Banker Directors on Board and Corporate Tax Avoidance[1]

ABSTRACT

We investigate how shareholder-debtholder conflict of interest affects the corporate tax avoidance using a unique setting of the affiliated and unaffiliated commercial bankers' board representation. Consistent with the notion that board representation grants lenders' access to private information that helps monitor and influence firms' tax practice, we find that appointments of affiliated banker directors significantly reduce firms' tax avoidance behavior, while appointing unaffiliated banker directors shows no such effect. The impact of affiliated banker directors on alleviating tax avoidance is stronger among firms with severer conflict of interest between shareholders and debtholders, specifically among firms with weaker corporate governance, higher financial leverage and higher CEO stock ownership.

Keywords: Banker Directors; Corporate Governance; Agency Problem; Tax Avoidance

JEL Classification: G34, H25, H26, M41

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1. **Introduction**

It is well known that conflict of interest between shareholders and debtholders induces agency costs since the seminal work of Jensen and Meckling (1976). How the shareholder-debtholder conflict of interest affects tax planning raises attention in research recently (e.g., Francis, Teng, Wang and Wu, 2022; Tang, Xu, Yan and Yang, 2022). For example, both Francis et al. (2022) and Tang et al. (2022) investigate the influence of dual holdings on corporate tax decisions. Francis et al. (2022) find that when mutual funds hold both stocks and bonds of a company simultaneously, it increases tax aggressiveness of this company. Tang et al. (2022) discover that firms with dual holders have higher tax avoidance. One challenge of this approach is to clearly determine whether the interests of dual holder align more with shareholders or debtholders. Additionally, due to the inherent complexity of tax-related issues and strategies, it often requires financial expertise and sophistication to monitor and influence a firm's tax position (Armstrong et al, 2015; Choudhary et al. 2016). An alternative yet unexplored way to understand this relationship is through the lenders' board representation. This approach investigates how board members with financial expertise influence corporate tax decision-making process, and may offer insights that may not be fully captured by solely examining shareholder dynamics.

Prior literature suggests that while debt contracting and conservative accounting reduce the agency cost of debt (Jensen and Meckling, 1976; Ahmed, Billings, Morton, and Stanford-Harris, 2002; Erkens, Subramanyam, and Zhang, 2014), it is possible that lenders' board representation, an important corporate governance mechanism, can achieve the same goal (Erkens et al., 2014). Therefore, this paper investigates the

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shareholder-debtholder conflict of interest and tax avoidance using the debtholder-affiliated and debtholder-unaffiliated banker directors.

The affiliation of banker directors provides an interesting setting to study the effect of shareholder-debtholder conflict of interest on tax avoidance. Affiliated banker directors are not only the elected board members to protect shareholders' interests but also represent lenders' interests. Therefore, like any other board member, affiliated banker directors have the fiduciary duty to increase shareholder value by undertaking risk-reducing activities (Kang and Kim, 2017). Tax avoidance generally accrues benefits to shareholders through increased after-tax income and cash flows (Rego and Wilson, 2012), but it also engenders risks such as additional taxes and hefty penalties by tax authorities (Slemrod and Yitzhaki, 2002). Debtholders, the fixed claimants on upside firm performance, face the downside risk associated with tax avoidance (Jiang, Li and Shao, 2010; Hasan, Hoi, Wu, and Zhang, 2014). As the affiliated banker directors also represent the interests of the lending banks and enhance the lending relationship (Erkens et al., 2014), we conjecture that affiliated banker directors may align their incentives with debtholders' interests and restrict risk-increasing activities such as tax avoidance.

For comparison, we also consider the role of unaffiliated banker directors (hereafter "UABD") on firm tax avoidance. Unaffiliated banker directors have the fiduciary duty to protect shareholder value, similar to affiliated banker directors, but have no substantial lenders' interest as those affiliated banks. Therefore, when considering the effect of tax avoidance, unaffiliated banker directors are less likely to prioritize the concerns of lenders but focus more on implications for shareholder values. We expect their impact on firms' tax performance to differ from that of affiliated banker

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directors.

We examine whether affiliated banker directors[2] (hereafter "ABD") affect a firm's tax performance using a unique hand-collected banker director sample. We measure the level of tax avoidance with the GAAP effective tax rates, tax uncertainty, and permanent book-tax-difference. After controlling for commonly used determinants for the level of tax avoidance, we find that the presence of affiliated banker directors leads to a lower level of tax avoidance. In contrast, unaffiliated banker directors have little influence on their firms' tax avoidance behavior. These findings suggest that affiliated banker directors perceive costs for bank loans induced by tax avoidance outweigh the tax benefits for increasing shareholder value, which is consistent with the evidence that lenders view tax avoidance as engendering significant risks (Hasan et al., 2014). We also find that unaffiliated banker directors are insignificantly related to tax avoidance. We argue that different from affiliated banker directors, unaffiliated banker directors' interests are less aligned with the debtholders but more aligned with the shareholders. Therefore, unaffiliated banker directors are less likely to discourage managers from engaging in tax avoidance designed to increase financial reporting benefits for shareholders.[3]

We perform a battery of robustness checks, and the results corroborate our baseline findings. One potential concern is the self-selection bias since the appointment

[2] Following the prior literature, we define a board member as an affiliated banker director if the following two conditions are met: 1) the board member is also an executive of a commercial bank; and 2) the commercial bank has a concurrent lending relationship with this firm.

[3] According to Dyreng et al. (2019), tax uncertainty measured by unrecognized tax benefits could reflect tax activities that a firm views as "falling into the grey areas of tax law, such that the firm expects that a challenge by the tax authorities could result in the payment of additional tax". The recognition of unrecognized tax benefits is costly "because it prevents the tax savings from being recognized for financial accounting purposes and leads firms to increase their precautionary cash holdings beyond what they otherwise would" (pp. 195).

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of affiliated and unaffiliated banker directors may not be random. For example, bankers may prefer to sit on boards of large and stable firms (Kroszner and Strahan, 2001). There might be systematic differences between firms with banker directors on board and those without. To account for this possibility, we employ the Propensity Score Matching (PSM), and our results remain robust.

There is a potential reverse causality between affiliated/unaffiliated banker directors and tax avoidance. For example, Lanis, Richardson, Liu, and McClure (2019) find firm's tax avoidance increases the incumbent directors' reputation as proxied by the number of their outside board seats. To address the endogeneity concern, we employ an instrumental variable (IV) approach with two-stage least square (2SLS) regressions. Our two instrumental variables are: 1) the number of commercial banks with a headquarter within 50-mile radius of the firm's headquarter and; 2) the percentage of the syndicated loan held by firms' primary lenders. The results confirm again that affiliated banker directors significantly reduce tax avoidance, while unaffiliated banker directors seldom change the firms' tax behaviors.

We also conduct a change analysis to explore the association between the change in bank director and the change in tax avoidance. We use the first appointment of an affiliated or unaffiliated banker director as a "treatment" and combine it with propensity score matching. This analysis confirms our baseline results: appointments of new affiliated (unaffiliated) banker directors are associated with significant (insignificant) changes in tax avoidance behavior. We also conduct placebo tests that randomly assign the beginning year of the treatment to firms that have not been treated. We find no significant change in tax avoidance in the pseudo-treatment group, suggesting that our results are not driven by other potential confounding variables.

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To glean further insights into how affiliated banker directors affect tax avoidance, we explore whether the role of affiliated banker directors in restricting corporate tax avoidance depends on a firm's governance strength and capital structure. Since tax avoidance in a poorly governed firm is more likely to facilitate managerial diversion (Desai and Dharmapala, 2009; Kim, Li, and Zhang, 2011; Armstrong et al., 2015), lenders perceive such activities to be risky (Hasan et al., 2014). In addition, as shareholder and debtholder interests tend to diverge more in firms with a higher level of leverage, we expect affiliated banker directors to exert a stronger monitoring role in reducing tax avoidance in these firms. Finally, when the firm CEO owns higher dollar value of the firm's stock, the CEO's interest is more aligned with shareholder rather than debtholder. We expect that affiliated banker directors strengthen their role on reducing the aggressive tax avoidance behaviors in firms where manager's interests are less aligned with debtholders. Consistent with our expectations, we find a greater reduction in tax avoidance by affiliated banker directors in firms with weaker corporate governance, higher leverage and CEO holding more of the firm's stocks.

The contributions of this paper are twofold. First, we contribute to the growing yet controversial literature on the relationship between shareholder-debtholder conflict of interest and tax avoidance. Our paper focuses on the distinctive governance role of affiliated banker directors who represent the interests of both shareholders and lenders, and we compare the role of affiliated banker directors with that of unaffiliated banker directors. We show that only affiliated banker directors have significant governance effects on tax avoidance, while unaffiliated banker directors have no such effects. Our results show that banker directors' risk preference and shareholder-interest orientation in the context of corporate tax avoidance indeed differ depending on their affiliation status.

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Second, our study adds to the literature on banker directors. Bankers' board representation provides an interesting setting to understand the effect of conflict of interest between shareholders and debtholders. Existing studies have examined the various economic consequence of affiliated banker directors, such as mergers and acquisitions (Hilscher and Şişli-Ciamarra, 2013), accounting conservatism (Erkens et al., 2014), investment decisions (Güner, Malmendier, and Tate, 2008), innovative activities (Ghosh, 2016), CEO compensations (Kang and Kim, 2017) and stock price crash risks (Kang, Kim, and Liao, 2020). To the best of our knowledge, the corporate tax implication of affiliated banker directors on board remains unexplored.

The rest of the paper is structured as follows. Section 2 reviews related literature and develops the hypotheses. Section 3 presents our data and methodology. Section 4 reports the findings from the baseline analysis and various robustness tests. Section 5 explores the plausible mechanisms of how the affiliated banker directors influence corporate tax avoidance. Finally, Section 6 concludes.

2. Literature Review and Hypotheses

2.1 Corporate Tax Avoidance

For shareholders, engaging in tax avoidance has both benefits and costs. On the one hand, it reduces present and future taxes that would be levied, collected, or withheld by tax authorities. Therefore, it can reduce tax liability and increase after-tax income and cash flows (Rego and Wilson, 2012). Koester (2017) finds that high-ability managers tend to adopt more tax avoidance strategies such as engaging in more state tax planning activities, moving income to offshore tax havens, making more claims for research and development credits, and investing in assets that generate accelerated

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depreciation deductions. Koester (2013) points out that tax avoidance adds economic value to shareholders, i.e., tax avoidance increases the stock price. Desai and Dharmapala (2009) show that tax avoidance is positively associated with the firm value in the presence of strong corporate governance.

On the other hand, corporate tax avoidance can impose significant costs and uncertainty on firms. For example, aggressive tax avoidance can be challenged and overturned by tax authorities, which could cause additional taxes and hefty penalties (Slemrod and Yitzhaki, 2002). Moreover, the complexity and obfuscation associated with tax avoidance, although necessary to avoid providing a roadmap to tax authorities, leads to an opaque information environment which in turn increases the latitudes for managerial opportunism (Desai and Dharmapala, 2006; Kim et al., 2011; Goh, Lee, Lim, and Shevlin, 2016). The concealment or neutralization of material tax issues could also impair the quality of the reported financial information (Frank, Lynch, and Rego, 2009), amplifying the information asymmetry between managers and financial statement users (Balakrishnan, Blouin, and Guay, 2019). Furthermore, by hoarding accumulated bad news over an extended period, firms engaging in aggressive tax avoidance are more likely to experience stock price crashes (Kim et al., 2011).

Unlike shareholders who expect higher returns, debtholders such as banks generally receive the fixed return and have a preference for managing downside risk. Given the risk associated with aggressive tax avoidance, stakeholders require compensation for bearing the risk. For example, Schochet, Benlemlih, and Jaballah (2022) employees require higher compensation for bearing the increased financial risks resulting from corporates' aggressive tax avoidance. Debtholders tend to require higher loan premium if the firm engage in aggressive tax avoidance (Jiang et al, 2010; Hasan

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et al., 2014). However, there are few conclusive empirical works on how conflict between shareholders and debtholders impacts tax avoidance behavior.

2.2 Board Directors and Corporate Tax Avoidance

To the extent that the board of directors are responsible for monitoring corporate decisions and scrutinizing managerial behaviors, the board's duty should include monitoring tax avoidance activities. This is because corporate tax decisions are closely liaised with and cannot be made and managed independently from other business activities (Schön, 2008; Hartnett, 2008; Erle, 2008; Glaister and Hughes, 2008).

Prior studies mostly focus on the conflict of interest between shareholders and managers and find mixed results for the role of banker directors on tax avoidance. For instance, Armstrong, Blouin, and Larcker (2012) argue that corporate tax avoidance is one of many investment opportunities which are expected to generate cash flows with varying associated risks. However, the agency problems could lead managers to undertake tax avoidance with a level of risk differing from what shareholders would desire. They find that financially sophisticated and independent boards are effective in mediating extreme levels of tax avoidance. Similarly, Lanis and Richardson (2011) confirm the oversight role of board directors in restricting risky tax avoidance activities. Lanis and Richardson (2011) find that a higher proportion of outside directors on the board reduces tax aggressiveness. However, Robinson, Xue, and Zhang (2012) examine the monitoring roles of corporate directors and find that financial experts on audit committee generally encourage tax avoidance but restrict tax avoidance activities that entail a high level of risk.

The effect of commercial banker directors on corporate tax behaviors, however, may differ depending on whether their banks are affiliated with the firm or not. While

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unaffiliated banker directors primarily act to protect shareholders' interests, affiliated banker directors have a clear incentive to monitor companies' performance on behalf of the lending banks and debt holders (Byrd and Mizruchi, 2005; Kang et al., 2020). There exists a conflict of interest between affiliated banker directors' fiduciary duty to safeguard shareholders' benefit and to protect the affiliated banks' loan exposure. Such a conflict of interest may intensify regarding tax avoidance since it has different benefits and risk implications for shareholders and debtholders. Unlike shareholders who expect higher returns, debtholders such as banks generally receive the fixed return and have preferences for managing downside risk. Therefore, they may perceive tax avoidance as undesirable because it increases the risk exposure of bank loans (Hasan et al., 2014).

The impact of commercial banker directors on corporate tax depends on the tradeoff between the benefit of tax avoidance and the accompanying risk, and the weight they place on shareholders *vs.* debtholders who have different return expectations and risk preferences. Representing significant lenders' interests, affiliated banker directors are more likely than unaffiliated banker directors to restrict managers from tax avoidance to reduce the downside risks. Hence, we hypothesize that:

H1*: Affiliated bankers on board reduce firms' tax avoidance behavior.*

By contrast, we expect that unaffiliated banker directors align their consideration of corporate tax avoidance more with shareholders' interests. Corporate tax avoidance, if conducted properly, can be a value-enhancing tool that generates tax benefits and increases firms' after-tax income (Rego and Wilson, 2012). On the other hand, as discussed earlier, tax avoidance can engender risks and increase agency costs to shareholders. Therefore, whether unaffiliated banker directors increase corporate tax avoidance is an empirical question.

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3. Data and Methodology

3.1 Data

To construct our sample, we start with all firms included in the Compustat and DealScan linking table provided by Chava and Roberts (2008).[4] We drop all financial firms from our sample (SIC 6000-6900) because they have different financial reporting regulations. To be included in the final sample, a firm must satisfy the following criteria: 1) the firm must have no missing value of annually reported total assets and pretax income; 2) the firm must have sufficient data for at least five consecutive years to generate tax measures; 3) the firm's board members must have biographic data available in BoardEx which provides information on their business networks;[5] 4) the firm must have information from the DealScan database. We use firms' loan information from DealScan to define affiliated and unaffiliated banker directors (see section 3.3). Next, we follow extensive prior research and drop the firms with pretax losses (e.g., Dhaliwal, Gleason, and Mills, 2004; Hoopes, Mescall, and Pittman, 2012; Hope, Ma, and Thomas, 2013).[6]

Table 1 provides the definition and data source of all variables employed in our study. The data of this paper is obtained from DealScan, Compustat, CRSP, Thomson Reuters, and Morningstar. Our final sample consists of 796 U.S. firms from 1999 to 2018. Our sample period ends in 2018 because the Compustat and DealScan linking table provided by Chava Roberts link table ranges from January 1986 to August 2017 at the loan level. Our sample contains three types of firms, namely firms without any

[4] https://finance.wharton.upenn.edu/~mrrobert/styled-9/styled-12/index.html

[5] After implementing the fuzzy text-matching, we manually check commercial banker directors' information from BoardEx.

[6] Loss firms have different financial-reporting and tax-planning incentives, and there is no economic interpretation for effective tax rates with negative components (Hoop et al. 2012).

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commercial banker directors on board (hereinafter noted as NCBD firms), firms with affiliated banker directors on board (ABD firms), and firms with unaffiliated banker directors on board (UABD firms). Among our sample, 180 firms have commercial bankers on the board, including 114 firms that have unaffiliated banker directors and 66 firms that have affiliated banker directors.

[Insert Table 1 Here]

3.2 Tax Avoidance Measures

Corporate tax avoidance is broadly defined as the activity designed to reduce explicit taxes (Hanlon and Heitzman, 2010). Following Armstrong et al. (2015) and Dyreng et al. (2019), we use three variables to measure the level of a firm's tax avoidance in a given year. Our first proxy for tax avoidance is the three-year GAAP effective tax rate (noted as $GAAP\_ETR$), which is measured as the sum of income tax expenses divided by the sum of pretax income excluding special items over the three-year period. This measure of tax avoidance could capture firms' total tax planning strategies (including both timing and permanent strategies) designed to reduce the reported tax expenses and increase financial statement benefits (Robinson, Sikes, and Weaver, 2010; Armstrong et al., 2015). Note that, according to Dyreng, Halon, and Maydew (2008), the annual effective tax rate is not a good measure of companies' tax avoidance behaviors as there can be "*significant year-to-year variation in annual effective tax rates…that can obscure inferences about a firm's tax avoidance*" (pp. 65). Therefore, we use three-year effective tax rates to capture tax avoidance.[7]

Our second proxy for corporate tax avoidance is the level of tax uncertainty

[7] Our results remain unchanged when we use annual and five-year effective tax rates as proxies for corporate tax avoidance.

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(noted as TAX_UNC). Following Dyreng et al. (2019), we measure tax uncertainty as the sum of additions to unrecognized tax benefits related to current-year tax positions divided by the sum of sales over the three-year period. Companies are required to record an unrecognized tax benefit (a liability) to account for the estimated amount of tax benefits generated by tax avoidance strategies that have a high possibility of being challenged by tax authorities (Hanlon and Heitzman, 2010). This measure of tax avoidance could capture firms' tax avoidance strategies that managers view as falling into the grey areas of tax law and entailing high risks of not being upheld (Dyreng et al., 2019).

Our third proxy for corporate tax avoidance is the permanent book-tax-differences, which we denote as $PERM$. Following Frank et al. (2009), $PERM$ is measured as the total book-tax-differences less temporary book-tax-differences scaled by lagged total assets. $PERM$ captures the aggressive tax avoidance because ideal tax-shelter activities are more likely to create permanent tax benefits that will not be reversed in the future (Weisbach, 2002). All three tax avoidance measures are highly visible to the board and can be used by the board to evaluate and monitor firms' tax performance.

3.3 Affiliated and Unaffiliated Banker Directors

Following Erkens et al. (2014) and Kang et al. (2020), we define a banker director as a board member who is serving as an executive of a commercial bank simultaneously. We use biographic information from BoardEx and text-matching algorithms to match the connected company of each board director with the name lists of commercial banks

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(FDIC's institution directory Bank Name[8], DealScan Lender name, and the Bank Holding Companies Database of the Federal Reserve Bank of Chicago). We exclude bankers from banks that are not primarily commercial because the expertise of investment bankers can differ from that of commercial bankers (Erkens et al., 2014). As the final step, we manually check each director's connected company to ensure the accuracy of the text-matching process. Using this methodology, we identify 180 firms with at least one commercial banker on board.

We generate ABD and $UABD$ dummies at the firm-year level. Following Erken et al. (2014) and Güner et al. (2008), a commercial banker director is denoted as an ABD ($UABD$) if this director's bank has (does not have) a loan relationship with this firm during the fiscal year. We classify 775 (7.89%) firm-year observations as having at least one commercial banker director, where 213 (2.17%) are ABD observations and 562 (5.72%) are $UABD$ observations.[9]

3.4 Regression Models

Our baseline regression model is:

$$TaxPosition_{i,t+n} = \beta_0 + \beta_1\{ABD\ or\ UABD\}_{i,t} + \beta_2 PTBI_{i,t} + \beta_3 PTBI\_SD_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 INVENTORY_{i,t} + \beta_6 INTANGIBLE_{i,t} + \beta_7 R\&D_{i,t} + \beta_8 CAPINT_{i,t} + \beta_9 LEVERAGE_{i,t} + \beta_{10} ETBSO_{i,t} + \beta_{11} NETLOSSCF_{i,t} + \beta_{12} MTB_{i,t} + \beta_{13} ACCRUAL_{i,t} + i.Year + i.Industry + \varepsilon_{i,t}, \quad \textbf{(1)}$$

[8] https://www7.fdic.gov/idasp/advSearchLanding.asp

[9] Our firm-year observations are comparable to those reported in Erkens et al. (2014) and Kang et al. (2020)

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where the dependent variable $TaxPosition_{i,t+n}$ is one of the three proxies that measures the level of a firm's tax avoidance for a given year. We measure tax avoidance using firms' $GAAP\_ETR$, TAX_UNC and $PERM$. $GAAP\_ETR$ is the three-year sum of total income tax expense divided by the sum of pre-tax income before special items for a firm in year *t+1* to *t+3*. TAX_UNC is the three-year sum of additions to unrecognized tax benefits related to the current-year tax position divided by the sum of sales for a firm in year *t+1* to *t+3*. $PERM$ is measured as the total book-tax-differences less temporary book-tax-differences scaled by lagged total assets for a firm in year *t+1*. The variable of interest ABD ($UABD$) equals one when a firm-year has affiliated (unaffiliated) banker directors on their board and equals zero otherwise.

We include a set of control variables that are shown to be associated with corporate tax avoidance by prior studies (e.g., Gaertner, 2014; Guenther, Matsunaga, and Williams, 2017). We include firm profitability ($PTBI_{it}$) because more profitable firms are likely to have stronger incentives for tax avoidance. To rule out the impact of uncertainty in the underlying operating environment on tax avoidance, we also control for the volatility of firms' pretax income ($PTBI\_SD_{it}$).

We include firm size ($SIZE_{it}$) to control for the economic scale of investment in tax avoidance and the differences in political costs associated with tax avoidance. Inventory intensity ($INVENTORY_{it}$) is included to account for the impact of tax deductions related to the cost of goods sold. The control variables also include intangible assets ($INTANGIBLE_{it}$) to capture firms' ability to shift income, and research & development expenses ($R\&D_{it}$) to adjust for differences in firms' tax positions due to R&D tax credit.

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In addition, the regression also includes: capital intensity ($CAPINT_{it}$) because capital-intensive firms have greater tax-avoidance opportunities through utilizing capital allowance and incentive provision; leverage ($LEVERAGE_{it}$) to account for differences in a firm's tax avoidance opportunities related to interest tax shields; the extent to which a firm has operating losses carrying forward ($NETLOSSCF_{it}$) at the beginning of the year; the tax benefits from stock options ($ETBSO_{it}$); firm growth (MTB_{it}) as growing firms may have more opportunities for tax avoidance due to their pursuit of expanding; discretionary accrual management ($ACCRUAL_{it}$) as low ETRs could be a result of both pretax accrual management and tax avoidance activities, and therefore we include it to ensure that low ETRs are only due to tax avoidance activities.

Finally, we include year and industry dummies (using a 2-digit SIC industry code) to account for the year and industry fixed effects. The standard errors are clustered at the firm level and adjusted for heteroskedasticity. Our results do not alter when standard errors are clustered at the industry level. For the sake of brevity, we report the standard errors clustered by firms in all the tables. Following previous literature (e.g., Guenther et al., 2017), we trim tax rates to values between 0 and 1 to ensure that tax rates have a reasonable economic interpretation. All the accounting variables are winsorized at the 1% and 99% levels to account for impacts from outliers. Table 1 summarizes the definition and data source of all variables employed in this study.

[Insert Table 1 Here]

Panel A of Table 2 reports the summary statistics for all variables used in our regression analyses, including measures of tax avoidance, ABD, $UABD$ and the control variables. The mean values of $GAAP\_ETR$, TAX_UNC and $PERM$ are 30%, 7% and 2%, respectively, which are comparable to those of prior studies (Minnick and Noga,

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2010; Hasan et al., 2014; Gaertner, 2014; Goh et al., 2016). In our sample, approximately 2% of the firm-year observations have $ABDs$ (213 observations) and 6% have $UABDs$ (562 observations).[10]

Panel B of Table 2 reports the univariate comparisons of firm characteristics of two groups of firms, one group of firms with affiliated banker directors on board and another group of firms without affiliated banker directors. Panel B shows that there are significant differences between the two groups. Firm-year observations with affiliated banker directors have significantly lower levels of tax avoidance, as reflected by the higher $GAAP\_ETR$, lower TAX_UNC and lower $PERM$. In addition, firms with affiliated banker directors tend to be more mature, as reflected by larger firm size ($SIZE$) and greater tangible asset ($CAPINT$), higher level of leverage ($LEVERAGE$), less growth opportunities (MTB), less research and development expenditure ($R\&D$), lower profit volatility ($PTBI\_SD$), lower intangible assets ($INTANGIBLE$) and inventory intensity ($INVENTORY$).

[Insert Table 2 Here]

4. Empirical Results

4.1 Baseline Results

We begin our analysis by estimating the effect of the appointment of commercial banker directors on corporate tax avoidance using the Ordinary Least Square (OLS)

[10] Our firm-year observations are comparable to those reported in Erkens et al. (2014) and Kang et al. (2020).

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regressions. Panel A (B) of Table 3 reports the results of including ABD ($UABD$) and control variables in the regressions. Panel C of Table 3 presents the estimations of models including both ABD and $UABD$. We control for the industry- and year-fixed effects. All standard errors are adjusted for heteroskedasticity and are clustered at the firm level.

Model (1) in Table 3 shows that the coefficients of ABD are positive and significant at the 1% level where $GAAP\_ETR$ is the dependent variable. This indicates that the appointment of affiliated bankers on board significantly reduces firms' total tax avoidance designed to improve financial reporting benefits. The effect of the appointment of affiliated bankers is economically significant — the $GAAP\_ETR$ on average is 1.77% higher for an ABD firm-year, which corresponds to 17.7% of its sample standard deviation (0.10). As shown from Table 3 Model (2) and (3), the coefficients of ABD are negative and significant at 5% level in regressions where TAX_UNC and $PERM$ are the dependent variables. This indicates that the appointment of affiliated bankers on board significantly restricts tax avoidance activities that fall into grey areas of tax law or generate permanent tax reporting benefits. The coefficients of ABD, with the value of -0.0128 in Model (2) and -0.0063 in Model (3), suggest that the appointment of affiliated bankers reduces tax uncertainty (permanent tax benefits) by nearly 11.64% (15.75%) of its sample standard deviation.

In contrast, the coefficients of $UABD$ are insignificant in all regressions in Table 3, indicating that unaffiliated bankers on board have no incentives to monitor and restrict tax avoidance activities. The comparison between impacts from ABD and $UABD$ provides a unique opportunity to confirm that our results are not driven by common confounding factors, because we should find lower tax avoidance associated with both ABD and $UABD$ if the results are driven by confounding factors.

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The explanatory power of the control variables is consistent with prior literature. Greater tax avoidance is associated with higher profit volatility, larger size, greater R&D expense and leverage, higher operating losses carried forward, and greater earnings management, but is associated with smaller institutional ownership and lower level of tangible assets.

Taken together, our results show that affiliated bankers on board significantly reduce firms' tax avoidance activities and the associated tax risk. However, unaffiliated bankers on board have no such incentives compared to their affiliated counterparts.

[Insert Table 3 Here]

4.2 Robustness Tests

To check the robustness of our results, we conduct additional analyses to account for potential concerns over the self-selection bias, the systematic difference between firms with commercial banker directors and those without, and the reverse causality problem. The robustness test results confirm that the effects of banker directors on corporate tax avoidance are robust to 1) the Propensity-Score Matching; 2) the change analysis combined with Propensity Score Matching; and 3) the Two-Stage instrumental variable estimation.

4.2.1 Propensity Score Matching (PSM)

It is possible that the impacts of ABD on corporate tax behaviors are driven by the systematic differences between firms with and those without commercial banker directors on board. To control for confounding factors, we use the propensity score

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matching to generate matched samples that consist of firms with a similar probability of having banker directors on board.

We firstly estimate the probability that a firm has banker directors on board. The probability is estimated using a logistic regression in Equation 2. Specifically, we run a logit regression of the dummy variable ABD (or $UABD$) on a battery of variables to proxy for firm characteristics that affect banker directors' choices to sit on the boards (see Equation 2). The variables of firm characteristics are consistent with prior literature (e.g., Erkens et al., 2014; Kang et al., 2020) and are described in Table 1.

$$\{ABD \text{ or } UABD\} = \mathrm{Y}_0 + \mathrm{Y}_1 SIZE_{it} + \mathrm{Y}_2 LEVERAGE_{it} + \mathrm{Y}_3 CAPINT_{it} + \mathrm{Y}_4 ShortDebt_{it} + \mathrm{Y}_5 MTB_{it} + \mathrm{Y}_6 Return_{it} + \mathrm{Y}_7 Return\_SD_{it} + \mathrm{Y}_8 Default_{it} + \mathrm{Y}_9 Delt\_OperaCash_{it} + \mathrm{Y}_{10} CreditDown_{it} + \mathrm{Y}_{11} BOARDIND_{it} + \mathrm{Y}_{12} INSTOWN_{it} + \varepsilon \quad \textbf{(2)}$$

Next, we match firm-year observations to generate the control groups. To keep sufficient observations, we follow Erkens et al. (2014) and match each ABD (or UABD) observation to at most three non-banker observations that have the closest propensity score. We require matches to have a maximum caliper distance of 0.001, to ensure that firm-year observations with ABDs or UABDs are sufficiently similar to those without banker directors on board (NCBDs). Table 4 presents the robustness test results using the propensity-score matched subsample. Panel A of Table 4 reports the regression results of a subsample which employs propensity score matching method to match ABD firms with NCBD firms. The matching procedure reduces our sample to 208 ABD observations and 557 NCBD observations. Panel B matches UABD firms with NCBD firms, obtaining a subsample of 514 UABD observations and 1,170 NCBD observations. To better identify the effect of bank affiliation, we also match the ABD

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firms on UABD firms (i.e., we select control firms from a subset of UABD=1). Panel C of Table 4 reports the regression results of the subsample which matches ABD firms with UABD firms.

Panel A of Table 4 reports the univariate comparison of the tax avoidance measures between observations in the treatment and the matched control groups. The results indicate that $GAAP\_ETR$ (TAX_UNC or $PERM$) is significantly higher (lower) in firm-years with ABDs on board. By contrast, $GAAP\_ETR$ and $PERM$ are not significantly different between firm-years with UABDs on board and those without, and TAX_UNC is even higher in UABD observations. The univariate comparison provides evidence that our baseline results are not driven by confounding factors. Panel B of Table 4 reports the multivariate regression results using the PSM procedure. The test results in Panel C also provide evidence consistent with Panel C of Table 3. Combining the significant results of ABD in Panel A and the insignificant results in Panel B of Table 4, we further demonstrate that appointing an affiliated banker director results in the firm having higher effective tax rate, lower tax uncertainty, and lower permanent book-tax-differences after controlling for the self-selection bias. Consistent with our baseline results, PSM results indicate that ABDs significantly increase $GAAP\_ETR$ and reduce TAX_UNC and $PERM$, while UABDs have no clear intentions to influence firms' tax avoidance strategies.

[Insert Table 4 Here]

4.2.2 PSM and Change Analysis

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We then combine the propensity score matching with a "change" analysis to explore the association between commercial banker directors and corporate tax avoidance. In the change analysis, we compare corporate tax avoidance before and after the appointment of affiliated or unaffiliated bankers on boards. We employ the same propensity score matching procedure in Section 4.2.1 to obtain the firm-year control groups. For each control group firm, we assign it to its correspondent ABD (UABD) firm and then mark the staggered starting year of the banker director appointment to the control group firm. The change analysis is specified in the following Equation (3):

$$TaxPosition_{i,t+n} = \alpha_0 + \alpha_1 ABD\_Treat\ (UABD\_Treat) + \alpha_2 ABD\_Post\ (UABD\_Post) + \alpha_3 Inter\_ABD\ (Inter\_UABD) + \alpha_2 PTBI_{it} + \alpha_3 PTBI\_SD_{it} + \alpha_4 SIZE_{it} + \alpha_5 INVENTORY\_INTEN_{it} + \alpha_6 INTANGIBLE_{it} + \alpha_7 R\&D_{it} + \alpha_8 CAPINT_{it} + \alpha_9 LEVERAGE_{it} + \alpha_{10} ETBSO_{it} + \alpha_{11} NETLOSSCF_{it} + \alpha_{12} MTB_{it} + \alpha_{13} ACCRUAL_{it} + i.Year + i.Industry + \varepsilon_{i,t} \quad \textbf{(3)}$$

[Insert Table 5 Here]

$ABD\_Treat(UABD\_Treat)$ is an indicator variable that equals one for firms in the treatment group where firms must appoint at least one affiliated (unaffiliated) banker to the board, and zero otherwise. $ABD\_Post(UABD\_Post)$ is an indicator variable that equals one if the year is after the appointment of affiliated (unaffiliated) banker directors, and zero otherwise.[11] $Inter\_ABD$ is the interaction term between ABD_Treat and ABD_Post. The control variables are the same as those in our baseline

[11] As we combine the change analysis with the propensity score matching, we employ the 1:1 and no replacement propensity score matching method to match each ABD (UABD) firm with a corresponding firm in the control group, each control firm is assigned the same event year of its corresponding treatment firm.

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regression. We also run regressions excluding the post and treat dummy variables and the coefficients of the interaction terms remain robust and significant.

Table 5 presents the results in three panels and each panel employs the similar propensity matching method as in Table 4. In Panel A, we match the ABD firms with NCBD firms to test the effect of ABD appointments. The subsample in Panel B is UABD firms matched on NCBD firms to show the influence of UABD appointments. Panel C employs a subsample of non-banker-director firms only, where we match the ABD firms with UABD firms. The insignificant coefficients of ABD_Treat and $UABD\_Treat$ suggest no systematic differences between the treatment and the control groups in the pre-treatment period. Both Panel A and Panel C of Table 5 show that the coefficient of $Inter\_ABD$ is significant and positive (negative) in the regression where $GAAP\_ETR$ (TAX_UN or $PERM$) is the dependent variable. Panel B of Table 5 also show that the coefficients of $Inter\_UABD$ are generally insignificant.[12] Table 5 provide evidence that affiliated bankers on board significantly restrict firms' tax avoidance activities while their unaffiliated counterparts have no such incentives.

Notably, Equation 4 is similar to a PSM-DiD specification. We acknowledge that, however, the appointment of ABD and UABD may not be random. The primary purpose of the change analysis is to explore the association, rather than the causality, between the change in ABD/UABD and tax avoidance. We address the causal inference issue directly in the instrumental variable analysis below.

We next turn to a placebo test to rule out the possibility that the results from our

[12] The coefficients of $Inter\_UABD$ is significant in Model (4) of Table 5, indicating that the appointment of UABD is correlated with the effective tax rate at 10% significance level. However, this effect does not pass the placebo tests as shown in Panel D of Figure 1.

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change analysis are driven by confounding effects. We first create a random series of treatment and post dummy variables that maintain the year distribution of ABD and UABD separately, but the beginning year of the treatment is randomly assigned for the ABD and UABD firms. In each randomly generated placebo sample, we run the change analysis and store the coefficient estimates for the placebo treatment, post, and interaction terms. We repeat this procedure 5,000 times to obtain a distribution of the placebo estimates.

[Insert Figure 1 Here]

Figure 1 presents the distribution of coefficient estimates for the simulated interaction terms, i.e., $Inter\_ABD$ and $Inter\_UABD$. Each panel in Figure 1 is the summary for the placebo simulations of each one of the 9 models in Table 5. The yellow bars are the histogram of coefficient estimates generated from the placebo simulations; the green line is the normal density curve; the red line is the original interaction term coefficient.

The placebo tests for Model (1) to Model (3) of Table 5 are depicted in Panel A to Panel C in Figure 1. When ABD firms are matched with the NCBD firms, we find that the placebo test results for the effect of ABD are consistent with the results shown in Panel G, H and I in Figure 1. Compared with the NCBD firms, firms with affiliated banker directors are less aggressive with their tax avoidance behavior and this effect happening purely by luck is significantly low. Panel D to Panel F shows the placebo tests for the effect of unaffiliated banker directors. Although the $Inter\_UABD$ is significant at 10% level in Model (4) of Table 5, Panel D of Figure 1 shows that the effect of UABD on tax avoidance measured by $GAAP\_ETR$ fails on the placebo effect test. We cannot rule out the possibility that the effect of UABD on $GAAP\_ETR$ could

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have been driven purely by chance.

We specifically focus on the Panel G, H and I of Figure 1. The red lines show that our ABD interaction term coefficients $Inter\_ABD$ are significant in the simulation result distributions when running the simulated tests using Model (7), Model (8) and Model (9) of Table 5. The average coefficients of the interaction terms are much smaller in absolute value compared to those in Panel C of Table 5 shows that less than 10% of the simulated interaction terms are statistically significant. The chances of the effect of ABD shown in Model (7) and Model (8) happening purely by luck is lower than 5%. The conclusions drawn from the figures are consistent with the findings in Panel C of Table 5. We also conduct the t-test on the 5000 simulated coefficients of interaction term against 0 and fail to reject the null hypothesis. Overall, the placebo test confirms that the effect of ABD on tax planning behaviors is not driven by other omitted variables.

4.2.3 Instrumental Variable Estimates

Despite our efforts above, it remains possible that unobserved factors affect both the likelihood of the appointment of banker directors and corporate tax avoidance. To further control for unobserved covariates and address the endogeneity concern, we employ the instrumental variables (IV) approach to extract the exogenous variation in affiliated bankers sitting on board, and then use it to explain corporate tax avoidance.

We employ two instrumental variables to capture the extent to which affiliated lenders are more likely to serve on a firm's board. Our first instrument variable, $NoCloseBank$, is the number of commercial banks with a headquarter that is within 50 miles radius of a firm's headquarter. A large talent pool near a firm reduces the chance of an ABD sitting on this firm's board (Erkens et al., 2014). Our second instrument variable $LoanShare$ is the percentage of the syndicated loan held by firms' lead banks.

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We define this variable as an indicator variable which equals one when a firm's lead bank holds more than 50% share of the syndicated loan, and zero otherwise. An executive from a bank that has a larger share of loans is more incentivized to sit on the affiliated firm's board (Kroszner and Strahan, 2001).

Following Erkens et al. (2014), in our 2SLS regression we first run a logit regression of the ABD dummy on the two instrumental variables to extract the expected occurrence of ABDs on boards, and then use it to explain corporate tax avoidance in our second stage. Panel A of Table 6 reports the first-stage results where the dependent variable is the ABD dummy. We first test the explanatory power of each instrument variable on the ABD appointment respectively and then run a regression including both instrument variables. In the first stage IV regressions, we include all control variables that are employed in the second-stage regression. Panel A shows that both the signs and the statistical significance of the two instrument variables $NoCloseBank$ and $LoanShare$ are consistent with our predictions.

Panel B of Table 6 reports the IV regression results. It shows that affiliated bankers on board significantly increase $GAAP\_ETR$ and significantly reduce TAX_UNC and $PERM$, which are in line with our baseline results. We examine the performance of our instrumental variables following the methodology of Stock and Yogo (2005). All the Cragg-Donald's Wald F-statistics are significantly higher than the Stock and Yogo critical value at the 5% level, rejecting the weak instrument variables null hypothesis. The p-values of the Hansen's J overidentification tests are generally larger than 0.1, indicating that our two instrument variables are valid and uncorrelated with the error terms.

[Insert Table 6 Here]

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5. Exploring the Influencing Channels

In this section, we investigate whether the role played by affiliated banker directors in restricting corporate tax avoidance is affected by a firm's governance strength and capital structure. We argue that the impact of affiliated banker directors on reducing the tax avoidance behavior essentially lies in the aligned interests between the affiliated banker directors and the firm's debtholders. Therefore, one would expect that the effect of affiliated banker directors is stronger among firms with severer shareholder-debtholder conflict of interest. In line with this argument, we run heterogeneity tests with three cross-sectional firm characteristics relevant to the debtholders' interests, namely the corporate governance, the financial leverage and the CEO stock shareholding. Table 7 presents the heterogeneity test results. In Table 7, we include both the ABD and $UABD$ dummy variables in the regression model and we run the tests with the full sample.

5.1 The Role of Corporate Governance

In this section, we examine whether the negative relationship between affiliated banker director and tax avoidance behavior is affected by the corporate governance. Corporate governance can affect the role of ABDs on tax avoidance by influencing the risk consideration and the agency problem. Prior evidence shows that banks, which are fixed claimants on upside firm performance but bear the consequences of a higher risk, view tax avoidance as engendering significant risks (Hasan et al., 2014). In particular, poorly-governed firms have more severe tax-avoidance-induced risks (Desai and Dharmapala, 2009; Armstrong et al., 2015). From the agency perspective, firms with

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inadequate governance are less likely to have internal control mechanisms capable of preventing managers from engaging in tax avoidance and diverting corporate resources for their personal benefits (Desai and Dharmapala, 2009). This leaves a stronger need for ABDs to curb tax avoidance. Taken together, we expect ABDs' reduction of tax avoidance to be greater in poorly-governed firms.

To test this conjecture, we capture the quality of corporate governance using the E-index that represents the level of managerial entrenchment (Bebchuk, Cohen, and Ferrell, 2009). The higher the E-index value, the more entrenched the managers are, indicating higher managerial power and weaker corporate governance. We split firms into strong and poor governance subsamples based on the sample mean of the E-index. A firm is included in the poor governance subsample ($PoorCG$ = 1) if the E-index is *above* the sample mean and is included in the strong governance subsample ($PoorCG$ = 0) otherwise.

We then run the baseline regression based on the two subsamples. Panel A of Table 7 presents the regression results for the subsample of firms with poor and strong corporate governance. The results show that ABDs significantly reduce corporate tax avoidance only in the poorly-governed firms ($PoorCG$ = 1), while having no significant effect in well-governed firms, after controlling for the effect of UABD. The results suggest that for firms with weaker corporate governance, the interests of debtholders could be better protected after appointing the affiliated banker directors.

5.2 The Role of Financial Leverage

So far, our results show that ABDs behave differently from UABDs and significantly restrict the level of corporate tax avoidance. This is because compared to

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their UABD counterparts who perform mainly for shareholders' interests, ABDs have a clear incentive to monitor companies' performance on behalf of the lending banks and debtholders. Accordingly, if ABDs are motivated to restrict tax avoidance to safeguard the interests of the lending banks, one would expect a more pronounced impact of ABDs in mitigating tax avoidance when shareholder-debtholder conflict is exacerbated. Prior literature frequently uses the level of leverage to proxy for changes in the shareholder-debtholder conflict, with a higher level of leverage implying a relatively larger claim on firms' assets by debtholders and hence a more severe shareholder-debtholder conflict (Chu, 2018). Therefore, we predict that ABDs play a more pronounced role in restricting tax avoidance in firms with higher leverage.

To test this conjecture, we split firms into high- and low-leverage subsamples based on the sample mean of leverage. A firm is included in the high leverage subsample ($HighLev$ = 1) if the level of leverage for this firm is *above* the sample mean and is included in the low leverage subsample ($HighLev$ = 0) otherwise.

We then run the baseline regression based on the two subsamples. Panel B of Table 7 presents the regression results for the subsample of firms with high and low leverage. The results indicate that the negative association between ABDs and corporate tax avoidance is statistically significant only for the highly-levered subsample ($HighLev$ = 1). This evidence confirms our prediction that ABDs play a more pronounced role in reducing tax avoidance when shareholder-debtholder conflict is severe.

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5.3 The Role of CEO Stock Ownership

Although prior studies have demonstrated a positive relationship between CEO stock ownership and firm value due to the alleviated agency problem between managers and shareholders, existing literature also shows that high CEO stock ownership leads to concerns on the shareholder-debtholder conflict of interest (e.g., Mehran et al., 1999, Lin et al., 2023). For example, Mehran et al. (1999) show that the CEO stock ownership increases the debt financing behavior. Lin et al. (2023) point out that the managerial stock ownership increases the number of restrictive covenants in the loan deals to attenuate the debtholders' concern over the interest alignment between managers and shareholders. In conclusion, CEO with a higher value of stocks exhibit a greater alignment of interests with shareholders rather than the debtholders. Considering that ABD's interests are more aligned with the debtholders, their impacts are anticipated to be more pronounced in firms where shareholders tend to exert more influence over corporate strategy than debtholders.

To test this conjecture, we run regressions with subsamples divided by the level of the dollar amount of a firm's stock held by its CEO. We split firms into two groups based on the sample mean of the dollar value of the firm stock owned by CEO. $HighOwn$ equals 1 if the CEO owns more stocks of this firm than the sample mean and otherwise equals 0.

Panel C of Table 7 presents the regression results for the subsample of firms with high and low CEO stock ownership. Consistent with Panel C of Table 3, the coefficients of UABD are all insignificant. In contrast, the coefficients of ABD are all significant for the high CEO ownership group and all insignificant for the low CEO ownership group. These results imply that the impact of ABDs on protecting the

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debtholders' interests is more pronounced when the CEO's interests are more aligned with the shareholders.

To sum up, the estimations in Table 7 are in line with our predictions, indicating that it is the ABDs, rather than the UABDs, that have a pronounced effect on reducing tax avoidance. Furthermore, the effect of ABDs is stronger among firms experiencing heightened shareholder-debtholder conflict of interest.

[Insert Table 7 Here]

6. Conclusion

Through examining how commercial banker directors affect corporate tax avoidance, our study sheds light on how the lenders' participation in board representation affects firms' tax avoidance behaviors. Using a unique hand-collected sample of 796 U.S. firms from 1999 to 2018, we find that the presence of affiliated banker directors reduces tax avoidance, while unaffiliated banker directors do not significantly change the firm's tax avoidance behavior. Our results remain consistent and robust when using the propensity score matching to alleviate the self-selection bias. We further conduct a change analysis and two-stage instrument variables regressions and our conclusions do not alter. In addition, we find that affiliated banker directors exert stronger impacts on reducing tax avoidance in firms with poor corporate governance, high financial leverage and high CEO stock ownership.

Our study contributes to the extant literature on shareholder-debtholder conflict of interest by exploring the corporate tax implication of having banker directors on board, with a particular emphasis of distinguishing the effects of affiliated and

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unaffiliated banker directors. Our findings highlight how lender representation on boards can influence firm tax avoidance behaviors.

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Table 1
Variables Definition

Variable	Description	Source
GAAP_ETR	The three-year sum of total income tax expense divided by the three-year sum of pre-tax income before special items for a firm in year t+1 to t+3	Compustat
TAX_UNC	The three-year sum of additions to unrecognized tax benefits related to the current-year tax position divided by the three-year sum of sales for a firm in year t+1 to t+3	Compustat
PERM	The total book-tax-differences less temporary book-tax-differences scaled by lagged total assets for a firm in year t+1. $PERM_t$=BI_t- $[(CFTE + CFOR)/STR_t$-$(DTE_t/STR_t)]/AT_{n-1}$, where BI is the pre-tax book income, CFTE is the current federal tax expense, CFOR is the current foreign tax expense, DTE is the deferred tax expense, STR is the statutory tax rate, AT is the total assets	
ABD	Indicator variable which equals one when firms have affiliated banker directors on their board, and zero otherwise for a firm in year t	BoardEx and DealScan
UABD	Indicator variable which equals one when firms have unaffiliated banker directors on their board, and zero otherwise for a firm in year t	BoardEx and DealScan
PTBI	Pre-tax income divided by lagged total assets for a firm in year t	Compustat
PTBI_SD	Three-year rolling of the standard deviation of PTBI returns over the prior 3 years for a firm in year t	Compustat
SIZE	Natural log of total assets for a firm in year t	CRSP
INVENTORY	365/inventory turnover, where inventory turnover equals to cost of goods sold divided by average inventory for a firm in year t	Compustat
INTANGIBLE	Intangible assets divided by lagged total assets for a firm in year t	Compustat
R&D	Research and development divided by total revenue for a firm in year t	Compustat
CAPINT	Plant, machine, and equipment divided by lagged total assets for a firm in year t	Compustat
LEVERAGE	Long-term debt divided by lagged total assets for a firm in year t	Compustat
ETBSO	Excess tax benefit of stock options divided by lagged total assets for a firm in year t	Compustat
NETLOSSCF	Net operating losses carried forward divided by lagged total assets for a firm in year t	Compustat
MTB	Price per share times total common shares outstanding divided by book value of equity for a firm in year t	Compustat
ACCRUAL	Discretionary accounting accruals to capture earnings management for a firm in year t	Compustat
BOARDIND	The number of independent board directors divided by board size for a firm in year t	BoardEx
INSTOWN	Percentage of institutional ownership for a firm in year t	Datastream
ShortDebt	Short-term debt divided by lagged total assets for a firm in year t	Compustat
Default	Equal to one if the Altman's Z score is *below* the sample mean, and zero otherwise for a firm in year t	Compustat
Return	12-month buy-and-hold return over the fiscal year for a firm in year t	CRSP
Return_SD	Standard deviation of monthly stock returns over the prior 3 years for a firm in year t	CRSP
Delt_OperaCash	Changes in operating cash flow divided by lagged total assets for a firm in year t	Compustat
Financial Analysts	Natural log of the number of financial analysts following the company for a firm in year t	IBES

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Credit Rating	Dummy variables for Standard & Poor's senior debt rating, such as AAA, AA, A, etc	MorningStar
CreditDown	Equal to one if there is a credit downgrade within the firm-year, and zero otherwise for a firm in year t	MorningStar
NoCloseBank	The number of commercial banks with a headquarter within 50 miles radius of the headquarter for a firm in year t	Compustat
PoorCG	A dummy variable for corporate governance level. It is denoted as one if the E-index is *above* the sample mean, and zero otherwise for a firm in year t	ISS
HighLev	A dummy variable for leverage level. It is denoted as one if the level of leverage is *above* the sample mean, and zero otherwise for a firm in year t	Compustat
HighOwner	A dummy variable for the CEO's stock holding level. It is denoted as one if the dollar amount of the firm's stock hold by its CEO is *above* the sample mean, and zero otherwise for a firm in year t	DealScan

Table 1 lists the description and source of variables employed in this paper.

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Table 2
Descriptive Statistics

Panel A: Full Sample Descriptive Statistics of the Variables						Panel B: By Group Comparisons of the Variables					
						Sample without ABDs		Sample with ABDs		Difference	
Variable	Obs	Mean	Std. Dev.	Min	Max	Mean	Median	Mean	Median	Mean (t statistic)	Median (t statistic)
GAAP_ETR	9,714	0.30	0.10	0.00	0.54	0.29	0.32	0.32	0.33	-3.10***	-1.78*
TAX_UNC	9,737	0.07	0.11	0.00	0.32	0.08	0.03	0.04	0.01	2.57**	4.34***
PERM	9,849	0.02	0.04	-0.15	0.23	0.02	0.02	0.01	0.01	3.67***	3.91***
INVENTORY	9,849	0.06	0.07	0.00	0.34	0.06	0.04	0.04	0.02	4.25***	3.31***
INTANGIBLE	9,849	0.21	0.24	0.00	1.08	0.21	0.13	0.17	0.08	2.52**	3.06***
R&D	9,849	0.02	0.04	0.00	0.21	0.02	0.01	0.01	0.00	3.44***	1.64*
PTBI	9,849	0.13	0.09	0.00	0.53	0.13	0.11	0.12	0.12	0.72	-0.18
PTBI_SD	9,849	0.03	0.04	0.00	0.22	0.03	0.02	0.02	0.01	5.38***	7.12***
SIZE	9,849	7.43	1.83	3.11	11.70	7.40	7.37	8.88	9.01	-11.78***	-11.15***
CAPINT	9,849	0.58	0.38	0.05	1.55	0.58	0.50	0.74	0.80	-5.86***	-5.72***
LEVERAGE	9,849	0.21	0.20	0.00	0.98	0.21	0.19	0.27	0.28	-4.38***	-5.75***
ETBSO	9,849	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.00	2.71***	3.01***
NETLOSSCF	9,849	0.03	0.08	0.00	0.55	0.03	0.01	0.02	0.00	1.95*	1.91*
MTB	9,849	0.41	0.26	0.00	1.35	0.41	0.36	0.34	0.30	3.85***	3.54***
ACCRUAL	9,849	0.10	0.13	0.00	0.77	0.11	0.06	0.06	0.04	5.06***	5.36***
BOARDIND	9,849	0.70	0.12	0.00	1.00	0.77	0.82	0.76	0.75	1.06	3.10***
INSTOWN	9,849	0.63	0.31	0.00	1.13	0.62	0.70	0.63	0.72	-0.39	-2.268**
ABD	9,849	0.02	0.15	0.00	1.00						
UABD	9,849	0.06	0.23	0.00	1.00						

Panel A of Table 2 presents descriptive statistics of the variables used in the primary regression analyses. Panel B of Table 2 presents univariate comparisons of firm characteristics between firms with and without ABDs on board. Two-samples t-statistics are used to test differences in sample means, and Wilcoxon rank-sum tests are used to test the equality of sample medians. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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Table 3
Baseline Results

	Panel A			Panel B			Panel C		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	GAAP_ETR	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*
ABD	0.0177***	-0.0128**	-0.0063**				0.0178***	-0.0125**	-0.0063**
	(2.77)	(-2.07)	(-2.26)				(2.75)	(-2.02)	(-2.25)
UABD				0.0008	0.0034	0.0005	0.0013	0.0030	0.0002
				(0.11)	(0.64)	(0.26)	(0.18)	(0.56)	(0.14)
PTBI	0.1712***	0.0203	0.1514***	0.1722***	0.0199	0.1511***	0.1713***	0.0204	0.1514***
	(7.17)	(1.28)	(11.96)	(7.21)	(1.25)	(11.94)	(7.17)	(1.28)	(11.96)
PTBI_SD	-0.1599***	0.0167	0.0605**	-0.1613***	0.0177	0.0609**	-0.1598***	0.0168	0.0605**
	(-2.60)	(0.52)	(2.33)	(-2.62)	(0.56)	(2.35)	(-2.60)	(0.53)	(2.33)
SIZE	-0.0097***	0.0053***	0.0023***	-0.0096***	0.0051***	0.0022***	-0.0097***	0.0052***	0.0023***
	(-7.93)	(5.91)	(5.17)	(-7.84)	(5.78)	(4.98)	(-7.87)	(5.86)	(5.13)
INTANGIBLE	-0.0195*	-0.0063	0.0019	-0.0196*	-0.0061	0.0020	-0.0195*	-0.0063	0.0019
	(-1.95)	(-0.94)	(0.45)	(-1.96)	(-0.91)	(0.46)	(-1.94)	(-0.93)	(0.45)
INVENTORY	0.0447	0.0448**	-0.0279**	0.0443	0.0449**	-0.0278**	0.0446	0.0446**	-0.0279**
	(1.28)	(2.04)	(-2.23)	(1.27)	(2.05)	(-2.23)	(1.28)	(2.04)	(-2.24)
R&D	-0.2952***	0.1655***	0.1069***	-0.2963***	0.1671***	0.1075***	-0.2951***	0.1658***	0.1069***
	(-4.70)	(4.18)	(4.09)	(-4.71)	(4.21)	(4.11)	(-4.70)	(4.18)	(4.09)
CAPINT	-0.0042	-0.0144***	0.0019	-0.0040	-0.0147***	0.0018	-0.0042	-0.0145***	0.0019
	(-0.56)	(-3.25)	(0.76)	(-0.55)	(-3.30)	(0.73)	(-0.57)	(-3.27)	(0.76)
LEVERAGE	-0.0074	0.0191**	0.0027	-0.0071	0.0190**	0.0026	-0.0074	0.0192**	0.0027
	(-0.73)	(2.49)	(0.69)	(-0.71)	(2.48)	(0.67)	(-0.73)	(2.49)	(0.69)
ETBSO	0.3219	0.3190	0.0367	0.3123	0.3298	0.0409	0.3231	0.3220	0.0370
	(0.84)	(1.01)	(0.16)	(0.81)	(1.04)	(0.18)	(0.84)	(1.01)	(0.16)
NETLOSSCF	-0.1526***	-0.0007	0.0255*	-0.1527***	-0.0006	0.0255*	-0.1526***	-0.0006	0.0255*
	(-4.60)	(-0.04)	(1.83)	(-4.60)	(-0.03)	(1.83)	(-4.60)	(-0.04)	(1.83)
MTB	0.0022	0.0057	0.0077***	0.0020	0.0057	0.0077***	0.0022	0.0055	0.0077***
	(0.28)	(1.00)	(2.96)	(0.25)	(1.00)	(2.98)	(0.27)	(0.97)	(2.95)
ACCRUAL	-0.0387***	-0.0064	0.0126**	-0.0391***	-0.0060	0.0128***	-0.0386***	-0.0063	0.0126**
	(-3.53)	(-0.81)	(2.58)	(-3.58)	(-0.75)	(2.62)	(-3.53)	(-0.80)	(2.58)
BOARDIND	-0.0056	0.0154*	-0.0004	-0.0053	0.0153*	-0.0004	-0.0056	0.0154*	-0.0004
	(-0.33)	(1.69)	(-0.07)	(-0.32)	(1.67)	(-0.07)	(-0.33)	(1.68)	(-0.07)
INSTOWN	0.0202***	-0.0101***	-0.0092***	0.0200***	-0.0100**	-0.0091***	0.0202***	-0.0101***	-0.0092***

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	(2.89)	(-2.60)	(-3.27)	(2.87)	(-2.57)	(-3.25)	(2.89)	(-2.59)	(-3.27)
Constant	0.3642***	0.0231**	-0.0193***	0.3633***	0.0241**	-0.0189***	0.3643***	0.0234**	-0.0193***
	(22.08)	(2.13)	(-3.35)	(22.12)	(2.23)	(-3.30)	(22.22)	(2.16)	(-3.36)
Observations	9,674	9,697	9,808	9,674	9,697	9,808	9,674	9,697	9,808
R-squared	0.305	0.46	0.269	0.304	0.46	0.268	0.305	0.460	0.269
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Table 3 reports the results of the OLS regression for the relation between banker directors' appointments and corporate tax avoidance. The dependent variables are the tax avoidance measures: $GAAP\ ETR$, TAX_UNC and $PERM$. The variables of interest are ABD and $UABD$. Panel A (B) reports the results of including ABD ($UABD$) dummies in the regression. Panel C reports the results of the regression model including both ABD and $UABD$. We control for the 2-digit SIC industry and year fixed effects. All the t-statistics are adjusted for heteroskedasticity and clustered at the firm level. Robust t-statistics are reported in parentheses. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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Table 4
Propensity Score Matching

	Panel A: ABD+NCBD			Panel B: UABD+NCBD			Panel C: ABD+UABD		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	GAAP_ETR	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*
ABD	0.0194**	-0.0173**	-0.0059**				0.0134*	-0.0183**	-0.00352*
	(2.09)	(-2.25)	(-2.21)				(1.72)	(-2.26)	(-1.80)
UABD				0.0017	0.0073	-0.0009			
				(0.23)	(1.31)	(-0.47)			
All Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	758	758	762	1,657	1,657	1,673	1,116	1,224	1,238
R-squared	0.47	0.515	0.498	0.361	0.491	0.371	0.421	0.494	0.360

Table 4 reports the results for the propensity score matched sample. The panel titles represent how we choose the propensity score matched subsample. Panel A reports the regression results of a subsample which employs propensity score matching method to match ABD firms with NCBD firms. Panel B reports the results for the multivariate regressions of a subsample which matches UABD firms with NCBD firms. Panel C reports the regression results of the subsample which matches ABD firms with UABD firms. ABD/UABD firms mean firms with affiliated/unaffiliated banker director on board respectively. NCBD firms are the firms without any banker director on board. The dependent variables are the tax avoidance measures: $GAAP\_ETR$, TAX_UNC and $PERM$. The variables of interest are ABD and $UABD$. We control for the 2-digit SIC industry and year fixed effects. All the t-statistics are adjusted for heteroskedasticity and clustered at the firm level. Robust t-statistics are reported in parentheses. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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Table 5
Propensity Score Matching and Change Analysis

	Panel A: ABD+NCBD			Panel B: UABD+NCBD			Panel C: ABD+UABD		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	GAAP_ETR	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*	*GAAP_ETR*	*TAX_UNC*	*PERM*
ABD_Treat	-0.0164	0.0117	-0.0014				-0.0164	0.0151**	0.0000
	(-1.45)	(1.24)	(-0.54)				(-1.45)	(2.39)	(0.00)
ABD_Post	-0.0158	-0.0150	-0.0007				-0.0158	-0.0016	0.0050**
	(-1.04)	(-1.01)	(-0.19)				(-1.04)	(-0.21)	(2.41)
Inter_ABD	0.0221**	-0.0238*	-0.0051*				0.0221**	-0.0241***	-0.0066**
	(2.44)	(-1.92)	(-1.77)				(2.44)	(-2.66)	(-2.45)
UABD_Treat				-0.0131	-0.0027	0.0046			
				(-1.20)	(-0.29)	(1.58)			
UABD_Post				-0.0166	0.0063	0.0031			
				(-1.28)	(0.58)	(0.94)			
Inter_UABD				0.0152*	0.0059	-0.0010			
				(1.66)	(0.63)	(-0.40)			
All Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,299	1,368	1,517	1,781	1,882	1,978	1,299	1,865	1,879
R-squared	0.418	0.505	0.323	0.424	0.471	0.313	0.418	0.482	0.343

Table 5 reports the results of the change analysis tests on the propensity score matched samples. Panel A reports the regression results of a subsample which employs propensity score matching method to match ABD firms with NCBD firms. Panel B reports the results for the multivariate regressions of a subsample which matches UABD firms with NCBD firms. Panel C reports the regression results of the subsample which matches ABD firms with UABD firms. We control for the 2-digit SIC industry and year fixed effects. The dependent variables are the tax avoidance measures: $GAAP\_ETR$, TAX_UNC and $PERM$. ABD_Treat /$UABD\_Treat$ is a dummy variable for whether the firm ever appointed affiliated/unaffiliated banker directors. ABD_Post /$UABD\_Post$ is 1 after the banker director is appointed and 0 otherwise. The variables of interest are the interaction terms: $Inter\_ABD$ and $Inter\_NABD$. All the t-statistics are adjusted for heteroskedasticity and clustered at the firm level. Robust t-statistics are reported in parentheses. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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Table 6
Instrument Variables

Panel A: First-Stage Instrument Variable Logit Model			
$LoanShare$	1.0927***	-	1.0839***
	(5.08)		(5.03)
$NoCloseBank$	-	-0.0431**	-0.0390*
		(-2.08)	(-1.85)
All Controls	YES	YES	YES
Observation	9,118	9,118	9,118
LR Chi-Square	228.13***	201.70***	233.00***
Panel B: Second-Stage Regression Using Instrumental Variables			
	GAAP_ETR	***TAX_UNC***	***PERM***
$ABD(fitted)$	0.1027**	-0.0027**	-0.0473**
	(2.12)	(-2.34)	(-2.55)
All Controls	YES	YES	YES
Industry FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	9,118	9,118	9,118
R-squared	0.327	0.213	0.298
Cragg-Donald Wald F-Stat	23.849***	37.184***	37.821***

Table 6 presents the estimates using instrumental variable method based on two-stage least square (2SLS). Panel A presents the first-stage results from a logit model where the dependent variable is affiliated banker directors on board (ABD). We use the following instrumental variables to capture the expected occurrence of affilicated bankers sitting on board. Our first instrument ($LoanShare$) is the percentage of the syndicated loan held by firms' lead banks. Our second instrument ($NoCloseBank$) is the number of commercial banks with a headquarter that is within 50 miles radius of the firm's headquarter. Panel B presents the second-stage regression results. The dependent variables are the tax avoidance measures: $GAAP\_ETR$, TAX_UNC and $PERM$. The variables of interest are the ABD fitted values estimated from the first stage. The same set of control variables in our baseline regression is included. We control for the 2-digit SIC industry and year fixed effects. All the t-statistics are adjusted for heteroskedasticity and are clustered at the firm level. Robust t-statistics are reported in parentheses. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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Table 7
Exploring the Channels

Panel A: Corporate governance strength

	$PoorCG$=1			$PoorCG$=0		
	$GAAP\_ETR$	TAX_UNC	$PERM$	$GAAP\_ETR$	TAX_UNC	$PERM$
ABD	0.0289***	-0.0338***	-0.0078**	-0.0046	-0.0025	-0.0035
	(3.73)	(-3.25)	(-2.42)	(-0.49)	(-0.35)	(-0.97)
$UABD$	0.0104	0.0108	-0.0030	-0.0063	0.0047	0.0014
	(1.46)	(0.41)	(-1.50)	(-0.53)	(0.78)	(0.46)
All Controls	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Observations	6,006	6,040	6,107	3,668	3,654	3,701
R-squared	0.360	0.508	0.304	0.303	0.469	0.278

Panel B: Financial Leverage

	$HighLev$=1			$HighLev$=1		
	$GAAP\_ETR$	TAX_UNC	$PERM$	$GAAP\_ETR$	TAX_UNC	$PERM$
ABD	0.0279***	-0.0158**	-0.0071**	-0.0008	-0.0143	-0.0073
	(3.19)	(-2.01)	(-2.45)	(-0.12)	(-1.36)	(-1.36)
$UABD$	0.0081	0.0029	-0.0033	-0.0078	0.0010	0.0035
	(1.03)	(0.42)	(-1.58)	(-0.83)	(0.14)	(1.36)
All Controls	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Observations	4,362	4,369	4,437	5,312	5,327	5,371
R-squared	0.329	0.473	0.318	0.308	0.469	0.252

Panel B: CEO stock holding

	$HighOwner$=1			$HighOwner$=0		
	$GAAP\_ETR$	TAX_UNC	$PERM$	$GAAP\_ETR$	TAX_UNC	$PERM$
ABD	0.0191**	-0.0211***	-0.0103***	0.0127	0.0128	0.00468
	(2.487)	(-2.782)	(-2.785)	(0.851)	(1.148)	(1.111)
$UABD$	-0.0055	0.00051	0.00353	0.0015	0.0058	-0.0005
	(-0.628)	(0.0659)	(1.217)	(0.144)	(0.796)	(-0.164)
All Controls	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Observations	4,555	4,589	4,069	5,127	5,116	4,638
R-squared	0.372	0.522	0.300	0.275	0.421	0.293

Table 7 reports the regression results separately for firms with different levels of conflict of interest between debtholders and other stakeholders. Panel A, B and C group our samples based on the corporate governance, leverage, and the dollar amount of CEO's stock holding. The dependent variables are tax avoidance measures $GAAP\_ETR$, TAX_UNC and $PERM$. We control for 2-digit SIC industry and year fixed effects. All the t-statistics are adjusted for heteroskedasticity and clustered at the firm level. Robust t-statistics are reported in parentheses. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

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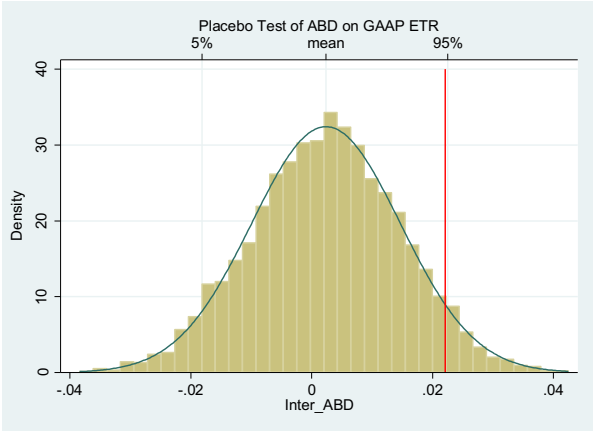
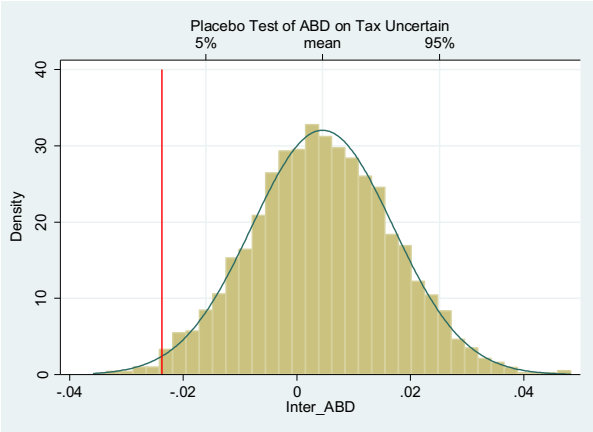
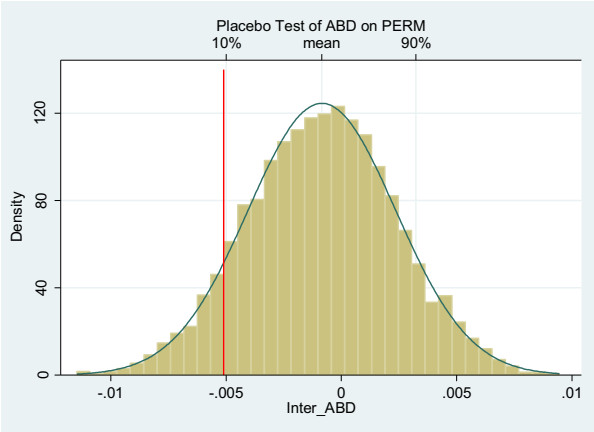
Figure 1. Placebo Tests



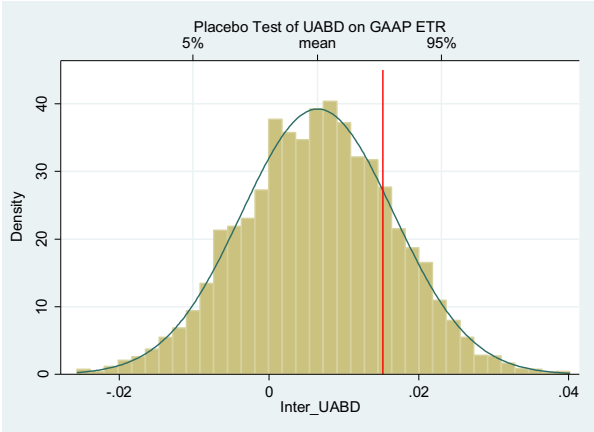
Panel A. Inter_ABD in Model (1) of Table 5



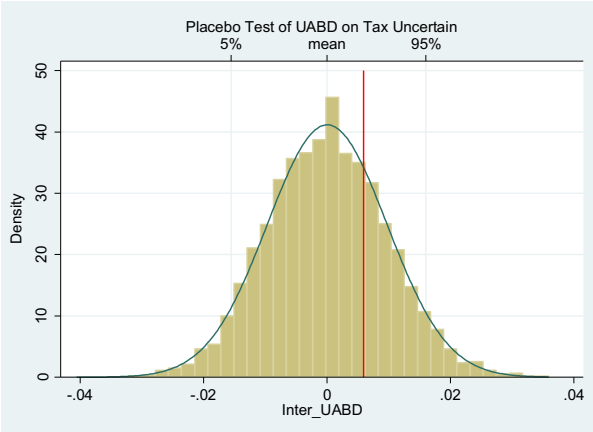
Panel B. Inter_ABD in Model (2) of Table 5



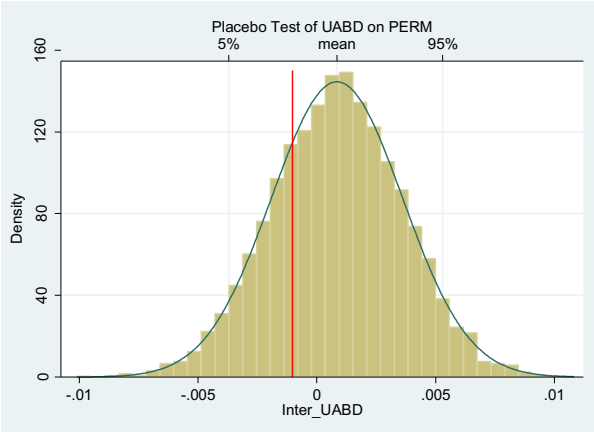
Panel C. Inter_ABD in Model (3) of Table 5



Panel D. Inter_UABD in Model (4) of Table 5



Panel E. Inter_UABD in Model (5) of Table 5



Panel F. Inter_UABD in Model (6) of Table 5

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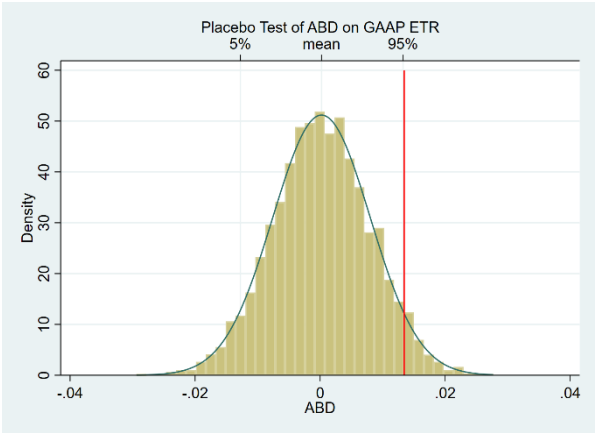
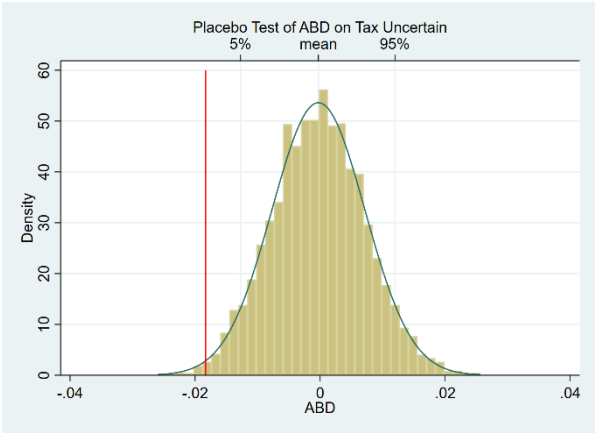
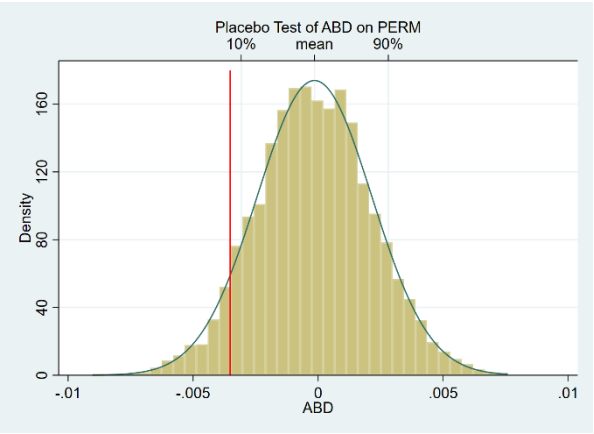


Panel G. Inter_ABD in Model (7) of Table 5



Panel H. Inter_ABD in Model (8) of Table 5



Panel I. Inter_ABD in Model (9) of Table 5

Note: The figures report the nonparametric distribution of the coefficient estimates of ABD or UABD interaction terms in placebo tests of DID models in Table 5. The yellow bars are the histogram of coefficient estimates generated from the placebo simulations; the green line is the normal density curve; the red line is the original interaction term coefficient.

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