.
TA Factor	The first principal component of the above three tax aggressiveness measures.
Key Political Connection Variables	
PC_Director	An indicator that takes the value of one if the firm has at least one former politician on board, zero otherwise.
PC_Contribution	An indicator that takes the value of one if the firm has non-zero campaign contributions, zero otherwise.
PC_Lobby	An indicator that takes the value of one if the firm has non-zero lobby expenses, zero otherwise.
Control variables	
ROA	Return on assets, calculated as pre-tax income (*PI*) divided by lagged total assets (*AT*).

Std. Dev. of ROA	Standard deviation of *ROA* over the past five years.
Loss Carryforward	An indicator variable that equals one if net operating loss carryforwards is positive (Compustat: *TLCF*).
Change in Loss Carryforward	Change in net operating loss carryforwards (Compustat *TLCF*) scaled by lagged total assets (*AT*).
Foreign Assets	Foreign assets, estimated following Oler et al. (2007).
Change in Goodwill	Change in goodwill (*GDWL*) scaled by lagged total assets (*AT*). If the value is negative, then it is set to zero.
New Investments	New investment, calculated as Compustat (*XRD* + *CAPX* + *AQC* - *SPPE* - *DPC*), scaled by lagged total assets (*AT*).
Property, Plant, and Equipment	Net property, plant, and equipment at the end the year, calculated as Compustat *PPENT* scaled by lagged total assets (*AT*).
Intangible Assets	Intangible assets at the end of the year, calculated as Compustat *INTAN* scaled by lagged total assets (*AT*). If *INTAN* = 'C', then *INTAN = GDWL*.
Equity Income in Earnings	Equity income in earnings, calculated as Compustat *ESUB* scaled by lagged total assets (*AT*).
Abnormal Accruals	The absolute value of discretionary accruals, estimated from the performance-adjusted modified cross-sectional Jones model.
Cash Holdings	Cash holdings at the end of the year, calculated as Compustat *CHE* scaled by lagged total assets (*AT*).
Firm Size	Log of market value of equity at the end of the year, calculated as Compustat *PRCC_F* ×*CSHO*.
Leverage	Financial leverage at the end of the year, calculated as long-term debt (*DLTT*) scaled by total assets (*AT*).
Market-to-Book	Market-to-book ratio at the end of the year, calculated as the market value of equity (Compustat *PRCC_F* ×*CSHO*) divided by the book value of equity (Compustat *CEQ*).
No. of Business Segments	Log of the number of business segments.
No. of Geographic Segments	Log of the number of geographic segments.
Governance Index	The governance index of Gompers et al. (2003), where higher values indicate more anti-takeover provisions and weaker monitoring and governance. Missing values are replaced by the sample median in the main regressions.
Institutional Ownership	The average percentage of shares held by institutional investors over year *t* (Thomson Financial CDA/Spectrum database).
Dual Class	An indicator that takes the value of one if the firm has more than one class of stocks and zero otherwise.
Government Contracts	The natural logarithm of the dollar amount of government procurement contracts of the firm.
Herfindahl–Hirschman Index	The Herfindahl index of industry concentration computed with firm net sales.
Selection model variables	
Industry % of Connected Firms	The percentage of politically connected firms in a firm's industry group.
Distance from Firm HQ to DC	Log of the distance (in kilometers) from a firm's headquarters to the White House.
Additional test variables	
Director_Freshness	One divided by one plus the elapsed years between the current year and the most recent political position held by any connected directors. It takes a value between zero and one. It is one if the firm has political connections in the current year (no elapsed year). It is set to zero if the relevant information is missing for a politically connected firm.
$PI^{Candidates}$	$\text{PI\_Candidates} = \sum_{j=1}^{J} Cand_{jt,t-5}$, where $\text{Cand}_{\text{jt,t-5}}$ is an indicator variable equal to one if the firm has made hard money contributions to candidate *j* over the years *t* - 5 to *t* (for details, see Cooper et al. 2010).
$PI^{Strength}$	$\text{PI\_Strength} = \sum_{\text{j}=1}^{\text{J}} \text{Cand}_{\text{jt,t}-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}} \times rellength_{jt,t-5}$,

	where I_{jt} is an indicator variable equal to one if candidate *j* is in office as of October of year *t* and zero otherwise, NCV_{jt} is the number of House or Senate votes that candidate *j*'s party holds in office at time *t*, NOV_{jt} is the number of votes that candidate *j*'s opposing party holds in office in the House or the Senate at time *t*, and $rellength_{ji}$ is the number of months during which firm *i* has maintained an uninterrupted relationship with candidate *j* until time *t*. The ratio $\frac{NCV_{jt}}{NOV_{jt}}$ captures the political strength of candidate *j*'s party relative to that of the opposition party, reflecting the notion that firm–politician relationships becomes stronger (weaker) for politicians affiliated with the controlling (opposing) party (for details, see Cooper et al. 2010).
$PI^{Ability}$	$\text{PI\_Ability} = \sum_{j=1}^{J} \text{HomeCand}_{jt,t-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}}$, where $\text{HomeCandidate}_{jt,t-5}$ is an indicator variable equal to one if candidate *j* is running for office in the state in which firm *I*'s headquarters are located and zero otherwise (for details, see Cooper et al. 2010).
PI^{Power}	$\text{PI\_Power} = \sum_{j=1}^{J} \text{Cand}_{jt,t-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}} \times \left[\sum_{m=1}^{M} \frac{Committee\ rank_{mt}}{Median\ committee\ rank_{mt}}\right]_j$, where $Committee\ rank_{mt}$ is the reciprocal of candidate *j*'s rank on committee *m* (where rank = 1 for the most important member, rank = 2 for the next important member and so on, largely based on seniority) and *Median committee* $rank_{mt}$ is the median number of members on a given committee *m* over the past five years of which candidate *j* is a member. The ratio $\frac{Committee\ rank_{mt}}{Median\ committee\ rank_{mt}}$ measures the political power of the politician in the committee, deflated by the median size of the committee, incorporating the notion that the committee chair or elected congressmen with higher seniority on the committee are more powerful politicians and that the power of each member is weaker when the size of the committee is larger (i.e., the dilution effect).
Lobby Amount	The natural logarithm of the total amount paid to lobbyists.
PC_3	An indicator that takes the value of one if the firm is connected through all three types of connections (i.e., director, contribution, and lobbying).
PC_2	An indicator that takes the value of one if the firm is connected through two out of three types of connections.
PC_1	An indicator that takes the value of one if the firm is connected through only one of the three types of connections.
lnUTB	UTBs, calculated as log(1 + TXTUBEND).
SC_UTB	Scaled UTBs, calculated as (TXTUBEND/AT).
Pred_UTB	Predicted level of UTB following the method of Rego and Wilson (2012): Pred_UTB = -0.004+0.011**PT_ROA* + 0.001**SIZE* + 0.010**FOR_ SALE* + 0.092**R&D* - 0.002**DISC_ACCR* - 0.003**LEV* + 0.000**MTB* + 0.014**SG&A* - 0.018**SALES_GR*, where *PT_ROA* is pre-tax earnings (*PI*) divided by lagged total assets, *SIZE* is the log of total assets (*AT*), *FOR_SALE* is total foreign sales scaled by total sales, *R&D* is R&D expenses (*XRD*) divided by lagged total assets, *DISC_ACCR* is discretionary accruals from the performance-adjusted modified cross-sectional Jones model, *LEV* is long-term debt (*DLTT*) divided by total assets (*AT*), *MTB* is the market-to-book ratio, *SG&A* is SG&A expenses (XSGA) scaled by lagged total assets, and *SALES_GR* is net sales growth rate.

TABLE 1
Sample distribution

Panel A: Sample distribution by year

Fiscal year	Connected firms	Non-connected firms	All firms	Percentage of connected firms
1999	665	2,745	3,410	19.5%
2000	672	2,602	3,274	20.5%
2001	681	2,517	3,198	21.3%
2002	740	2,459	3,199	23.1%
2003	802	2,414	3,216	24.9%
2004	824	2,293	3,117	26.4%
2005	827	2,157	2,984	27.7%
2006	791	2,001	2,792	28.3%
2007	752	1,905	2,657	28.3%
2008	739	1,808	2,547	29.0%
2009	715	1,789	2,504	28.6%
Total	8,208	24,690	32,898	24.9%

Panel B: Sample distribution by Fama–French industries

Industry	Connected firm–years	Non-connected firm–years	All firm–years	Percentage of connected firms
Agriculture	32	109	141	22.7%
Aircraft	81	111	192	42.2%
Alcoholic Beverages	62	77	139	44.6%
Apparel	87	517	604	14.4%
Automobiles and Trucks	184	309	493	37.3%
Business Services	1,005	3,776	4,781	21.0%
Business Supplies	145	314	459	31.6%
Candy and Soda	37	44	81	45.7%
Chemicals	279	420	699	39.9%
Coal	52	9	61	85.2%
Computers	367	1,254	1,621	22.6%
Construction	111	283	394	28.2%
Construction Materials	185	511	696	26.6%
Consumer Goods	169	401	570	29.6%
Defense	55	38	93	59.1%
Electrical Equipment	113	355	468	24.1%
Electronic Equipment	455	2,221	2,676	17.0%
Entertainment	177	312	489	36.2%
Fabricated Products	23	92	115	20.0%
Food Products	203	439	642	31.6%
Healthcare	240	448	688	34.9%
Machinery	268	1,110	1,378	19.4%
Measuring and Control Equip.	141	872	1,013	13.9%
Medical Equipment	320	1,139	1,459	21.9%

Miscellaneous	137	416	553	24.8%
Nonmetallic Mines	46	69	115	40.0%
Personal Services	122	285	407	30.0%
Petroleum and Natural Gas	477	1,074	1,551	30.8%
Pharmaceutical Products	701	1,564	2,265	30.9%
Precious Metals	32	37	69	46.4%
Printing and Publishing	98	158	256	38.3%
Recreational Products	54	256	310	17.4%
Restaurants, Hotel, Motel	134	636	770	17.4%
Retail	383	1,753	2,136	17.9%
Rubber and Plastic Products	73	240	313	23.3%
Shipbuilding, Railroad Eq.	31	38	69	44.9%
Shipping Containers	30	52	82	36.6%
Steel Works, etc.	132	377	509	25.9%
Telecommunications	340	651	991	34.3%
Textiles	12	137	149	8.1%
Tobacco Products	27	0	27	100.0%
Transportation	391	592	983	39.8%
Wholesale	197	1,194	1,391	14.2%
Total	8,208	24,690	32,898	24.9%

Notes:
[a] Here, politically connected firms (firm–years) are defined as those firms (firm–years) that engage in at least one of the following three activities: employment of connected directors, campaign contributions, and lobbying.

TABLE 2
Descriptive statistics of main variables

	Connected firm–years		Non-connected firm–years	
	Mean	Median	Mean	Median
DTAX	0.000	0.002	-0.010***	0.002***
SHELTER	0.440	0.000	0.126***	0.000***
TA_ETR	0.018	0.034	-0.001***	0.029***
TA Factor	0.170	0.110	0.042***	0.036***
PC_Director	0.540	1.000	0.000***	0.000***
PC_Contribution	0.316	0.000	0.000***	0.000***
PC_Lobby	0.596	1.000	0.000***	0.000***
ROA	0.038	0.067	-0.007***	0.039***
Std. Dev. of ROA	0.091	0.054	0.122***	0.078***
Loss Carryforward	0.383	0.000	0.391	0.000***
Change in Loss Carryforward	0.023	0.000	0.039***	0.000
Foreign Assets	0.232	0.135	0.200***	0.003***
Change in Goodwill	0.024	0.000	0.020***	0.000***
New Investments	0.087	0.040	0.095***	0.045
Property, Plant, and Equipment	0.307	0.220	0.266***	0.177***
Intangible Assets	0.198	0.120	0.154***	0.063***
Equity Income in Earnings	0.001	0.000	0.000***	0.000***
Abnormal Accruals	0.063	0.039	0.079***	0.051***
Cash Holdings	0.186	0.088	0.235***	0.127***
Firm Size	7.229	7.284	5.162***	5.169***
Leverage	0.187	0.167	0.140***	0.070***
Market-to-Book	3.421	2.345	2.858***	1.845***
No. of Business Segments	1.843	1.946	1.659***	1.386***
No. of Geographic Segments	1.864	1.946	1.694***	1.386***
Governance Index	9.218	9.000	8.904***	9.000***
Institutional Ownership	0.551	0.632	0.407***	0.346***
Dual Class	0.143	0.000	0.090***	0.000***
Government Contracts	1.121	0.041	0.275***	0.000***
Herfindahl–Hirschman Index	0.077	0.057	0.070***	0.054***
Industry % of Connected Firms	0.179	0.168	0.152***	0.144***
Distance from Firm HQ to DC	4.787	5.017	4.820***	4.951**

Notes:
[a] All continuous variables are winsorized at the 1% and 99% levels. See the Appendix for variable definitions. The superscripts *** and * indicate significant mean/median differences between connected and non-connected firms at the 0.01and 0.05 levels, respectively.

TABLE 3
Pearson (above the diagonal) and Spearman (below the diagonal) correlations

Variables	ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
DTAX	A		0.11	-0.11	0.57	0.02	0.04	0.03	0.52	-0.18	-0.01	-0.19	0.03	0.04	-0.13	0.04
SHELTER	B	0.10		0.04	0.79	0.24	0.32	0.31	0.28	-0.12	0.01	0.09	0.18	0.08	0.04	0.10
TA_ETR	C	-0.09	0.04		-0.39	0.03	0.01	0.03	-0.26	0.17	0.10	0.11	0.06	0.00	0.06	-0.04
TA Factor	D	0.48	0.69	-0.52		0.19	0.26	0.24	0.53	-0.23	-0.03	-0.05	0.13	0.08	-0.04	0.13
PC_Director	E	0.01	0.24	0.03	0.16		0.23	0.25	0.06	-0.06	-0.02	-0.02	0.03	0.01	-0.01	0.06
PC_Contribution	F	0.03	0.32	0.00	0.23	0.23		0.48	0.11	-0.12	-0.01	-0.04	0.05	0.01	-0.04	0.09
PC_Lobby	G	0.02	0.31	0.04	0.21	0.25	0.48		0.07	-0.08	0.02	-0.03	0.06	0.03	-0.01	0.02
ROA	G	0.27	0.34	-0.37	0.52	0.07	0.12	0.09		-0.46	-0.13	-0.36	0.05	0.03	-0.23	0.16
Std. Dev. of ROA	I	-0.09	-0.19	0.23	-0.26	-0.09	-0.18	-0.12	-0.35		0.07	0.20	-0.02	0.03	0.24	-0.16
Loss Carryforward	J	-0.01	0.01	0.15	-0.06	-0.02	-0.01	0.02	-0.15	0.09		0.11	0.11	0.03	0.04	-0.09
Change in Loss Carryforward	K	-0.10	0.05	0.11	-0.07	-0.01	-0.02	0.00	-0.27	0.11	0.05		-0.02	0.04	0.15	-0.06
Foreign Assets	L	0.07	0.20	0.07	0.13	0.05	0.07	0.10	0.05	-0.03	0.12	0.01		0.02	0.03	-0.13
Change in Goodwill	M	0.09	0.19	-0.06	0.19	0.06	0.09	0.12	0.21	-0.19	0.04	0.00	0.16		0.39	0.00
New Investments	N	-0.02	0.08	0.05	0.03	-0.01	-0.02	0.02	0.06	0.16	0.04	0.04	0.13	0.21		0.10
Property, Plant, and Equipment	O	0.03	0.11	-0.12	0.14	0.07	0.12	0.05	0.21	-0.27	-0.11	-0.05	-0.12	-0.03	-0.04	
Intangible Assets	P	0.15	0.13	-0.05	0.18	0.05	0.09	0.13	0.10	-0.16	0.08	-0.01	0.14	0.50	0.01	-0.18
Equity Income in Earnings	Q	0.00	0.16	-0.03	0.12	0.06	0.12	0.09	0.13	-0.16	-0.01	-0.03	0.06	0.07	-0.04	0.10
Abnormal Accruals	E	-0.08	-0.06	0.12	-0.12	-0.06	-0.11	-0.09	-0.19	0.33	0.04	0.06	-0.08	-0.13	0.06	-0.14
Cash Holdings	S	-0.03	-0.01	0.13	-0.08	-0.05	-0.12	-0.03	-0.03	0.36	0.07	0.04	0.15	-0.05	0.33	-0.38
Firm Size	T	0.07	0.60	-0.05	0.45	0.26	0.33	0.35	0.43	-0.32	0.00	-0.06	0.28	0.29	0.14	0.18
Leverage	U	0.04	0.08	-0.01	0.07	0.12	0.15	0.11	-0.01	-0.28	0.01	-0.01	-0.05	0.10	-0.15	0.41
Market-to-Book	V	0.00	0.23	0.06	0.14	0.09	0.08	0.13	0.24	0.11	0.03	0.00	0.09	0.09	0.32	-0.03
No. of Business Segments	W	0.06	0.11	-0.06	0.13	0.07	0.11	0.11	0.09	-0.15	-0.01	-0.04	0.08	0.13	-0.06	0.07
No. of Geographic Segments	X	0.08	0.20	0.02	0.16	0.06	0.09	0.11	0.11	-0.08	0.09	-0.01	0.83	0.17	0.09	-0.07
Governance Index	Y	0.03	0.07	0.00	0.06	0.02	0.11	0.08	0.01	-0.09	0.00	-0.01	0.02	0.03	-0.03	0.05
Institutional Ownership	Z	0.04	0.22	-0.13	0.22	0.10	0.15	0.18	0.29	-0.25	0.03	-0.06	0.17	0.21	0.07	0.07
Dual Class	AA	-0.02	0.06	-0.03	0.05	0.05	0.03	0.05	0.03	-0.13	0.00	-0.01	-0.02	0.03	-0.08	0.05
Government Contracts	AB	0.05	0.23	-0.02	0.19	0.16	0.23	0.28	0.12	-0.19	0.05	-0.03	0.20	0.20	0.03	-0.07
Herfindahl–Hirschman Index	AC	-0.01	0.00	-0.01	-0.01	0.03	0.04	0.05	0.05	-0.07	-0.02	-0.01	-0.05	-0.02	-0.07	0.11
Industry % of Connected Firms	AD	0.00	0.08	-0.01	0.06	0.11	0.11	0.17	0.03	-0.11	0.06	0.00	-0.04	0.10	-0.01	0.06
Distance from Firm HQ to DC	AE	0.01	0.04	0.02	0.02	-0.01	0.00	0.01	0.01	-0.04	-0.01	0.00	0.08	0.00	0.05	0.07

Variables	ID	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE
DTAX	A	0.11	0.01	-0.21	-0.09	0.10	0.05	-0.09	0.07	0.07	0.02	0.02	0.01	0.05	0.00	0.02	0.01
SHELTER	B	0.11	0.10	-0.04	-0.01	0.63	0.03	0.12	0.12	0.20	0.08	0.05	0.06	0.28	-0.01	0.07	0.03
TA_ETR	C	-0.03	-0.02	0.11	0.12	0.00	0.01	0.09	-0.04	0.00	0.00	-0.02	-0.02	0.00	0.00	-0.01	0.02
TA Factor	D	0.15	0.09	-0.17	-0.09	0.53	0.04	0.04	0.13	0.18	0.07	0.05	0.05	0.24	-0.01	0.06	0.02
PC_Director	E	0.04	0.05	-0.05	-0.05	0.29	0.09	0.07	0.08	0.06	0.02	0.02	0.05	0.23	0.05	0.12	-0.04
PC_Contribution	F	0.05	0.10	-0.10	-0.12	0.36	0.11	0.03	0.12	0.09	0.13	0.03	0.03	0.33	0.05	0.13	0.00
PC_Lobby	G	0.10	0.08	-0.07	-0.05	0.38	0.08	0.06	0.11	0.11	0.08	0.04	0.05	0.33	0.07	0.18	-0.01
ROA	G	0.05	0.13	-0.34	-0.22	0.35	0.04	-0.14	0.11	0.15	0.01	0.07	0.06	0.11	0.03	0.03	0.02
Std. Dev. of ROA	I	-0.02	-0.10	0.38	0.37	-0.21	-0.19	0.21	-0.13	-0.09	-0.06	-0.06	-0.09	-0.13	-0.04	-0.07	-0.02
Loss Carryforward	J	0.07	-0.02	0.05	0.06	-0.01	0.01	0.03	-0.01	0.09	0.01	0.01	0.00	0.03	-0.02	0.05	-0.01
Change in Loss Carryforward	K	0.01	-0.04	0.13	0.15	-0.09	-0.05	0.12	-0.06	-0.06	-0.01	-0.03	-0.03	-0.05	-0.03	0.00	-0.01
Foreign Assets	L	0.02	0.03	-0.05	0.08	0.24	-0.08	0.02	0.05	0.71	0.00	0.02	-0.03	0.09	-0.01	-0.06	0.07
Change in Goodwill	M	0.57	0.00	0.05	0.01	0.09	0.05	-0.01	0.05	0.03	0.01	0.01	-0.01	0.05	-0.01	0.04	-0.01
New Investments	N	0.18	-0.03	0.18	0.36	0.06	-0.03	0.24	-0.06	-0.02	-0.02	0.00	-0.07	-0.03	-0.05	-0.01	0.02
Property, Plant, and Equipment	O	-0.19	0.07	-0.09	-0.28	0.14	0.37	-0.06	0.00	-0.11	0.03	0.00	0.02	-0.08	-0.01	0.04	0.03
Intangible Assets	P		-0.01	-0.04	-0.14	0.20	0.18	-0.03	0.12	0.06	0.03	0.03	0.08	0.14	-0.01	0.13	-0.04
Equity Income in Earnings	Q	0.05		-0.05	-0.08	0.11	0.04	-0.02	0.03	0.04	0.02	0.01	0.02	0.07	0.01	0.06	0.00
Abnormal Accruals	E	-0.15	-0.07		0.20	-0.21	-0.12	0.14	-0.08	-0.10	-0.03	-0.05	-0.07	-0.10	0.01	-0.06	-0.03
Cash Holdings	S	-0.17	-0.11	0.13		0.00	-0.34	0.28	-0.15	-0.01	-0.08	-0.01	-0.08	-0.11	-0.08	-0.01	0.01
Firm Size	T	0.26	0.15	-0.24	0.01		0.13	0.23	0.18	0.30	0.05	0.12	0.12	0.34	-0.03	0.13	0.05
Leverage	U	0.20	0.10	-0.14	-0.52	0.19		-0.01	0.08	-0.04	0.06	0.02	0.09	0.04	0.03	0.09	0.00
Market-to-Book	V	0.04	0.01	0.03	0.31	0.43	-0.09		-0.07	-0.01	-0.01	0.00	-0.04	0.02	-0.02	0.05	-0.01
No. of Business Segments	W	0.17	0.06	-0.08	-0.14	0.17	0.13	-0.04		0.22	0.10	0.02	0.04	0.19	0.04	0.05	0.02
No. of Geographic Segments	X	0.15	0.07	-0.10	0.08	0.30	-0.01	0.07	0.21		0.02	0.04	0.01	0.15	0.01	-0.06	0.08
Governance Index	Y	0.05	0.05	-0.04	-0.10	0.03	0.08	0.00	0.08	0.02		0.01	-0.13	0.08	-0.01	0.03	0.04
Institutional Ownership	Z	0.19	0.09	-0.19	-0.01	0.54	0.10	0.11	0.06	0.19	0.01		0.02	0.04	0.00	0.03	0.01
Dual Class	AA	0.08	0.02	-0.07	-0.09	0.13	0.10	-0.03	0.04	0.01	-0.12	0.09		0.04	0.00	0.05	0.02
Government Contracts	AB	0.23	0.08	-0.12	-0.05	0.31	0.07	0.09	0.17	0.20	0.07	0.25	0.04		0.08	0.09	-0.03
Herfindahl–Hirschman Index	AC	-0.04	0.05	0.00	-0.14	-0.02	0.10	-0.04	0.02	-0.04	0.05	0.00	0.00	-0.01		0.24	-0.04
Industry % of Connected Firms	AD	0.16	0.07	-0.09	0.02	0.15	0.08	0.12	0.02	-0.04	0.04	0.14	0.05	0.06	0.14		-0.01
Distance from Firm HQ to DC	AE	-0.05	0.01	-0.03	-0.01	0.07	0.01	0.00	0.01	0.09	0.02	0.04	0.03	0.02	-0.01	0.00	

TABLE 4
First-stage probit model: Determinants of corporate political activity

VARIABLES	Pred. Sign	(1) *PC_Director*	(2) *PC_Contribution*	(3) *PC_Lobby*
ROA	?	-0.382***	-0.542***	-0.747***
		(-6.74)	(-4.70)	(-12.53)
Std. Dev. of ROA	?	0.131	-0.424**	0.138
		(1.46)	(-2.21)	(1.47)
Loss Carry Forward	?	-0.076***	-0.042	0.006
		(-3.79)	(-1.56)	(0.29)
Change in Loss Carry Forward	?	-0.031	-0.223	-0.051
		(-0.54)	(-1.51)	(-0.87)
Foreign Assets	?	-0.188***	-0.390***	-0.438***
		(-3.74)	(-5.56)	(-8.28)
Change in Goodwill	?	0.424**	0.784***	0.479***
		(2.43)	(3.15)	(2.76)
New Investments	?	-0.180**	-0.243**	-0.292***
		(-2.41)	(-1.99)	(-3.73)
Property, Plant, and Equipment	?	-0.059	0.149**	-0.101*
		(-1.23)	(2.19)	(-1.95)
Intangible Assets	?	-0.458***	-0.622***	-0.173***
		(-7.33)	(-6.99)	(-2.74)
Equity Income in Earnings	?	0.119	13.366***	8.252***
		(0.06)	(5.35)	(3.96)
Abnormal Accruals	?	0.233*	-0.420*	-0.082
		(1.79)	(-1.80)	(-0.59)
Cash Holdings	?	-0.144***	-0.757***	-0.116**
		(-3.17)	(-8.18)	(-2.44)
Firm Size	+	0.217***	0.355***	0.296***
		(34.69)	(40.88)	(45.91)
Leverage	+	0.466***	0.617***	0.140**
		(7.15)	(6.60)	(2.03)
Market-to-Book	?	-0.004	-0.016***	-0.009***
		(-1.22)	(-3.53)	(-3.01)
No. of Business Segments	+	0.032**	0.034*	0.018
		(2.02)	(1.70)	(1.11)
No. of Geographic Segments	+	0.026	0.090***	0.076***
		(1.36)	(3.46)	(3.82)
Governance Index	?	-0.003	0.061***	0.030***
		(-0.53)	(10.10)	(5.78)
Institutional Ownership	?	-0.102***	0.004	0.001
		(-3.16)	(0.59)	(0.10)
Dual Class	?	0.064**	-0.047	0.013
		(2.13)	(-1.20)	(0.42)
Government Contracts	+	0.126***	0.160***	0.173***
		(17.50)	(19.73)	(23.12)
Herfindahl-Hirschman Index	+	0.666***	0.129	0.455***
		(4.40)	(0.60)	(2.87)
Industry % of Connected Firms	+	1.288***	2.556***	2.847***
		(6.92)	(10.62)	(14.65)
Distance from Firm HQ to DC	-	-0.072***	-0.048***	-0.032***
		(-6.96)	(-3.44)	(-2.98)
Constant		-2.620***	-4.818***	-3.554***
		(-15.12)	(-20.12)	(-21.45)
Industry Indicators		YES	YES	YES
Year Indicators		YES	YES	YES
Observations		32,898	32,898	32,898
Pseudo R-Squared		0.152	0.345	0.242

Area under ROC Curve	0.767	0.901	0.831

Notes:

The sample period is from 1999 to 2009. The *Z*-statistics (two-tailed test) are in parentheses. The superscripts ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.

TABLE 5
Second-stage regressions: Corporate political connections and tax aggressiveness

Panel A: Politicians as directors					
VARIABLES	Pred. Sign	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
PC_Director	+	0.082***	0.111***	0.147***	0.474***
		(5.14)	(3.89)	(5.98)	(10.39)
ROA	+	0.390***	0.032***	-0.227***	0.574***
		(26.24)	(25.33)	(-21.86)	(43.01)
Std. Dev. of ROA	?	0.073***	-0.001	0.080***	0.030**
		(6.96)	(-0.97)	(4.27)	(2.06)
Loss Carry Forward	?	0.015***	0.001***	0.027***	0.009***
		(7.09)	(4.56)	(6.23)	(2.66)
Change in Loss Carry Forward	?	-0.011	0.030***	0.009	0.186***
		(-1.24)	(26.44)	(1.26)	(11.80)
Foreign Assets	+	0.019***	0.002***	0.051***	0.029***
		(4.45)	(4.64)	(5.71)	(3.11)
Change in Goodwill	?	-0.075***	0.000	0.098***	-0.059**
		(-4.06)	(0.31)	(3.61)	(-2.02)
New Investments	?	-0.034***	0.002**	-0.052***	0.014
		(-3.45)	(2.43)	(-4.75)	(0.83)
Property, Plant, and Equipment	?	0.014***	-0.000	0.009	0.019**
		(2.66)	(-0.80)	(1.09)	(2.32)
Intangible Assets	?	0.106***	-0.001**	-0.024**	0.112***
		(7.20)	(-2.42)	(-2.06)	(8.76)
Equity Income in Earnings	?	-1.687***	0.031**	0.253	-0.785***
		(-8.41)	(1.96)	(0.95)	(-2.73)
Abnormal Accruals	+	-0.096***	0.031***	0.035*	0.154***
		(-4.69)	(21.35)	(1.69)	(4.60)
Cash Holdings	-	0.037***	-0.000	0.051***	0.000
		(6.09)	(-1.12)	(7.88)	(0.07)
Firm Size	?	-0.013***	0.005***	0.003**	0.020***
		(-11.21)	(23.56)	(2.20)	(5.46)
Leverage	+	0.028***	0.001	0.036***	-0.092***
		(4.76)	(1.07)	(3.15)	(-8.78)
Market-to-Book	?	0.000	-0.001***	0.001**	-0.002**
		(0.78)	(-9.55)	(2.30)	(-2.45)
No. of Business Segments	+	0.004**	0.000	-0.006**	0.001
		(2.47)	(1.54)	(-2.44)	(0.29)
No. of Geographic Segments	+	-0.003	0.000	-0.008**	-0.000
		(-1.33)	(1.07)	(-2.32)	(-0.12)
Governance Index	?	0.001***	0.000***	0.001*	0.006***
		(2.83)	(3.81)	(1.82)	(5.66)
Institutional Ownership	?	-0.001	-0.001***	-0.002	-0.002
		(-1.32)	(-4.65)	(-1.33)	(-1.19)
Dual Class	-	-0.008***	0.000	-0.006	-0.010*
		(-4.43)	(0.42)	(-1.32)	(-1.94)
Government Contracts	-	-0.001	-0.000	-0.004**	-0.006***
		(-1.27)	(-0.17)	(-2.42)	(-2.98)
Herfindahl-Hirschman Index	?	-0.068***	-0.003**	0.019	-0.185***
		(-3.47)	(-2.01)	(0.86)	(-6.50)
Inverse Mills Ratio	?	-0.041***	-0.004***	-0.074***	-0.243***
		(-4.60)	(-3.35)	(-5.30)	(-10.20)

Observations	32,898	32,898	30,376	30,376
Adjusted/Pseudo R-Squared	0.308	0.724	0.100	0.465

Panel B: Corporate campaign contributions

VARIABLES	Pred. Sign	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
PC_Contribution	+	0.093***	0.363***	0.104***	0.518***
		(7.93)	(7.75)	(6.54)	(17.82)
ROA	+	0.390***	0.038***	-0.231***	0.577***
		(27.85)	(25.74)	(-23.02)	(43.24)
Std. Dev. of ROA	?	0.075***	-0.001	0.083***	0.041***
		(6.99)	(-0.79)	(4.34)	(3.21)
Loss Carry Forward	?	0.014***	0.001***	0.025***	0.004
		(6.47)	(4.27)	(5.67)	(1.18)
Change in Loss Carry Forward	?	-0.011	0.036***	0.008	0.185***
		(-1.27)	(26.56)	(1.18)	(11.90)
Foreign Assets	+	0.020***	0.003***	0.050***	0.032***
		(4.50)	(5.31)	(5.46)	(3.71)
Change in Goodwill	?	-0.075***	0.000	0.102***	-0.060*
		(-4.06)	(0.24)	(3.69)	(-1.95)
New Investments	?	-0.034***	0.002**	-0.055***	0.014
		(-3.33)	(2.54)	(-5.04)	(0.83)
Property, Plant, and Equipment	?	0.010*	-0.001*	0.004	-0.002
		(1.91)	(-1.95)	(0.51)	(-0.23)
Intangible Assets	?	0.105***	-0.002**	-0.030**	0.105***
		(7.40)	(-2.50)	(-2.50)	(8.29)
Equity Income in Earnings	?	-1.891***	-0.001	0.064	-1.932***
		(-9.71)	(-0.04)	(0.24)	(-6.30)
Abnormal Accruals	+	-0.091***	0.038***	0.044**	0.187***
		(-4.44)	(22.11)	(2.21)	(5.88)
Cash Holdings	-	0.040***	-0.000	0.052***	0.014*
		(6.63)	(-0.33)	(7.90)	(1.85)
Firm Size	?	-0.013***	0.006***	0.005***	0.019***
		(-14.69)	(24.78)	(3.91)	(7.13)
Leverage	+	0.031***	0.000	0.044***	-0.073***
		(5.35)	(0.41)	(3.91)	(-6.67)
Market-to-Book	?	0.000	-0.001***	0.002**	-0.001
		(1.12)	(-9.58)	(2.53)	(-1.39)
No. of Business Segments	+	0.004***	0.000	-0.005**	0.002
		(2.58)	(1.49)	(-2.22)	(0.87)
No. of Geographic Segments	+	-0.003	0.000	-0.008**	-0.000
		(-1.33)	(1.02)	(-2.27)	(-0.14)
Governance Index	?	-0.000	-0.000	-0.000	-0.001
		(-0.90)	(-0.11)	(-0.06)	(-0.86)
Institutional Ownership	?	-0.001	-0.002***	-0.002	-0.002
		(-1.44)	(-5.23)	(-1.38)	(-1.36)
Dual Class	-	-0.006***	0.001	-0.003	0.003
		(-3.43)	(1.45)	(-0.66)	(0.49)
Government Contracts	-	-0.002**	-0.000*	-0.003**	-0.012***
		(-2.32)	(-1.67)	(-2.03)	(-6.83)
Herfindahl-Hirschman Index	?	-0.061***	-0.004**	0.039*	-0.145***
		(-3.32)	(-2.11)	(1.81)	(-5.55)
Inverse Mills Ratio	?	-0.048***	-0.007***	-0.059***	-0.263***
		(-6.98)	(-7.03)	(-6.39)	(-18.08)

Observations	32,898	32,898	30,376	30,376
Adjusted/Pseudo R-Squared	0.308	0.724	0.100	0.480

Panel C: Corporate lobbying activities

VARIABLES	Pred. Sign	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
PC_Lobby	+	0.069***	0.120***	0.102***	0.483***
		(5.87)	(5.73)	(5.70)	(17.49)
ROA	+	0.392***	0.034***	-0.226***	0.598***
		(28.10)	(26.01)	(-22.81)	(43.76)
Std. Dev. of ROA	?	0.073***	-0.001	0.081***	0.030**
		(6.94)	(-1.08)	(4.29)	(2.17)
Loss Carry Forward	?	0.013***	0.001***	0.025***	-0.000
		(6.23)	(3.79)	(5.46)	(-0.09)
Change in Loss Carry Forward	?	-0.011	0.032***	0.009	0.188***
		(-1.24)	(26.71)	(1.27)	(12.03)
Foreign Assets	+	0.021***	0.003***	0.053***	0.046***
		(4.50)	(5.54)	(5.87)	(4.80)
Change in Goodwill	?	-0.074***	0.001	0.102***	-0.059*
		(-3.96)	(0.54)	(3.70)	(-1.88)
New Investments	?	-0.033***	0.002***	-0.051***	0.029
		(-3.15)	(2.77)	(-4.62)	(1.64)
Property, Plant, and Equipment	?	0.014***	-0.000	0.008	0.017**
		(2.59)	(-0.67)	(0.99)	(2.13)
Intangible Assets	?	0.101***	-0.002***	-0.035***	0.080***
		(6.95)	(-4.00)	(-2.95)	(6.61)
Equity Income in Earnings	?	-1.793***	0.015	0.119	-1.597***
		(-9.29)	(0.88)	(0.43)	(-5.52)
Abnormal Accruals	+	-0.092***	0.033***	0.042**	0.177***
		(-4.46)	(21.94)	(2.13)	(5.25)
Cash Holdings	-	0.036***	-0.001	0.049***	-0.001
		(6.06)	(-1.20)	(7.60)	(-0.17)
Firm Size	?	-0.013***	0.005***	0.003**	0.013***
		(-11.54)	(22.53)	(2.58)	(6.00)
Leverage	+	0.033***	0.001**	0.045***	-0.067***
		(5.54)	(2.03)	(3.98)	(-6.06)
Market-to-Book	?	0.000	-0.001***	0.002**	-0.001
		(0.99)	(-9.58)	(2.50)	(-1.51)
No. of Business Segments	+	0.004***	0.000*	-0.005**	0.002
		(2.59)	(1.69)	(-2.19)	(0.88)
No. of Geographic Segments	+	-0.003	0.000	-0.008**	-0.003
		(-1.49)	(0.78)	(-2.45)	(-0.89)
Governance Index	?	0.000	0.000	0.000	0.001
		(0.49)	(1.45)	(0.39)	(1.08)
Institutional Ownership	?	-0.001	-0.001***	-0.002	-0.002
		(-1.32)	(-5.29)	(-1.33)	(-1.20)
Dual Class	-	-0.008***	0.000	-0.005	-0.006
		(-4.02)	(0.78)	(-1.00)	(-1.11)
Government Contracts	-	-0.002*	-0.000*	-0.004**	-0.015***
		(-1.74)	(-1.75)	(-2.40)	(-7.44)
Herfindahl-Hirschman Index	?	-0.067***	-0.004**	0.027	-0.198***
		(-3.43)	(-2.46)	(1.32)	(-6.28)
Inverse Mills Ratio	?	-0.035***	-0.005***	-0.051***	-0.253***
		(-5.01)	(-5.03)	(-5.07)	(-17.67)
Observations		32,898	32,898	30,376	30,376

Adjusted/Pseudo R-Squared	0.308	0.724	0.100	0.474

Notes:
The sample period is from 1999 to 2009. All regressions also include industry and fiscal year indicators. The two-tailed test *t*-statistics (*Z*-statistics) in parentheses are based on standard errors clustered by both firm and year. The superscripts ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.

TABLE 6
The addition of politically connected directors and tax aggressiveness

VARIABLES	Pred. Sign	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
POST_ADD	+	0.031**	0.201***	0.044**	0.116***
		(2.08)	(7.25)	(2.06)	(5.64)
ROA	+	0.467***	0.538***	-0.057***	0.673***
		(60.56)	(37.02)	(-4.91)	(60.84)
Std. Dev. of ROA	?	0.076***	0.044*	0.086***	0.042**
		(6.13)	(1.87)	(4.57)	(2.34)
Loss Carry Forward	?	0.009***	0.005	0.025***	-0.000
		(3.03)	(0.81)	(5.68)	(-0.11)
Change in Loss Carry Forward	?	-0.006	0.451***	0.019**	0.236***
		(-1.03)	(41.91)	(2.22)	(28.92)
Foreign Assets	+	0.002	0.017	0.037***	-0.006
		(0.25)	(0.98)	(2.77)	(-0.44)
Change in Goodwill	?	-0.081***	0.063*	0.088***	-0.052*
		(-4.02)	(1.66)	(2.96)	(-1.81)
New Investments	?	-0.055***	0.032*	-0.036**	-0.008
		(-5.74)	(1.74)	(-2.54)	(-0.59)
Property, Plant, and Equipment	?	0.030***	0.093***	0.015	0.054***
		(2.74)	(4.59)	(0.96)	(3.58)
Intangible Assets	?	0.131***	0.129***	-0.001	0.166***
		(13.05)	(6.81)	(-0.05)	(11.60)
Equity Income in Earnings	?	-1.674***	0.531	0.650	-1.121***
		(-6.02)	(1.01)	(1.60)	(-2.88)
Abnormal Accruals	+	-0.071***	0.526***	0.044**	0.216***
		(-5.17)	(20.41)	(2.21)	(11.22)
Cash Holdings	-	0.023***	0.102***	0.026***	0.058***
		(3.97)	(9.20)	(3.02)	(6.89)
Firm Size	?	-0.016***	0.014***	-0.026***	0.004
		(-9.13)	(4.10)	(-9.92)	(1.58)
Leverage	+	0.040***	-0.211***	0.020	-0.083***
		(3.56)	(-10.00)	(1.21)	(-5.26)
Market-to-Book	?	0.002***	-0.001	0.004***	-0.001
		(4.04)	(-1.22)	(5.37)	(-1.23)
No. of Business Segments	+	0.000	0.005	-0.004	0.004
		(0.06)	(0.77)	(-0.90)	(0.80)
No. of Geographic Segments	+	0.002	0.007	0.004	0.003
		(0.55)	(1.01)	(0.74)	(0.59)
Governance Index	?	-0.001	-0.002	0.001	-0.002
		(-0.91)	(-0.57)	(0.59)	(-0.75)
Institutional Ownership	?	-0.000	-0.000	-0.000	-0.000
		(-0.30)	(-0.57)	(-0.34)	(-0.46)
Government Contracts	?	-0.005**	-0.002	-0.003	-0.004
		(-2.48)	(-0.49)	(-1.10)	(-1.35)
Herfindahl-Hirschman Index	?	0.027	0.012	0.246**	-0.081
		(0.41)	(0.09)	(2.52)	(-0.87)
Firm Fixed Effects		YES	YES	YES	YES
Year Fixed Effects		YES	YES	YES	YES
Observations		17,988	17,988	17,234	17,234
Number of Firms		2,038	2,038	2,030	2,030

Adjusted R-Squared	0.130	0.122	-0.110	0.177

Notes:
The sample period is from 1999 to 2009. The variable *POST_ADD* is the interaction term between *POST* and *ADD*, *ADD* is an indicator variable that takes the value of one for firms that experience the appointment of politically connected directors and zero otherwise, and *POST* takes the value of one for *ADD* firms for the period after the appointment year and zero otherwise. The indicators *ADD* and *Dual Class* are omitted from the regression because of the inclusion of firm fixed effects. The two-tailed test *t*-statistics (*Z*-statistics) in parentheses are based on standard errors clustered by both firm and year. The superscripts ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.

TABLE 7
Corporate political connections and tax aggressiveness: FIN48 UTB

VARIABLES	(1) *lnUTB*	(2) *SC_UTB*	(3) *PRED_UTB*
Panel A: Politicians as directors			
PC_Director	2.719***	0.015	0.003***
	(6.56)	(1.31)	(2.77)
Observations	4,426	4,426	32,898
Adjusted R-Squared	0.673	0.012	0.556
Panel B: Corporate campaign contributions			
PC_Contribution	2.769***	0.026*	0.008***
	(6.95)	(1.81)	(9.23)
Observations	4,426	4,426	32,898
Adjusted R-Squared	0.674	0.012	0.560
Panel C: Corporate lobbying activities			
PC_Lobby	2.757***	0.014*	0.005***
	(7.08)	(1.86)	(6.39)
Observations	4,426	4,426	32,898
Adjusted R-Squared	0.672	0.012	0.558
Control Variables	Included	Included	Included
Industry and Year Indicators	YES	YES	YES

Notes:
The sample period is from 2007 to 2009 for Models (1) and (2) and from 1999 to 2009 for Model (3). The same set of control variables as in Table 5 is included in all the regressions but not reported here for brevity. The two-tailed test *t*-statistics (*Z*-statistics) in parentheses are based on standard errors clustered by both firm and year. The superscripts ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.

TABLE 8
Corporate political connections and tax aggressiveness: Politically connected sample

Panel A: Freshness of director's political position

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
Director_Freshness	0.023**	-0.009	-0.029	0.017
	(2.56)	(-0.10)	(-1.36)	(0.67)
Observations	4,433	4,433	4,192	4,192
Adjusted R-Squared	0.272	0.721	0.094	0.549

Panel B: Number of contribution-supported candidates

VARIABLES	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
$PI^{Candidates}$	0.001	0.047***	0.005	0.008
	(0.78)	(4.91)	(1.24)	(1.44)
Observations	2,593	2,593	2,517	2,517
Adjusted R-Squared	0.130	0.714	0.108	0.498

Panel C: Candidate-contributing firm relationship strength

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
$PI^{Strength}$	0.001	0.026***	0.001	0.005
	(0.83)	(3.84)	(0.54)	(1.11)
Observations	2,447	2,447	2,377	2,377
Adjusted R-Squared	0.134	0.709	0.110	0.500

Panel D: Ability of contribution-supported candidates

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
$PI^{Ability}$	-0.003	-0.009	0.011*	-0.020**
	(-0.82)	(-0.96)	(1.86)	(-2.26)
Observations	2,125	2,125	2,073	2,073
Adjusted R-Squared	0.136	0.694	0.120	0.491

Panel E: Power of contribution-supported candidates

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
PI^{Power}	0.000	0.023***	0.002	0.008*
	(0.17)	(3.11)	(0.47)	(1.90)
Observations	2,438	2,438	2,369	2,369
Adjusted R-Squared	0.135	0.706	0.110	0.500

Panel F: Total lobbying expenses

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
Lobby Amount	0.004***	0.054***	0.003	0.007**
	(4.39)	(4.60)	(1.33)	(2.35)
Observations	4,896	4,896	4,650	4,650
Adjusted R-Squared	0.268	0.715	0.096	0.546

Panel G: Number of types of connections

	(1) *DTAX*	(2) *SHELTER*	(3) *TA_ETR*	(4) *TA Factor*
PC_3	0.052***	0.472***	0.036	0.226***
	(2.63)	(6.72)	(1.15)	(6.62)
PC_2	0.028***	0.259***	0.013	0.131***
	(2.56)	(6.63)	(0.75)	(6.92)
Observations	8,208	8,208	7,761	7,761
Adjusted R-Squared	0.277	0.577	0.098	0.542

Notes:
The sample period is from 1999 to 2009. The same set of control variables as in Table 5 is included in all the regressions but not reported here for brevity. The two-tailed test *t*-statistics (*Z*-statistics) in parentheses are based on standard errors clustered by both firm and year. The superscripts ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.