

# **Is Aggressive Financial and Tax Reporting Related to the Organization and Orientation of the Corporate Tax Function?**

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# **Is Aggressive Financial and Tax Reporting Related to the Organization and Orientation of the Corporate Tax Function?**

## **ABSTRACT**

Regulators and researchers alike have speculated whether the growing difference between corporate book income and taxable income (the “book-tax gap”) is accelerating because of more aggressive financial reporting or more aggressive tax reporting. This study investigates whether the organization and orientation of the corporate tax function are related to the magnitude of the book-tax gap and contribute to aggressive reporting behavior. We begin by testing whether the recent tendency of corporations to organize their tax functions as profit centers, rather than as cost centers, and orient their corporate tax functions toward planning (rather than compliance) is associated with the book-tax gap. We find, as expected, that the organization of corporate tax functions as a profit centers and orientation of tax function budgets to planning are both associated with larger book-tax gaps. We then test if the organization and orientation of tax functions also contribute to aggressive financial and/or aggressive tax reporting. We find, as expected, that organizing a tax function as a profit center contributes to more aggressive tax reporting. Surprisingly, we find that orienting the tax function toward planning is associated with less aggressive financial reporting.

**Keywords:** *Data Availability: Survey data are confidential, but other data were collected from public sources identified in the paper. A copy of the survey is available upon request.*

# **Is Aggressive Financial and Tax Reporting Related to the Organization and Orientation of the Corporate Tax Function?**

## **1. INTRODUCTION**

During the 1990's the growing disparity between income reported for financial statements and income reported to tax authorities caught the attention of legislators and regulators. The growing divide between financial income and taxable income (the "book-tax" gap) may have reinforced instances of outrageous corporate misbehavior to help motivate regulatory legislation including Sarbanes-Oxley and tax shelter restrictions. Despite the increased attention, however, little is known about the extent of aggressive financial and tax reporting among financially sound corporations. Moreover, there is only speculation about the factors that contribute to aggressive reporting behaviors.

Recent research has focused on corporate tax avoidance and earnings management as potential sources for the book-tax gap (Plesko 2002; Manzon and Plesko 2002; Desai 2003; Dhaliwal, Gleason, and Mills 2004; McGill and Outslay 2004). In general, the research is divided into two lines: one linking the growing divide between tax and financial reporting to aggressive tax management and/or tax shelter use (Mills 1998; Desai 2003) and the other linking differences between tax and financial reporting to more aggressive earnings management (Phillips, Pincus, and Rego 2003; Phillips, Pincus, Rego, and Wan 2004; Hanlon 2005). One study, Frank, Lynch, and Rego (2006), ties aggressive financial reporting to aggressive tax reporting, but fails to relate these constructs to the growing book-tax gap. In addition, several studies allude to the notion that designating the tax department as a profit center increases aggressive reporting, yet no data have been available to empirically test this conjecture.

We investigate two features of the corporate tax function that evolved during the 1990s, organization of the function as a profit center and orientation of the function toward planning. We conduct our investigation in two stages. In the first stage, we investigate whether the organization and orientation of the tax function contributes to the magnitude of the book-tax gap. Specifically, we test whether firms whose tax function is designated as a profit center are more likely to engage in reporting activities that increase reported earnings on the financial statements through the reported income tax expense. We expect that management's choice to organize its tax function as a profit center rather than a cost center will motivate employees in the tax function to reduce reported income tax expense thereby increasing the likelihood of aggressive tax reporting. In addition, we examine whether the level of resources devoted to planning (as compared to tax compliance) is related to the book-tax gap. We expect that the proportion of the tax department budget committed to planning (rather than tax compliance) will reflect the integration of the tax function in the strategic planning process and will be positively associated with the book-tax gap.

In addition to tax reporting aggressiveness, financial reporting aggressiveness may also contribute to the widening book-tax gap. In the second stage of the study, we investigate whether the profit center designation and the planning orientation are contributing to the mounting book-tax gap due to their effect on tax reporting aggressiveness, financial reporting aggressiveness, or both. In examining the effect of the profit center designation and the planning orientation on a firm's tax and financial aggressiveness, we estimate a modified version of the simultaneous equation model developed in Frank *et al.* (2006) to control for the possibility that tax aggressiveness and financial aggressiveness may be interrelated and simultaneously determined.

We base our investigation on a unique data set constructed from confidential survey responses from over 200 Chief Financial Officers (CFOs) of Fortune 1000 companies. The confidential survey, conducted in 1999 at the behest of Ernst and Young, asked CFOs to identify whether their firms manage and evaluate their tax departments as profit centers or as cost centers. In addition, the CFOs were asked to specify the percentage of the tax budget spent on tax planning and to characterize the extent to which their firm views taxes as an important tool to meet earnings expectations. In the first stage of our study we analyze a sample of 69 survey responses from CFOs of firms with 309 firm-years of financial data from the period 1999 through 2004. We use Manzon and Plesko's (2002) book-tax "spread" variable to represent the gap between reported financial and taxable income, and we test our predictions using the established regression model in Manzon and Plesko (2002). We find that the organization of the tax function as a profit center and the orientation of the tax function toward planning are both positively associated with the book-tax gap suggesting that book-tax differences derive, at least in part, from tax departments' incentive to contribute to the bottom line. Supplemental tests using a subset of firms that changed designation from cost center to profit center and vice versa also find a positive association between the book-tax gap and the choice to change from a cost center to a profit center.

In the second stage of our study we adopt the definitions of reporting aggressiveness from Frank *et al.* (2006). We define "tax reporting aggressiveness" as engaging in transactions and/or reporting behaviors that reduce taxable income and "financial reporting aggressiveness" as engaging in transactions or reporting behaviors that increase financial income. Our proxy for tax reporting aggressiveness is discretionary permanent book-tax differences, and our proxy for financial reporting aggressiveness is performance-matched discretionary accruals. In this stage of

our study we analyze a sample of 106 survey responses from CFOs of firms with 467 firm-years of financial data from the period 1999 through 2004. Specifically, we estimate the Frank et al (2006) model to simultaneously test whether the tax function organization (as a profit center) and orientation (toward planning) contribute to aggressive tax reporting and/or to aggressive financial reporting. We find that, as expected, firms organizing their tax departments as profit centers are associated with more aggressive tax reporting as reflected in larger discretionary permanent book-tax differences. Supplemental tests based upon a subset of firms changing their tax function organization are consistent with this finding. Finally, contrary to our expectations, we find that firms that orient tax budgets toward planning exhibit less aggressive financial reporting, as reflected in significantly lower levels of performance-matched discretionary accruals.

We conclude that organizing tax functions as profit centers is consistent with aligning incentives to aggressively report taxable income. In contrast, while orienting the resources of the tax function toward tax planning is associated with the book-tax gap, this orientation reduces aggressive financial reporting. Overall, the results corroborate the assumption that managing the tax department as a profit center encourages managers to generate tax savings to reduce the effective tax rate and possibly to increase book earnings as well. The surprising result that planning orientation reduces financial reporting aggressiveness may represent the inherent conflict between aggressive tax reporting, which seeks to reduce taxable income, and aggressive financial reporting, whose objective is primarily to enhance net income. We speculate that orienting the tax function to planning may make financial planners more aware of the adverse tax consequences associated with aggressive financial reporting.

We contribute to the literature by identifying a potential and previously untested determinant of tax and financial reporting aggressiveness, the corporate tax function. We provide evidence that two different features of the corporate tax function, the organization of the tax function as a profit center (rather than a cost center) and the orientation of the tax function toward planning (rather than compliance) contribute to the book-tax gap. We also find evidence that these two aspects of the tax function are associated with measures of aggressive tax reporting and aggressive financial reporting. To our knowledge, this is the first empirical evidence indicating that operational management, specifically the tax function, plays a role in tax and financial reporting. Moreover, our results extend and amplify the results presented in Frank *et al.* (2006) by elaborating on the relation between aggressive tax reporting and aggressive financial reporting and the magnitude of the book-tax gap. Our findings should be of interest to regulators (Securities and Exchange Commission, Financial Accounting Standards Board, and the Internal Revenue Service) and investors who seek to understand the causes and consequences of aggressive corporate reporting.

The remainder of this study is organized as follows. The next section outlines the literature and presents our hypotheses. The next two sections describe our research method and empirical results. The final section summarizes the results and concludes.

## **2. PRIOR LITERATURE AND HYPOTHESES DEVELOPMENT**

A substantial body of research exists that identifies and documents aggressive tax reporting. For example, in the early 1980s, researchers scrutinized corporations' effective tax rates to evaluate whether corporations were paying their fair share of taxes relative to their financial or economic income (see Callihan 1994 for an excellent summary). As the use of corporate tax shelters increased during the 1990s, researchers turned their efforts toward identifying aggressive

tax reporting by focusing on the difference between financial and taxable incomes (Mills, Newberry, and Trautman 2002; Plesko 2002; Manzon and Plesko 2002; Desai 2003; Hanlon, Mills, and Slemrod 2005). Desai (2003) reports that the increasing book-tax differences over the 1990s is consistent with aggressive tax reporting, namely sheltering activity. Likewise, Desai and Dharmapala (2006) describe and evaluate a specific tax shelter and speculate that, in addition to reducing tax payments, tax shelters may also serve to facilitate earnings management.

Other studies investigate the “management” of income tax expense to increase financial earnings (Phillips *et al.* 2003; Dhaliwal *et al.* 2004; Frank and Rego 2006). In general, these studies find evidence that managers use the tax expense and/or the valuation allowance account to increase reported *financial* earnings. However, Shackelford and Shevlin (2001) note that many managerial decisions involve a tradeoff between lowering taxable income and increasing book income. In essence, when tax and financial reporting conform, managers must trade off the benefits of reduced taxes with the costs of lower financial income. In the extreme, managers must be willing to incur additional tax costs to boost reported financial earnings (Erickson *et al.* 2004).<sup>1</sup>

Alternatively, when tax and financial reporting need not conform, a decrease in taxes provides benefits of lower cash outflows *and* no corresponding decrease in financial income. Indeed, nonconforming activities appear to be more prevalent than conforming activities among firms that have recently been required to restate earnings downward, suggesting that managers can aggressively report both book and taxable income (Badertscher, Phillips, Pincus, and Rego 2006).

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<sup>1</sup> The research is not entirely consistent on whether the financial or tax reporting will dominate the decision. For example, in contrast to the Erickson *et al.* (2004) study, Guenther, Maydew, and Nutter (1997) find that when forced to conform financial reports to tax reports, a small sample of firms deferred the recognition of financial income around the Tax Reform Act of 1986 in order to reduce their tax burden.

Although there is considerable research examining tax and financial reporting, relatively little is known about the role of operational divisions, such as the corporate tax function, in reporting behavior. Recent anecdotal evidence, however, suggests that during the 1990s some managers began to view tax planning as tool for increasing reported earnings. That is, the tax function came to be viewed as a profit center. These managers recognized that certain actions, such as designating foreign earnings as permanently reinvested abroad (Krull 2004), would simultaneously reduce taxes and increase reported earnings. A specific example is reported by the Joint Committee on Taxation (2003):

“Enron looked to its tax department to devise transactions that increased financial accounting income. In effect, the tax department was converted into an Enron business unit, complete with annual revenue targets. The tax department, in consultation with outside experts, then designed transactions to meet or approximate the technical requirements of tax provisions with the primary purpose of manufacturing financial statement income” (U.S. Congress 2003, p. 8).

The notion that corporate managers can view their tax function as a profit center lends credence to the research suggesting that managers use tax accounts, such as deferred tax asset valuation allowance and deferred tax expense, to manage earnings (Bauman, Bauman, Halsey 2001; Schrand and Wong 2003; Dhaliwal, Gleason, and Mills 2004). If the corporate tax function is organized (e.g., managed and evaluated) as a profit center, then tax function managers and employees have incentives to engage in activities to reduce taxable income and/or increase financial income. Hence, we expect that the designation of the tax function as a profit center (rather than as a cost center) will be positively associated with the book-tax gap. The ability of tax function managers and employees to reduce tax expense will likely be limited by the resources that the function is allowed to devote to tax planning. When resources are devoted to tax planning (compared to tax compliance), then the tax function is likely to be more successful

in reducing tax expense. Hence, we expect that the orientation of the tax function toward planning (as opposed to tax compliance) will reflect the integration of the tax function in the strategic planning process and will be positively associated with the book-tax gap.

Anecdotal evidence also seems to suggest that aggressive financial reporting leads to aggressive tax reporting. Frank *et al.* (2006) provide evidence supporting this conjecture when they investigate whether firms that are aggressive for tax reporting purposes are also aggressive for financial reporting purposes. They examine a large sample of firms from 1991 through 2002 and report that firms engaging in aggressive financial reporting also typically engage in aggressive tax reporting. However, Frank *et al.* (2006) find that the reverse is not true. That is, aggressive tax reporting does not appear to lead to aggressive financial reporting.

We extend Frank *et al.* (2006) by incorporating the extent to which the sample firms are organized as a profit center. The designation as a profit center may be critical for integrating tax and financial reporting because many tax reduction strategies also reduce income reported for financial purposes. Indeed, most transactions that simultaneously reduce taxes and increase reported income must be carefully coordinated and choreographed by the tax and financial reporting functions. For example, the importance of designating foreign earnings as permanently reinvested would typically be overlooked without communication and coordination between tax and financial reporting experts in the corporation. Hence, the organization of the tax function could provide a link between tax reporting aggressiveness and financial reporting aggressiveness that is absent in Frank *et al.* (2006).

Even a well-managed and informed tax function organized to increase profits may be restrained from communicating and coordinating tax plans with financial reporting objectives if the tax function does not have sufficient resources to devote to integration. We use the

percentage of the tax department's budget spent on tax planning to represent the relative level of resources devoted to planning in the firm. We posit that the percentage of the tax budget spent on planning will influence its financial reporting aggressiveness. Firms whose tax resources are focused on compliance (planning) will be less (more) likely to be able to integrate tax reporting with aggressive financial reporting strategies. Thus, if the tax planning is based on conforming (nonconforming) activities, a greater degree of integration could lead to less (more) financial aggressiveness.

### **3. RESEARCH DESIGN**

#### ***3.1 Survey Data***

We obtain data about firms' organization and orientation of their tax function from a survey of Fortune 1000 companies commissioned by Ernst & Young in 1999.<sup>2</sup> The survey was conducted via phone conversations with participating CFOs and was designed to explore the role of tax departments in the corporate decision making process. The survey also obtained information about how CFOs view and evaluate their tax departments. The survey consisted of 35 formal and follow-up questions. CFOs from 204 firms responded to the survey, and sampling error for the total results has a margin of error of approximately plus or minus 6.7 percent.

Our study primarily focuses on the responses from two questions posed in the survey. To measure our *PROFIT* variable, we use responses to Question 9A, which asked:

“Overall, would you say that your tax department is managed and measured as more of a cost center or as more of a contributor to the bottom line?”

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<sup>2</sup> Although Ernst & Young commissioned the survey, a separate marketing firm conducted the survey ensuring participants' anonymity. We were granted permission from Ernst & Young to obtain the identifying information for participants in the 1999 survey from the marketing firm. A similar study was conducted in 1997; however, we were only able to obtain data from the 1997 survey if the firm also responded to the 1999 survey.

Possible responses included “Cost Center,” “Contributor to Bottom Line,” or “Both.” All but two of the 204 CFO responding to the survey answered question 9A. However, we eliminate the answers for 15 CFOs who responded that their tax department is managed and measured as both a cost center and as a contributor to the bottom line. Question 5A asked

“Thinking now of your total tax department budget, what proportion is spent on tax planning activities and what percentage on compliance?”

Participants responded to this question by providing a range of proportions between zero and 80 percent. All but ten of the 204 CFO responding to the survey answered question 5A, and these responses form the basis of measurement for our *PLAN* variable.

### ***3.2 Stage one – the Book-Tax Gap***

Manzon and Plesko (2002) use financial statement data for firms from 1988 to 1999 to infer taxable income and to calculate the difference between the amounts firms reported for book and taxable income during the sample period. They estimate the amount of variation between book income and taxable income over the period 1988 to 1999 that can be explained by different tax and accounting rules as well as by economic factors. Using our unbalanced panel of sample firms for the period 1999 through 2004, we calculate Manzon and Plesko’s (2002) measure of the difference between reported book income and reported taxable income (*SPREAD*) for each firm-year as follows:

$$SPREAD = \text{U.S. domestic income} - \text{U.S. taxable income (current federal tax expense, divided by the statutory maximum corporate tax rate)} - \text{State Income Taxes} - \text{Other Income Taxes} - \text{Equity in Net Loss} \quad (1)$$

#### ***3.2.1 Measurement of Independent Variables***

In order to test the effect of the organization and orientation of the tax on the level of its book-tax gap, we modify the model developed by Manzon and Plesko (2002) by adding two

additional variables. Our tax function organization variable,  $PROFIT_i$ , equals one if a firm manages and measures its tax department as a profit center in 1999 and zero if the firm designates the tax department as a cost center in 1999. The tax function orientation variable,  $PLAN_i$ , represents the level of resources devoted to tax planning and equals the percentage of the tax department's total tax budget that is spent on tax planning.

Consistent with Manzon and Plesko (2002), we estimate a model that adds our variables of interest ( $PROFIT$  and  $PLAN$ ) in stepwise fashion to the variables that capture institutional and economic factors that may affect the book-tax  $SPREAD$ .

$$SPREAD_{it} = \alpha_0 + \beta_1 PROFIT_i + \beta_2 PLAN_i + \beta_3 X_{kit} + \epsilon_{it} \quad (2)$$

where

- $PROFIT_i$  = equals one if a firm manages and measures its tax department as a profit center in 1999 and zero otherwise,
- $PLAN_i$  = the percentage of the tax department's total tax budget that is spent on tax planning,
- $X_{it}$  = a vector of  $k$  explanatory variables representing the characteristics of firm  $i$  in year  $t$  that control for variations in  $SPREAD$ .

Manzon and Plesko (2002) identify three sources of book-tax differences that will affect the value of the  $SPREAD$ : tax-favored investment and financing actions (profitability, presence of net operating losses, and change in net sales); differences in accounting for financial reporting versus tax purposes (property plant and equipment, other assets subject to systematic write-off, and post-retirement benefits, and pre-1993 goodwill); and noise factors (change in net operating losses, foreign operations, size, and the value of  $SPREAD$  in the previous year). We describe the measurement of each of these control variables in Table 2.

### 3.2.2 Supplemental tests

Our regression analysis is based upon the assumption that our sample firms do not alter the organization or orientation of the tax function over the sample period. If sample firms changed their organization (or orientation) during the sample period, then *PROFIT* and *PLAN* will be measured with error thereby introducing a conservative bias in our tests. We conduct a limited supplemental test to evaluate the effects of re-designating the tax function from a cost center to a profit center or vice versa. The supplemental test is based upon matching a subset of our sample firms participating in the 1999 survey with firms participating in a similar survey in 1997. Our access to the 1997 survey results is limited to firms that participated in both surveys so the sample for this supplemental test is relatively small. In addition, the 1997 survey did not request information on the proportion of the tax department budget dedicated to planning, so we can only conduct the supplemental test on *PROFIT*.

To conduct the test, we first match our sample firms from the 1999 survey to the 1997 survey results and create a variable,  $MIGRATE_i$ , to represent a recent change in the designation tax function. This variable,  $MIGRATE_i$ , equals one if firm  $i$  changes from managing its tax department as a cost center in 1997 to a profit center in 1999, negative one if the firm changes from managing its tax department as a profit center in 1997 to as a cost center in 1999, and zero otherwise.<sup>3</sup> We then replace *PROFIT* and *PLAN* in the regression analyses with *MIGRATE* with the expectation that the estimated coefficient for *MIGRATE* will represent an alternative method of testing the profit center designation. Although this test substantially reduces our sample size, the variable provides a potentially more powerful test of the effect of the organization of the tax function by isolating those firms that have recently changed the designation of the tax function.

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<sup>3</sup> We assign the same values to these variables for each of the years 1999 through 2004.

### 3.3 Stage two – Evaluating Reporting Aggressiveness

Because the growing book-tax gap has been linked to both financial and tax reporting aggressiveness, in stage two we investigate whether the organization and orientation of the tax function is associated with aggressive financial reporting, aggressive tax reporting, or both. We posit that firms whose tax departments are designated and evaluated as profit centers will report taxable income more aggressively than firms whose tax departments are measured and evaluated as cost centers. We also test whether firms that allocate a larger percentage of their tax budget to tax planning will report financial income more aggressively. To test this, we estimate the following system of equations using two-stage least squares:

$$TAX_{it} = \alpha_0 + \alpha_1 PROFIT_i + \alpha_2 FIN_{it} + \alpha_S CONTROL_{Sit} + \varepsilon_{it} \quad (3)$$

$$FIN_{it} = \gamma_0 + \gamma_1 PLAN_i + \gamma_2 TAX_{it} + \gamma_S CONTROL_{Sit} + \varepsilon_{it} \quad (4)$$

Frank *et al.* (2006) find that tax reporting aggressiveness and financial reporting aggressiveness are positively related. We follow Frank *et al.* (2006) in developing our measures of tax (*TAX*) and financial (*FIN*) reporting aggressiveness that capture downward taxable income management and upward financial earnings management, respectively. To the extent that managers have inclinations to simultaneously report aggressively for tax and financial purposes, the errors in equations (3) and (4) will be correlated. To control for the possible endogeneity of financial and tax reporting decisions, we include our measure of financial aggressiveness (*FIN*) in the tax aggressiveness (*TAX*) equation and vice versa. A positive coefficient on *FIN* (*TAX*) in the *TAX* (*FIN*) equation would indicate that firms with aggressive financial (tax) reporting are also aggressive for tax (financial) reporting purposes.

Our primary variables of interest are *PROFIT* and *PLAN*, as previously defined. We also conduct a supplemental test replacing *PROFIT* and *PLAN* with *MIGRATE*. In the following

sections, we describe our measurement of the dependent and independent variables for equations (3) and (4).

### 3.3.1 Measurement of Dependent Variables

Our measure of tax aggressiveness (*TAX*) is discretionary permanent book-tax differences, which we estimate as the residual from regressing total permanent book-tax differences on variables that are commonly associated with permanent differences and earnings management. Consistent with Frank *et al.* (2006), we scale all variables, with the exception of *LAGMTB* and *INCR\_EPS* by the beginning of the year total assets. We estimate the following regression and the residual is our *TAX* variable:

$$PERMDIFF_{it} = \alpha_0 + \alpha_1 INTANG_{it} + \alpha_2 UNCON_{it} + \alpha_3 MI_{it} + \alpha_4 CSTE_{it} + \alpha_5 LAGPERM_{it} + \alpha_6 LAGMTB_{it} + \alpha_7 INCR\_EPS_{it} + \alpha_8 DEBT_{it} + \varepsilon_{it} \quad (5)$$

where:

- $PERMDIFF_{it}$  = Total book-tax differences less temporary differences measured as  $\{BI_{it} - [(CFTE_{it} + CFOR_{it}) / STR_{it}]\} - (DTE_{it} / STR_{it})$ ,
- $BI_{it}$  = Pre-tax book income less income attributable to minority interest,
- $CFTE_{it}$  = Current federal tax expense,
- $CFOR_{it}$  = Current foreign tax expense,
- $DTE_{it}$  = Deferred tax expense,
- $STR_{it}$  = Statutory tax rate,
- $INTANG_{it}$  = Goodwill and other intangibles,
- $UNCON_{it}$  = Income (loss) reported under the equity method,
- $MI_{it}$  = Income (loss) reported to minority interest,
- $CSTE_{it}$  = Current state income tax expense,
- $LAGPERM_{it}$  = One-year lagged  $PERMDIFF$ ,
- $LAGMTB_{it}$  = Prior year market to book measured as  $\{[\text{stock price} * \text{common shares outstanding}] / \text{book value of equity}\}$ ,
- $INCR\_EPS_{it}$  = Number of consecutive years in the five years preceding year  $t$  in which firm  $i$  experienced a positive change in earnings per share,
- $DEBT_{it}$  = Long-term debt, and

$\varepsilon_{it}$  = Discretionary book-tax permanent difference ( $TAX_{it}$ ).

Consistent with Frank *et al.* (2006), we include variables in equation (5) to control for nondiscretionary permanent book-tax differences. We include *INTANG*, *UNCON*, and *MI* to control for differences in accounting and tax rules that are unrelated to tax planning for goodwill and intangibles, income attributable to the equity method, and to minority interest, respectively. We control for current state tax expense (*CSTE*) because our measure of pre-tax book income excludes the effect of any taxes, including state taxes, however our measure of taxable income is reduced by the state tax expense, resulting in mechanical book-tax differences rather than discretionary differences. To control for persistent nondiscretionary permanent differences, we include a one-year lag of the permanent differences.

Because permanent book-tax differences may arise not only from tax planning but also from earnings management activities, we include variables to control for these incentives. For example, managers can manage earnings using the deferred tax asset valuation allowance (Frank and Rego 2006) or tax contingencies (Dhaliwal *et al.* 2004). We include market-to-book at the beginning of the period (*LAGMTB*) and the number of consecutive years of earnings increases during the past five years (*INCR\_EPS*) to control for capital market incentives to achieve certain earnings targets.<sup>4</sup> Finally, we include leverage (*DEBT*) to control for managers' incentives to manage earnings to avoid debt covenant violations (DeFond and Jimbalvo 1994; Sweeney 1994).

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<sup>4</sup> Frank *et al.* (2006) also include the number of consecutive years that a firm meets or beats mean analyst forecasts over the past five years and the number of analysts following the firm to control for capital market incentives to achieve certain earnings targets. Our results are qualitatively the same if we also include these two variables. We chose to eliminate these two variables because their inclusion reduces the sample size for the period 1999 through 2004 by 99 firm-year observations.

Our measure of financial reporting aggressiveness, *FIN*, is based on performance-matched discretionary accruals from a modified-Jones model consistent with Frank *et al.* (2006). We estimate the following regression by 2-digit SIC code and fiscal year to obtain residuals representing discretionary accruals:<sup>5</sup>

$$TACC_{it} = \delta_0 + \delta_1(\Delta REV_{it} - \Delta AR_{it}) + \delta_2 PPE_{it} + v_{it} \quad (6)$$

where:

- $TACC_{it}$  = Total accruals =  $(EBEI_{it} + TTE_{it}) - [(CFO_{it} + ITP_{it}) - EIDO_{it}]$ ,
- $EBEI_{it}$  = Earnings before extraordinary items from the statement of cash flows,
- $TTE_{it}$  = Total tax expense,
- $CFO_{it}$  = Cash flow from operations,
- $ITP_{it}$  = Income taxes paid from the statement of cash flow,
- $EIDO_{it}$  = Extraordinary items and discontinued operations from the statement of cash flow,
- $\Delta REV_{it}$  = Change in sales from year  $t-1$  to year  $t$ ,
- $\Delta AR_{it}$  = Change in accounts receivable from year  $t-1$  to year  $t$ ,
- $PPE_{it}$  = Gross property, plant, and equipment, and
- $v_{it}$  = Discretionary accruals before adjusting for performance.

We then match each firm-year by industry membership (2-digit SIC) and by current pre-tax return on assets' (*ROA*) decile. We measure performance-adjusted discretionary accruals (*FIN*) as the difference between each observation's discretionary accrual and the median discretionary accrual (excluding the observation) for its industry and *ROA* decile.<sup>6</sup>

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<sup>5</sup> All variables in equation (6) are scaled by beginning of period total assets including the intercept.

<sup>6</sup> To calculate *FIN* using equation (6) and *TAX* using equation (5), we require each two-digit SIC code and year combination to have at least 10 firm-year observations. In their calculation of discretionary permanent book-tax differences, Frank *et al.* (2006) require each two-digit SIC code and year combination to have at least 20 firm-year observations. We only require 10 because we include two fewer independent variables in our measure of discretionary permanent book-tax differences and because our sample size is smaller. When we calculate our *TAX* variable requiring each two-digit SIC code and year combination to have at least 20 firm-year observations, we lose 36 firm-year observations for the period 1999 through 2004; however, our results do not qualitatively change.

### 3.3.2 Measurement of Independent Variables

We include several variables in equations (3) and (4) to control for other incentives to report tax and financial income aggressively. Profitable firms and firms without net operating losses have stronger incentives to engage in aggressive tax planning. Therefore, in our tax reporting aggressiveness model (equation (3)), we include *LAGDPTI*, which equals one if the firm reported positive pretax income in the prior period and zero otherwise, and *LAGDNOL*, which equals one if the firm reported a net operating loss in the prior period and zero otherwise. We expect a positive coefficient on *LAGDPTI* and a negative coefficient on *LAGDNOL*. Firms with foreign operations have opportunities and incentives to engage in aggressive tax planning. Thus, we include *FOR\_OPER*, which equals one if the firm has nonzero pretax income from foreign operations and zero otherwise in equation (3). In equation (3), we also include *ΔPTCFO*, the change in pretax cash flow from operations from the prior period to the current period scaled by beginning of the period total assets, to control for the incentive to engage in aggressive tax reporting when there is an increase in cash flows.

We also include variables in the financial reporting aggressiveness model (equation (4)) to control for incentives to engage in aggressive financial reporting. Specifically, we include three earnings management incentive variables previously included in equation (5) to determine the discretionary permanent book-tax differences: *LAGMTB*, *INCR\_EPS*, and *DEBT*. We include the first two variables to control for capital market incentives to meet or beat earnings targets. *DEBT* is included to control for incentives to manage earnings to avoid debt covenant violations.

## 4. EMPIRICAL RESULTS

### 4.1.1 Sample and Univariate Tests

We derive our sample from the survey of Fortune 1000 companies commissioned by Ernst & Young in 1999. We matched the 204 responding firms to available financial statement data from *Compustat* for fiscal years 1999 through 2004 to create an unbalanced panel data set. We were able to obtain financial data necessary for the book-tax gap analysis for 69 firms for all or some of the fiscal years 1999 through 2004. We were able to obtain financial data necessary for our analysis of financial and tax aggressiveness for 106 firms for all or some of the fiscal years 1999 through 2004. Panel A of Table 1 presents descriptive statistics for 1999 for 93 sample firms that meet the data requirements for both the stage one book-tax gap regression analysis and/or the stage two simultaneous regression analysis of financial and tax aggressiveness in 1999.<sup>7</sup>

[INSERT TABLE 1 ABOUT HERE]

Our sample includes small and large firms: the inter-quartile range of market capitalization is from \$610.26 million to \$4.0 billion, and the inter-quartile range of lag of assets is from \$7.11 billion to \$8.42 billion. A comparison of the mean and median market capitalization (\$4.2 billion versus \$1.6 billion) indicates that our sample includes a few very large firms. The sample firms are mostly profitable as indicated by the inter-quartile range for return on assets (from 4 to 14 percent). The sample firms have a mean (median) effective tax rate of 39 (37) percent.

Panel B of Table 1 presents descriptive statistics with firms classified by organization of the tax function (i.e., profit versus cost center) and by the orientation of the tax function (planning versus compliance). For purposes of this univariate analysis only, we classify firms that are above the median percentage of the tax function budget spent for planning (33 percent) as “HI

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<sup>7</sup> Of the 93 firms in Table 1, 43 firms are common to both the stage one and stage two regressions.

PLAN” and other firms as “LO PLAN” for purposes of the descriptive statistics. For the firms with complete data in 1999, 33 (66 percent) are described by their CFOs as profit centers with the remainder described as cost centers. These percentages are also representative of the overall proportion of firm-year observations included in the stage one regressions (63 percent of the firm-year observations are described as profit centers).

Panel B suggests that profit center firms are slightly more profitable (ROA), have significantly greater growth opportunities (market-to-book), and are less levered (long-term debt to total assets) than cost center firms. These differences highlight the need to control for these characteristics in our multivariate tests. Consistent with our expectations, profit center firms allocate a significantly larger percentage of their tax budget to planning and have significantly lower effective tax rates than firms with tax functions organized as cost centers. As well, firms that spend a greater percentage of their tax budget on planning have significantly lower ETRs suggesting more aggressive tax reporting behavior.

#### ***4.1.2 Supplement Test Sample***

Our supplemental test sample consists of 28 firms that participated in both the 1997 and 1999 surveys. Of the 28 firms, the CFO of six (seven) firms indicated in 1997 that the tax function was designated a profit (cost) center, but indicated in 1999 that the tax function was a cost (profit) center. The responses from the remaining 15 CFOs (five described as profit centers and the remaining 10 described as cost centers) were consistent from 1997 to 1999.

#### ***4.2 Book-Tax Gap Regression Results***

Panel A of Table 2 presents the descriptive statistics for regression variables used in the book-tax gap analysis for fiscal year 1999. Although comparisons between our samples and the Manzon and Plesko (2002) sample are problematic, our sample firms appear to be somewhat

smaller in size (total assets), but with greater tax carryovers and pre1993 goodwill. The dependent variable for the two studies appears to be comparable. Although there is considerable variation across their sample period, the average SPREAD reported by Manzon and Plesko (2002) for 1999 is 77.41 whereas our average SPREAD for 1999 is 59.84.

Panel B of Table 2 presents descriptive statistics across the sample according to designation of the tax department and by the percentage of the total tax budget spent on tax planning. In fiscal year 1999, firms that manage their tax departments as profit centers have significantly more intangible assets other than goodwill, have significantly less occurrence of positive pretax income, have significantly greater occurrence of net operating loss carryforwards, and have significantly more foreign pretax income. There are no other significant differences.

[INSERT TABLE 2 ABOUT HERE]

Table 3 presents the results of estimating equation (2) for our sample firms for the period 1999 through 2004. Estimated coefficients are presented with test statistics estimated using robust standard errors as adjusted for clustering across industry (2 digit SIC) and fiscal year. Consistent with our expectations, column one shows that after controlling for the factors that Manzon and Plesko (2002) find contribute to the book-tax spread, the designation of the tax function as a profit center has a positive and significant effect ( $p$ -value  $< 0.05$ , one-tailed test) on the book-tax spread. Also consistent with our expectations, column two shows that after controlling for the factors that Manzon and Plesko (2002) find contribute to the book-tax spread, spending a greater percentage of the total tax budget on tax planning has a positive and significant effect ( $p$ -value  $< 0.05$ , one-tailed test) on the book-tax spread. Column three reports the results of estimating equation (3) and including *PROFIT* and *PLAN* as independent variables as well as an interaction between *PROFIT* and *PLAN*. As expected, both *PROFIT* and *PLAN*

have a positive and significant effect ( $p$ -value  $< 0.01$ , one-tailed test) on the book-tax spread. The interaction is negative, but statistically insignificant.

[INSERT TABLE 3 ABOUT HERE]

Column four presents the results of our supplement test in which we estimate equation (2) after replacing *PROFIT* with *MIGRATE* for the subset of our sample firms in which we are able to determine the tax function organization in 1997 and 1999. Because the answer to question 9A is confidential for many firms in the 1997 survey, the number of firm-year observations decreases from 309 to 76 when we include *MIGRATE*. However, as expected, changing from operating the tax department as a cost center in 1997 to as a profit center in 1999 has a positive and significant effect on the level of the book-tax spread ( $p$ -value  $< 0.10$ , one-tailed test).

The regression results for the control variables are largely consistent with Manzon and Plesko (2002): the change in net sales from the previous year has a positive and significant effect ( $p$ -value  $< 0.10$ , two-tailed test) on the book-tax spread; the level of intangible assets other than goodwill has a positive and significant effect ( $p$ -value  $< 0.01$ , two-tailed test) on the book-tax spread; the level of goodwill prior to 1993 has a negative and significant effect ( $p$ -value either  $< 0.10$  or  $< 0.05$ , two-tailed test) on the book-tax spread; having positive pre-tax income has a positive and significant effect ( $p$ -value  $< 0.01$ , two-tailed test) on the book-tax spread; and total assets net of PP&E and intangibles has a positive and significant effect ( $p$ -value  $< 0.05$ , two-tailed test) on the book-tax spread.

#### ***4.3 Financial and Tax Reporting Aggressiveness Regression Results***

Table 4 presents descriptive statistics for fiscal year 1999 for regression variables used in the analysis of tax and financial aggressiveness. As in Panel B of Table 2, Panel B of Table 4 presents descriptive statistics for the sample firms in 1999 classified according to the

organization and orientation of the tax function. The significance tests presented in Panel B estimate the significance of differences between the means (*t* tests) and medians (median test) for sample firms across organization and orientation. While most of the comparisons are not statistically significant, the median lagged market-to-book ratio is significantly larger for profit center firms. Firms oriented to planning have significantly lower mean performance-matched discretionary accruals indicating less financial reporting aggressiveness and have significantly greater incidence of foreign operations suggesting greater opportunities for tax reporting aggressiveness.

[INSERT TABLE 4 ABOUT HERE]

Table 5 reports the results of estimating equations (3) and (4) via two-stage least squares, and coefficient estimates are presented with estimated robust standard errors as adjusted for clustering across industry (2 digit SIC) and fiscal year. The positive and significant coefficient on *FIN* ( $p$ -value < 0.05, two-tailed test) in equation (3) indicates that firms who report aggressively for financial purposes also report aggressively for tax purposes. Likewise, the positive and significant coefficient on *TAX* ( $p$ -value < 0.10, two-tailed test) in equation (4) suggests that firms who report aggressively for tax purposes also report aggressively for financial reporting purposes.<sup>8</sup> Consistent with our expectations, operating the tax department as a profit center significantly increases a firm's tax reporting aggressiveness (measured as discretionary permanent book-tax differences) ( $p$ -value < 0.10 level, one-tailed test). However, a planning orientation (rather than compliance) significantly reduces financial reporting aggressiveness (measured as the level of performance-matched discretionary accruals) ( $p$ -value < 0.10 level,

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<sup>8</sup> Frank *et al.* (2006) find that firms that report book income aggressively also report taxable income aggressively. However, Frank *et al.* (2006) do not find that firms that report taxable income aggressively also report book income aggressively.

one-tailed test). Although this result is consistent with the univariate results in Panel B of Table 4, it is unexpected.

[INSERT TABLE 5 ABOUT HERE]

Taken together, the regression results suggest that providing the tax function with incentive to contribute to the bottom line increases tax reporting aggressiveness. However, a larger proportion of the tax budget spent on tax planning may indicate more integration between the tax and financial reporting functions. As the tax and financial reporting functions coordinate their choices, tax planning may moderate financial reporting aggressiveness when facing a tradeoff (i.e., conforming tax planning activities) between the two.

The last two columns of Table 5 reports the results of our supplemental test in which we re-estimate equations (3) and (4) after replacing *PROFIT* in equation (3) with *MIGRATE*.<sup>9</sup> The coefficient estimates for *FIN* in equation (3) and *TAX* in equation (4) are no longer significant. Consistent with our expectations, changing from managing the tax department as a cost center to a profit center significantly increases the level of discretionary permanent book-tax differences ( $p$ -value < 0.05, one-tailed test). However, the estimated coefficient for *PLAN* is no longer statistically significant. While the results from the supplemental test seem to reinforce the results for organization, any conclusions must be viewed very cautiously given the relatively small regression sample.

## 5. CONCLUDING COMMENTS

Regulators and researchers alike have speculated whether the growing difference between corporate book income and taxable income (the “book-tax gap”) is accelerating because of more aggressive financial reporting or more aggressive tax reporting. This study investigates whether

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<sup>9</sup> Because of confidentiality in the 1997 survey, we are missing answers for some respondents to the 1997 survey. Therefore, including the *MIGRATE* variable in lieu of *PROFIT* reduces the number of firm-year observations for the 1999 through 2004 sample period from 467 to 125.

the organization and orientation of the corporate tax function are related to the magnitude of the book-tax gap and contribute to aggressive reporting behavior. We begin by testing whether the recent tendency of corporations to organize their tax function as profit centers, rather than as cost centers, and orient the corporate tax function toward planning (rather than compliance) is associated with the book-tax gap. We find, as expected, that the organization of corporate tax functions as profit centers and orientation of tax function budgets to planning are associated with larger book-tax gaps. We then investigate if the positive association between organization and orientation of the tax function and the book-tax gap is related to aggressive financial and/or aggressive tax reporting. We find, as expected, that organizing tax functions as profit centers contributes to more aggressive tax reporting. Surprisingly, we find that firms orienting the tax function toward planning are less aggressive in their financial reporting.

We conclude that organizing tax functions as profit centers is consistent with aligning incentives to aggressively report taxable income. In contrast, while orienting the resources of the tax function toward tax planning is positively associated with the book-tax gap, a planning orientation is negatively associated with aggressive financial reporting. Overall, the results corroborate the assumption that managing the tax department as a profit center encourages managers to generate tax savings to reduce the effective tax rate and possibly to increase book earnings as well. The surprising result that planning orientation reduces financial reporting aggressiveness may represent the traditional view that most actions taken to boost reported earnings also increase taxable income. We speculate that orienting the tax function to planning may make financial planners more aware of the adverse tax consequences associated with aggressive financial reporting.

We contribute to the literature by identifying a potential and previously untested determinant of tax and financial reporting aggressiveness, the corporate tax function. We provide evidence that two different features of the corporate tax function, the organization of the tax function as a profit center (rather than as a cost center) and the orientation of the tax function toward planning (rather than compliance) contribute to the book-tax gap and are associated with measures of aggressive tax reporting and aggressive financial reporting. To our knowledge, this is the first empirical evidence indicating that operational management, specifically the tax function, plays a role in tax and financial reporting. Moreover, our results extend and amplify the results presented in Frank *et al.* (2006) suggesting that there may be a relation between aggressive tax reporting and aggressive financial reporting.

## REFERENCES

- Badertscher, B., J. Phillips, M. Pincus, and S. Rego. 2006. Tax implications of earnings management activities: Evidence from restatements. Working paper, University of Iowa.
- Cullen, A. 2005. Time to rethink the corporate tax system? *Harvard Business School Working Knowledge* (<http://hbswk.hbs.edu/item.jhtml?id=4902&t=finance>).
- DeFond, M. and J. Jimabalvo. 1994. Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics* 17: 145-176.
- Desai, M. 2003. The divergence between book and tax income. In *Tax Policy and the Economy, Volume 17*, edited by James M. Poterba. Cambridge: NBER and MIT Press: 169-206.
- Dhaliwal, D., C. Gleason, and L. Mills. 2004. Last-chance earnings management: Using the tax expense to meet analysts' forecasts. *Contemporary Accounting Research* 21(2): 431-59.
- Erickson, M., M. Hanlon, and E. Maydew. 2004. How much will firms pay for earnings that do not exist? Evidence of taxes paid on allegedly fraudulent earnings. *The Accounting Review* 79 (2): 387-408.
- Frank, M., L. Lynch, and S. Rego. 2006. Does aggressive financial reporting accompany aggressive tax reporting (and vice versa)? Working paper, University of Virginia.
- Frank, M. and S. Rego. 2006. Do managers use the valuation allowance account to manage earnings around certain earnings targets? Forthcoming in *The Journal of the American Taxation Association*.
- Guenther, D., E. Maydew, and S. Nutter. 1997. Financial reporting, tax costs, and book-tax conformity. *Journal of Accounting and Economics* 23: 225-248.
- Hanlon, M. 2005. The persistence and pricing of earnings, accruals, and cash flows when firms have large book-tax differences. *The Accounting Review* 80: 137-166.
- Hanlon, M., L. Mills, and J. Slemrod. 2005. An empirical examination of corporate tax noncompliance. Working paper, University of Michigan.
- Krull, L. 2004. Permanently Reinvested Earnings, Taxes, and Earnings Management. *The Accounting Review* 79(3): 745-767.
- Manzon, G. and G. Plesko. 2002. The relation between financial and tax reporting measures of income. *Tax Law Review* 55: 175-214.
- McGill, G. and E. Outslay. 2004. Lost in translation: Detecting tax shelter activity in the financial statements. *National Tax Journal* 57 (3): 739-756.
- Mills, L. 1998. Book-tax differences and Internal Revenue Service adjustments. *Journal of Accounting Research* 36 (2): 343-356.

- Mills, L., K. Newberry, and W. Trautman. 2002. Trends in book-tax income and balance sheet differences. *IRS Research Bulletin*, Publication 1500. Washington DC: Government Printing Office.
- Phillips, J. 2003. Corporate tax-planning effectiveness: The role of compensation-based incentives. *The Accounting Review* 78(3): 847-874.
- Phillips, J., M. Pincus, and S. Rego. 2003. Earnings management: New evidence based on deferred tax expense. *The Accounting Review* 78(2): 491-521.
- Phillips, J., M. Pincus, S. Rego, and H. Wan. 2004. Decomposing changes in deferred tax assets and liabilities to isolate earnings management activities. *The Journal of the American Taxation Association* 26(Supplement): 43-66.
- Plesko, G. 2002. Reconciling corporation book and tax net income, tax years 1996-1998. *SOI Bulletin*, U.S. Government Printing Office, Washington DC, (Spring): 111-132.
- Manzon, G. and G. Plesko. 2002. The relation between financial and tax reporting measures of income. *Tax Law Review* 55: 175-214.
- Shackelord, D. and T. Shevlin. 2001. Empirical tax research in accounting. *Journal of Accounting and Economics* 31: 321-387.
- Sweeney, A. 1994. Debt-covenant violations and managers' accounting response. *Journal of Accounting and Economics* 17 (3): 281-308.
- U.S. Congress, Joint Committee on Taxation. 2003. *Report of Investigation of Enron Corporation and Related Entities Regarding Federal Tax and Compensation Issues, and Policy Recommendations* (JCS-3-03). Washington, D.C.

**TABLE 1**  
**SAMPLE DESCRIPTIVE STATISTICS**

Panel A: Sample Statistics for Fiscal Year 1999 (N=93 firms)

Variable	Mean	Quartile 1	Median	Quartile 3
<i>MKT</i>	4224	610	1555	4001
<i>SIZE</i>	7.82	7.11	7.70	8.42
<i>ROA</i>	0.09	0.04	0.09	0.14
<i>MTB</i>	2.96	1.21	1.93	3.42
<i>DEBT</i>	0.26	0.17	0.25	0.35
<i>ETR</i>	0.39	0.33	0.37	0.41
<i>PERMDIFF</i>	1.10	-10.23	2.38	25.17
<i>PLAN %</i>	0.35	0.25	0.33	0.50

Panel B: Sample Statistics (mean/median) by Tax Department Objective and Budget

Variable	Organization			Orientation		Sig
	Cost Center	Profit Center	Sig	Lo PLAN	Hi PLAN	
<i>MKT</i>	3135 1495	5010 1608		3092 1288	5484 2238	
<i>SIZE</i>	7.90 7.70	7.76 7.70		7.08 8.33	7.35 8.67	
<i>ROA</i>	0.07 0.07	0.10 0.09	*	0.09 0.09	0.08 0.08	
<i>MTB</i>	2.11 1.61	3.58 2.24	***	3.01 1.88	2.92 2.17	
<i>DEBT</i>	0.31 0.29	0.23 0.23	**	0.27 0.25	0.26 0.25	
<i>ETR</i>	0.43 0.39	0.37 0.36	***	0.39 0.38	0.39 0.36	*
<i>PERMDIFF</i>	-18.70 0.89	15.40 2.83		6.62 1.46	-5.05 3.54	
<i>PLAN %</i>	0.28 0.25	0.40 0.35	***			
N	39	54		49	44	

Two-tailed significance levels t-test/median test: \* 10%; \*\* 5%; \*\*\* 1%

**TABLE 1** (continued)

## Variable Definitions:

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<i>MKT</i>	=	Market value of equity determined by multiplying stock price at year end times number of common shares outstanding
<i>SIZE</i>	=	Log (total assets)
<i>ROA</i>	=	Pretax income/total assets
<i>MTB</i>	=	[Stock price*common shares outstanding]/book value of equity
<i>DEBT</i>	=	Long-term debt/beginning of the period total assets
<i>ETR</i>	=	Total income taxes/pretax income *
<i>PERMDIFF</i>	=	Total book-tax differences less temporary differences measured as $[\{BI_{it} - [(CFTE_{it} + CFOR_{it}) / STR_{it}]\} - (DTE_{it} / STR_{it})] /$ total assets in year <i>t-1</i>
<i>BI<sub>it</sub></i>	=	Pre-tax book income less income attributable to minority interest
<i>CFTE<sub>it</sub></i>	=	Current federal tax expense
<i>CFOR<sub>it</sub></i>	=	Current foreign tax expense
<i>STR<sub>it</sub></i>	=	Statutory tax rate
<i>DTE<sub>it</sub></i>	=	Deferred tax expense
<i>PLAN %</i>	=	Percentage of total tax function budget reported by the CFO to be dedicated to planning rather than compliance
<i>Organization</i>	=	A profit (cost) center CFO answered “contributor to the bottom line” (“cost center”) to question 9A, which asked “Overall, would you say that your tax department is managed and measured as more of a cost center or as more of a contributor to the bottom line?”
<i>Orientation</i>	=	Firms above the median percentage of the tax function budget spent for planning (33 percent) are classified as HI PLAN and other firms are classified as LO PLAN

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\* If (total income taxes/pretax income) is greater than one, then ETR equals 1. If total income tax expense is a positive value and pretax income is a negative value, then ETR equals 1. If total income tax expense is less than zero, then ETR equals 0.

**TABLE 2**  
**DESCRIPTIVE STATISTICS FOR BOOK-TAX SPREAD REGRESSION VARIABLES**

Panel A: Sample Statistics for Fiscal Year 1999 (N=50 firms)

Variable	Mean	Quartile 1	Median	Quartile 3
<i>SPREAD</i>	59.84	3.47	28.60	72.29
<i>ΔNETSALES</i>	475.06	-57.52	118.20	432.55
<i>GROSSPPE</i>	3247	735	1672	3485
<i>NET/GROSSPPE</i>	0.50	0.44	0.49	0.57
<i>ΔGW</i>	107.01	0.00	4.00	137.38
<i>OTHERINTANG</i>	194.09	0.00	14.39	182.18
<i>ΔPOSTRET</i>	6.03	-2.70	0.00	3.35
<i>PRE93GW</i>	205.41	0.00	0.00	119.72
<i>ΔNOL</i>	17.45	0.00	0.00	6.90
<i>LSPREAD</i>	46.23	-12.06	9.74	63.02
<i>POSPRETAX</i>	0.90	1.00	1.00	1.00
<i>POSNOL</i>	0.38	0.00	0.00	1.00
<i>FORPRETAX</i>	123.7	23.0	40.9	163.4
<i>NETASSETS</i>	2313	700	1284	2169

**TABLE 2** (continued)

Panel B: Book-Tax Spread Regression Variable Statistics (mean/median) by Tax Department Organization and Orientation

Variable	<u>Organization</u>			<u>Orientation</u>		
	Cost Center	Profit Center	Sig	Lo PLAN	Hi PLAN	Sig
<i>SPREAD</i>	55.37	62.14		48.68	68.60	
	23.18	34.02		31.46	28.60	
<i>ΔNETSALES</i>	325.49	552.11		242.11	658.10	
	139.70	110.61		72.98	162.40	
<i>GROSSPPE</i>	3822	2951		2313	3982	
	1829	1499		1293	1835	
<i>NET/GROSSPPE</i>	0.53	0.49		0.49	0.51	
	0.55	0.48		0.49	0.48	
<i>ΔGW</i>	61.86	130.27		136.12	84.13	
	12.22	0.00		13.76	0.00	
<i>OTHERINTANG</i>	66.98	259.57	*	95.47	271.58	
	0.00	68.50	**	6.72	22.01	
<i>ΔPOSTRET</i>	-8.30	13.41	*	-4.03	13.93	
	0.00	0.00		0.00	0.00	
<i>PRE93GW</i>	133.49	242.45		75.73	307.29	
	0.00	0.00		0.00	0.00	
<i>ΔNOL</i>	7.63	22.51		-0.04	31.19	
	0.00	0.00		0.00	0.00	
<i>LSPREAD</i>	88.86	24.27		10.47	74.32	
	19.07	9.49		8.03	14.71	
<i>POSPRETAX</i>	1.00	0.85	**	0.95	0.86	
	1.00	1.00	*	1.00	1.00	
<i>POSNOL</i>	0.18	0.48	**	0.36	0.39	
	0.00	0.00	**	0.00	0.00	
<i>FORPRETAX</i>	64.82	154.10	*	68.32	167.30	*
	29.90	67.50		27.65	70.87	
<i>NETASSETS</i>	2301	2319		1556	2908	*
	859	1335		1110	1286	
N	17	33		22	28	

Two-tailed significance levels t-test/median test: \* 10%; \*\* 5%; \*\*\* 1%

**TABLE 2** (continued)

## Book-Tax Spread Regression Variable Definitions:

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$SPREAD_{it}$	= U.S. domestic income – U.S. taxable income (current federal tax expense, divided by the statutory maximum corporate tax rate) - State Income Taxes – Other Income Taxes – Equity in Net Loss
$\Delta NETSALES_{it}$	= Current year net sales as reported on the income statement less prior year net sales
$GROSSPPE_{it}$	= Gross property, plant and equipment from the balance sheet
$NET/GROSSPPE_{it}$	= Net property, plant and equipment on the balance sheet divided by gross property, plant and equipment on the balance sheet
$\Delta GW_{it}$	= Difference between reported goodwill and the value of goodwill reported by the firm in 1993. If goodwill is missing, we set it equal to zero
$OTHERINTANG_{it}$	= Difference between total intangible assets and goodwill
$\Delta POSTRET_{it}$	= Difference between reported post-retirement benefits and the value reported in the previous year (Manzon <i>et al.</i> (2002))
$PRE93GW_{it}$	= Amount of goodwill reported on firms' balance sheets for 1993
$\Delta NOL_{it}$	= Change in unused net operating loss from previous year to current year
$LSPREAD_{it}$	= Value of $SPREAD$ from previous year
$POSPRETAX_{it}$	= Binary variable equal to one if pretax income is positive, and zero otherwise
$POSNOL_{it}$	= Binary variable equal to one if the firm reports a NOL carryforward on its balance sheet. We set missing values equal to zero
$FORPRETAX_{it}$	= Foreign pretax income. We set missing values equal to zero
$NETASSETS_{it}$	= Total assets less net PP&E less intangibles
$PROFIT$	= Equals 1 (0) if CFO answered “contributor to the bottom line” (“cost center”) to question 9A, which asked “Overall, would you say that your tax department is managed and measured as more of a cost center or as more of a contributor to the bottom line?”
$PLAN$	= Percentage of the total tax budget that the CFO said is spent on tax planning, rather than on tax compliance
$MIGRATE$	= Equals 1 (-1) if firm changed from managing the tax department as a “cost center” (“contributor to the bottom line”) in 1997 to as a “contributor to the bottom line” (“cost center”) in 1999, and equal to zero if no change

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**TABLE 3**  
**BOOK-TAX SPREAD REGRESSION RESULTS**

Variables	Coefficient Estimates (Absolute value of robust t statistics)			
	(1)	(2)	(3)	(4)
<i>Constant</i>	-373.17 ** (2.39)	-351.98 ** (2.34)	-493.11 *** (3.05)	-1,256.04 ** (2.19)
<i>PROFIT</i>	89.88 *** (2.34)		157.13 *** (2.82)	
<i>PLAN</i>		237.71 ** (2.34)	337.72 *** (2.87)	
<i>PROFIT*PLAN</i>			-195.88 (1.38)	
<i>MIGRATE</i>				224.71 * (1.65)
<i>ΔNETSALES</i>	0.08 * (1.71)	0.09 * (1.75)	0.08 * (1.69)	0.12 (1.36)
<i>GROSSPPE</i>	0.00 (0.53)	0.00 (0.46)	0.00 (0.47)	-0.03 (1.24)
<i>NET/GROSSPPE</i>	325.31 (1.36)	185.88 (0.78)	285.33 (1.17)	1,588.57 * (1.94)
<i>ΔGW</i>	0.05 (1.28)	0.05 (1.27)	0.05 (1.36)	0.13 (1.31)
<i>OTHERINTANG</i>	-0.11 *** (3.36)	-0.11 *** (3.33)	-0.11 *** (3.43)	-0.14 (0.93)
<i>ΔPOSTRET</i>	-0.10 (0.11)	-0.10 (0.11)	-0.04 (0.05)	-3.03 (1.22)
<i>PRE93GW</i>	-0.18 * (1.95)	-0.21 ** (2.12)	-0.20 ** (2.00)	0.02 (0.07)
<i>ΔNOL</i>	-0.18 (0.85)	-0.19 (0.90)	-0.19 (0.87)	-0.15 (0.53)
<i>LSPREAD</i>	-0.08 (0.53)	-0.08 (0.55)	-0.08 (0.56)	0.05 (0.18)
<i>POSPRETAX</i>	250.33 *** (4.68)	262.17 *** (4.60)	274.9 *** (4.65)	604.21 ** (2.56)
<i>POSNOL</i>	-9.52 (0.29)	3.97 (0.12)	-4.73 (0.14)	51.5 (0.34)
<i>FORPRETAX</i>	0.01 (0.14)	0.01 (0.12)	0.01 (0.13)	0.15 (0.53)
<i>NETASSETS</i>	0.03 ** (2.10)	0.03 ** (2.24)	0.03 ** (2.05)	0.02 (0.51)
Observations	309	302	302	76
Adj. R-squared	0.30	0.30	0.31	0.40

One-tailed significance levels for PROFIT, PLAN, & MIGRATE, otherwise two-tailed significance levels: \* 10%; \*\* 5%; \*\*\* 1%. Variables defined in Table 2.

**TABLE 4**  
**DESCRIPTIVE STATISTICS FOR AGGRESSIVENESS REGRESSION VARIABLES**

Panel A: Sample Statistics for Fiscal Year 1999 (N=86 firms)

Variable	Mean	Quartile 1	Median	Quartile 3
<i>TAX</i>	-0.03	-0.02	0.00	0.02
<i>FIN</i>	-0.01	-0.04	-0.01	0.02
<i>LAGDPTI</i>	0.86	1.00	1.00	1.00
<i>LAGDNOL</i>	0.24	0.00	0.00	0.00
<i>FOR_OPER</i>	0.57	0.00	1.00	1.00
<i>ΔPTCFO</i>	0.02	-0.01	0.02	0.06
<i>LAGMTB</i>	2.89	1.35	2.16	3.32
<i>INCR_EPS</i>	0.80	0.00	0.00	1.00
<i>DEBT</i>	0.26	0.17	0.25	0.35

**TABLE 4** (continued)

Panel B: Aggressiveness Regression Variable Statistics (mean/median) by Tax Department Objective and Budget

Variable	<u>Organization</u>		Sig	<u>Orientation</u>		Sig
	Cost Center	Profit Center		Lo PLAN	Hi PLAN	
<i>TAX</i>	-0.03 0.00	-0.03 0.00		-0.03 0.00	-0.03 0.00	
<i>FIN</i>	0.00 0.00	-0.01 -0.02		0.01 0.00	-0.03 -0.02	**
<i>LAGDPTI</i>	0.81 1.00	0.90 1.00		0.87 1.00	0.85 1.00	
<i>LAGDNOL</i>	0.17 0.00	0.30 0.00		0.26 0.00	0.23 0.00	
<i>FOR_OPER</i>	0.47 0.00	0.64 1.00		0.48 0.00	0.68 1.00	* *
<i>ΔPTCFO</i>	0.01 0.01	0.03 0.02		0.02 0.02	0.03 0.02	
<i>LAGMTB</i>	2.44 1.89	3.21 2.44	*	2.81 2.07	2.98 2.28	
<i>INCR_EPS</i>	0.89 0.50	0.74 0.00		0.78 0.00	0.83 0.00	
<i>DEBT</i>	0.31 0.29	0.23 0.23	** **	0.27 0.25	0.26 0.25	
N	36	50		46	40	

Two-tailed significance levels t-test/median test: \* 10%; \*\* 5%; \*\*\* 1%

**TABLE 4** (continued)

## Aggressiveness Regression Variable Definitions:

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$TAX_{it}$	=	Discretionary permanent difference between book and taxable income in year $t$
$FIN_{it}$	=	Performance-matched modified Jones model discretionary accruals in year $t$
$LAGDTPI_{it}$	=	1 if pretax income is greater than 0 in year $t-1$ ; 0 otherwise
$LAGDNOL_{it}$	=	1 if NOL carryforwards are greater than 0 in year $t-1$ ; 0 otherwise
$FOR\_OPER_{it}$	=	1 if pre-tax income from foreign operations is not equal to 0 in year $t$ ; 0 otherwise
$\Delta PTCFO_{it}$	=	Change in pretax cash flow from operations from year $t-1$ to year $t$ divided by total assets at the end of year $t-1$
$LAGMTB_{it}$	=	Value of market-to-book ratio {[Stock price*common shares outstanding]/book value of equity } from year $t-1$
$INCR\_EPS_{it}$	=	Number of consecutive years in the five years preceding year $t$ in which firm $i$ experienced a positive change in earnings per share *
$DEBT_{it}$	=	Long-term debt/beginning of the period total assets

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\* If Compustat values of income from consolidated entities, minority interest, or current state income tax expense are missing, we set them equal to zero. Additionally, if goodwill and intangibles is missing we set it equal to zero. If goodwill is reported as 'C' then we set the value of *INTANG* equal to goodwill scaled by beginning total assets. If the current federal tax expense is missing then we set the value equal to total tax expense less the sum of current foreign tax expense, current state tax expense, and deferred taxes.

**TABLE 5**  
**TWO-STAGE LEAST SQUARES REGRESSION RESULTS**

Variables	Coefficient Estimates (Absolute value of robust t statistics)			
	Equation (3) Dependent Variable <i>TAX</i>	Equation (4) Dependent Variable <i>FIN</i>	Supplemental Test	
			Equation (3) Dependent Variable <i>TAX</i>	Equation (4) Dependent Variable <i>FIN</i>
<i>Constant</i>	0.02 (0.23)	-0.02 (0.24)	0.04 (0.65)	-0.01 (0.38)
<i>FIN</i>	6.11 ** (2.28)		1.87 * (1.71)	
<i>PROFIT</i>	0.11 * (1.63)			
<i>LAGDPTI</i>	-0.13 (1.27)		-0.03 (0.44)	
<i>LAGDNOL</i>	-0.08 (1.29)		-0.04 (1.31)	
<i>FOR_OPER</i>	0.07 (1.21)		-0.02 (0.71)	
<i>ΔPTCFO</i>	2.66 ** (2.09)	-0.69 * (1.81)	0.51 (1.35)	-0.4 *** (3.08)
<i>TAX</i>		4.01 * (1.72)		-0.26 (0.57)
<i>PLAN</i>		-0.31 * (1.66)		-0.02 (0.62)
<i>LAGMTB</i>		-0.02 (0.60)		0.01 ** (2.01)
<i>INCR_EPS</i>		0.03 (0.78)		-0.01 (1.04)
<i>DEBT</i>		0.54 (1.54)		0.02 (0.64)
<i>MIGRATE</i>			0.05 * (1.71)	
Observations	467	467	125	125
Hausman <i>p</i> -value	< 0.01		< 0.01	

One-tailed significance levels for PROFIT, PLAN, & MIGRATE, otherwise two-tailed significance levels: \* 10%; \*\* 5%; \*\*\* 1%. Variables defined in Table 4.