EVIDENCE AND THEORY ON CORPORATE TAX SHELTERS

George A. Plesko, Massachusetts Institute of Technology*

BASED ON RECENT GOVERNMENT AND PRESS REports (U.S. Treasury, 1999; Sullivan, 1999), it has been suggested that tax shelter activity is exerting a significant and growing effect on corporate tax collections. Evidence of tax shelters' aggregate effects is largely anecdotal, however, and is based on extrapolations (Bankman 1999). The Treasury Department identified a growing difference between the amount of taxable income firms report and the amount of income reported to their shareholders (book income) and cited this as potential evidence supporting the hypothesis that corporate tax collections may have been affected by changes in firms' aggressiveness is pursuing tax minimizing strategies.

This paper has three objectives: (1) provide a very brief economic perspective on tax shelters, (2) describe the reasons for book-tax differences in reported income, and the extent to which shelters could affect this reporting, and (3) analyze book-tax reporting differences using publicly-available data to provide a descriptive comparison to the Treasury Department's results.

The advantages to engaging in strategies that defer or eliminate taxes are obvious. In the absence of other effects, reduced taxes increase net income and the rate of return on investments. Further, investments in tax planning appear to be cost effective. Mills et al. (1998) find relative tax planning costs to decrease with firm size, and capital intensive firms and firms with foreign operations tend to invest more heavily in tax planning. They estimate, based on variations in effective tax rates (ETR[1]), that tax planning expenditures return $4.00 for each dollar invested. Phillips (1999) finds that tax planning has become an increasingly important part of overall corporate financial planning, and an increase in the role tax minimization enters into the compensation contracts of managers.

Tax minimization is not without constraints, especially if reducing taxable income leads to reductions in book income. While there is ample evidence that firms reduce their income in order to mitigate the effects of the tax code, financial markets may react negatively to lower than expected income, placing limits on the extent to which tax planning strategies can be employed. Consistent with this, Mikhail (1999) finds that privately held life insurance companies engage in more tax planning than either public or mutual insurance companies. However, even in cases where there may not be a book-tax trade-off, there may be costs to aggressive tax planning. Using data from the Coordinated Exam Program, Mills (1998) finds that larger book-tax differences are associated with larger proposed adjustments by the IRS.

Book-tax differences arise whenever the rules for financial reporting differ from those used for tax reporting and may be either temporary, in the sense that income or expenses are recognized in different periods or over different time frames, or permanent if they are due to differences in the scope of measurement. An example of an activity that gives rise to a temporary (or timing) difference is depreciation, which is generally faster for tax than for financial purposes. In the near term, accelerated depreciation for tax purposes will yield taxable income less than book income, but that pattern will reverse at a later date when tax depreciation is exhausted but book depreciation is not. Tax-exempt interest, unrepatriated foreign earnings, and the amount of the dividends-received deduction are all included in the calculation of book income, but will (generally) be permanently excluded from taxable income, leading to a difference in reported earnings that will never reverse.

Under financial reporting, a firm reports the amounts of its total tax expense payable currently (current tax expense) and that which is deferred (a deferred tax liability or asset). In the case of a positive deferral, a deferred tax liability is created and represents the undiscounted value of a future tax payment. A deferred tax asset is created if taxable income exceeds book income in the current year, leading to a current period tax payment in excess of that generated under financial accounting. Tax shelter activity should be reflected in a firm's financial statements through one of these two items. If the use of tax shelters leads to a deferral of tax payments, the total tax expense will not be affected,

*Corresponding address: E52-325, Sloan School of Management, MIT, 50 Memorial Drive, Cambridge, MA 02142-1347. Voice: 617-253-2668, fax: 617-253-0603, e-mail: gplesko@mit.edu.

but the portion that is deferred will increase. To the extent that corporate shelters result in the deferral of taxable income rather than the recharacterization of taxable into nontaxable income, then any growth in tax shelter activity should be reflected in financial statements via their deferred tax accounts. Such timing changes are considered the easiest responses to taxation to implement (Slemrod 1992). Though considered more difficult to implement, financial transactions, which recharacterize income, would lead to permanent differences and should be detected through changes in firms' effective tax rates.

To examine these potential changes in book and tax measures of income I construct a 15-year panel of publicly traded companies. Firms were selected for inclusion in the sample if they had a minimum of $500 million in assets in 1984 and continuous observations of data through 1998. The data selected in each year (and their Compustat data number) were Total Assets (6), Domestic Pretax Income (272), Federal Income Taxes (63), and Federal Deferred Taxes (269). A total of 2,644 firm-years are represented in the final sample, with the aggregate amounts of each year's data reported in Table 1.

Figure 1 displays the amount of domestic pretax income reported by these firms along with the current and deferred tax expense. The pattern of pretax income is very similar to that shown in the Treasury Department report, with the exception that the low point in the series is 1991 rather than 1992.[2] The differential growth rates in pretax income and the current tax expense over the post-tax reform period (1988-1998) are striking[3]. Reported corporate income for this group of firms grew at an annual compound rate of 4.4 percent, while current tax expense grew by only 3.4 percent.[4] During this same period, the total tax expense, current plus deferred, increased more than 5 percent, suggesting that much of the increase in pretax income will be reflected as taxable income in a later period. Interestingly, from 1988 to 1993, deferred taxes were negative for this group, suggesting that these firms were accruing deferred tax assets, which would be available to reduce tax liabilities in future years.

Table 1

Pretax Income and the Components of Tax Expense

(millions of dollars)

Year	*Domestic Pre-tax Income*	*Domestic Total Tax Expense*	*Domestic Current Tax Expense*	*Domestic Deferred Tax Expense*
1984	$68,167	$20,771	$17,055	$3,716
1985	59,319	17,938	14,856	3,081
1986	55,763	17,443	14,037	3,406
1987	67,496	22,027	19,503	2,524
1988	78,823	22,317	23,722	–1,405
1989	67,470	19,297	20,963	–1,666
1990	72,346	22,152	22,741	–589
1991	45,485	14,067	20,240	–6,173
1992	57,538	15,532	19,920	–4,389
1993	71,289	22,070	26,400	–4,330
1994	109,281	34,116	29,575	4,541
1995	119,088	38,298	33,157	5,141
1996	131,222	38,659	34,006	4,653
1997	133,200	43,174	39,103	4,070
1998	121,565	36,762	33,086	3,675

In Figure 2, the same data is shown, but the sample is limited to the 375 firm-years positive pretax income in all 15 years. Here, the sharp downturn in pretax income occurs in 1993 rather than 1991. As we would expect, the growth rates in income and tax items for these firms are much higher than for the sample as a whole. From 1988 to 1998, pretax income grew at an annual rate of 6.3 percent, compared with 4.4 percent for the sample as a whole. Between 1994 and 1998, pretax income grew 4.5 percent, much faster than the 2.7 percent reported for the larger sample.

Both the current and total tax expense grew faster for this group than the larger sample, but the growth rates were still less than that seen in pretax income. The current tax expense grew 5.3 percent during the 1988-to-1998 period, and total tax expense grew 5.9 percent. During 1994-1998, these growth rates were much slower: 3.8 percent for the current expense and 2.1 percent for the total.

Taken together, Figures 1 and 2 corroborate the empirical phenomenon outlined by the Treasury Department–reported corporate profits for financial reporting purposes appear to have risen faster than corporate tax liabilities during recent years.

To better understand the trends in the components of the tax expense, Figure 3 displays the share of the total tax expense deferred. The pattern for the entire sample is markedly different from those firms which report positive pretax income in each year. For the entire sample, the sharp decline, and large negative share, during the 1991-1993 period shows an increase in deferred tax assets. Deferred tax assets are created when taxable income in a given year is greater than income for financial reporting purposes, but which will reverse in later years. This means that either taxable income included amounts that were not included in book income or that expenses were recognized for

Figure 1: **Domestic Pretax Income and Tax Expense**

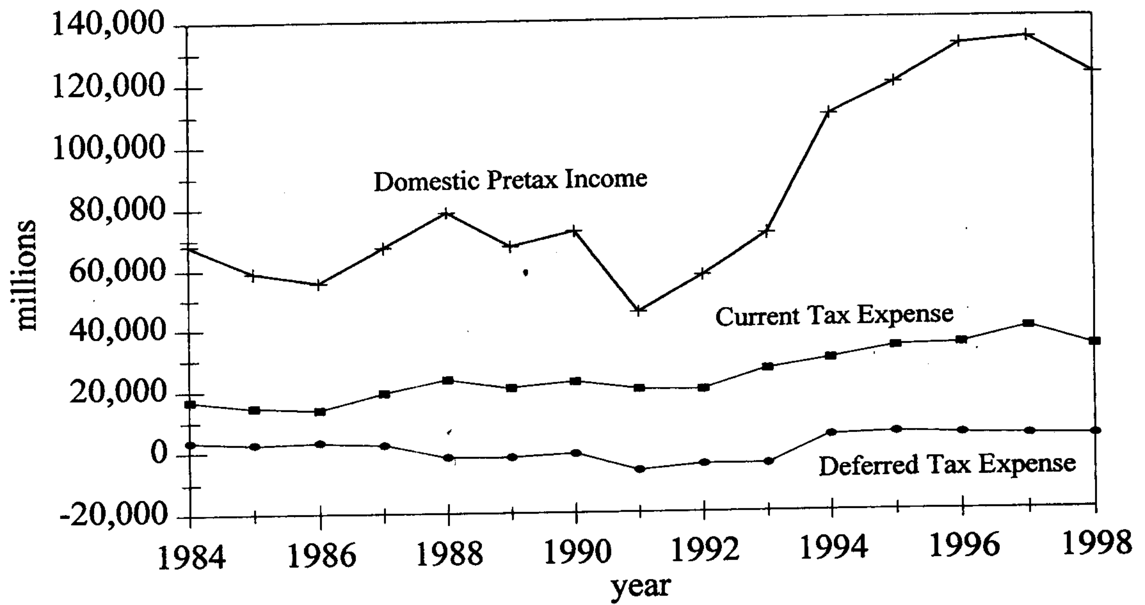


Figure 2: **Domestic Pretax Income and Tax Expense (Positive Pretax Income in all years)**

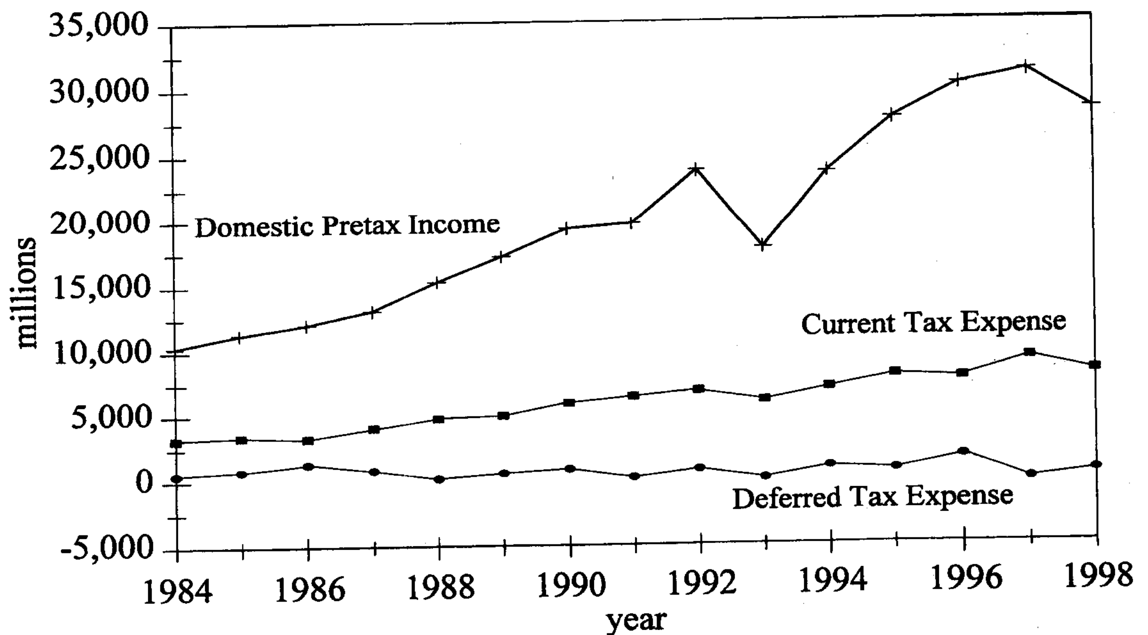


Figure 3: **Deferred Share of Total Tax Expense**

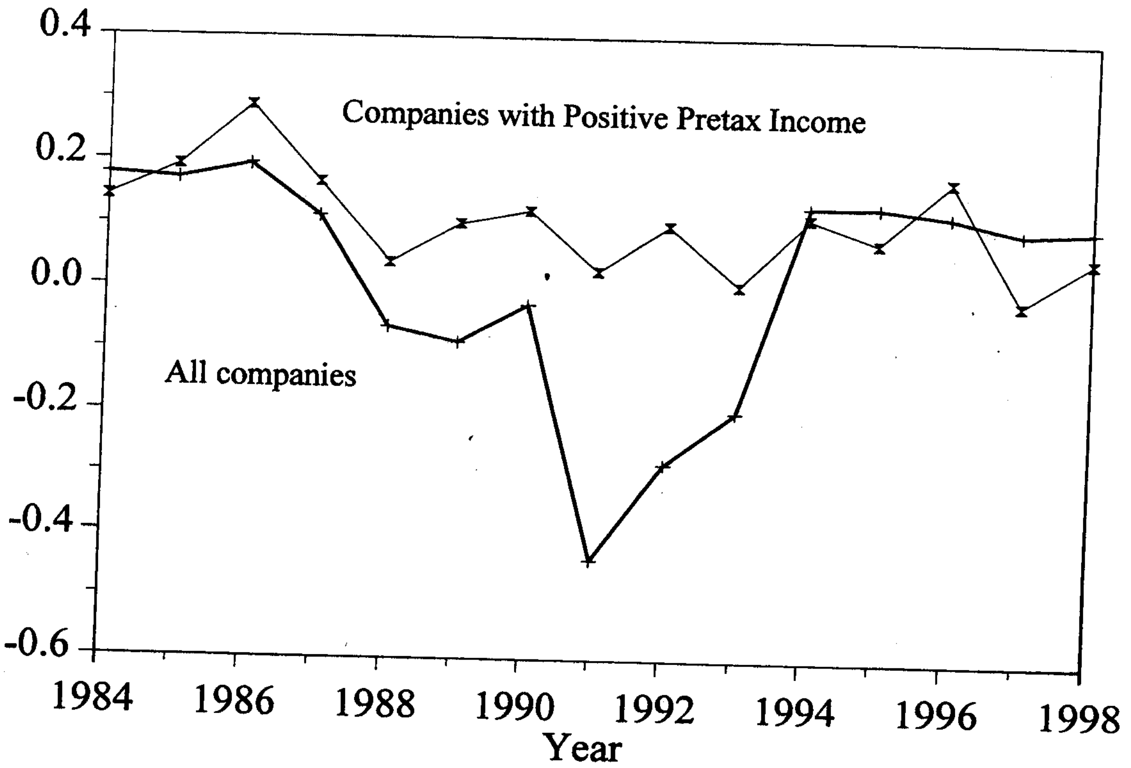
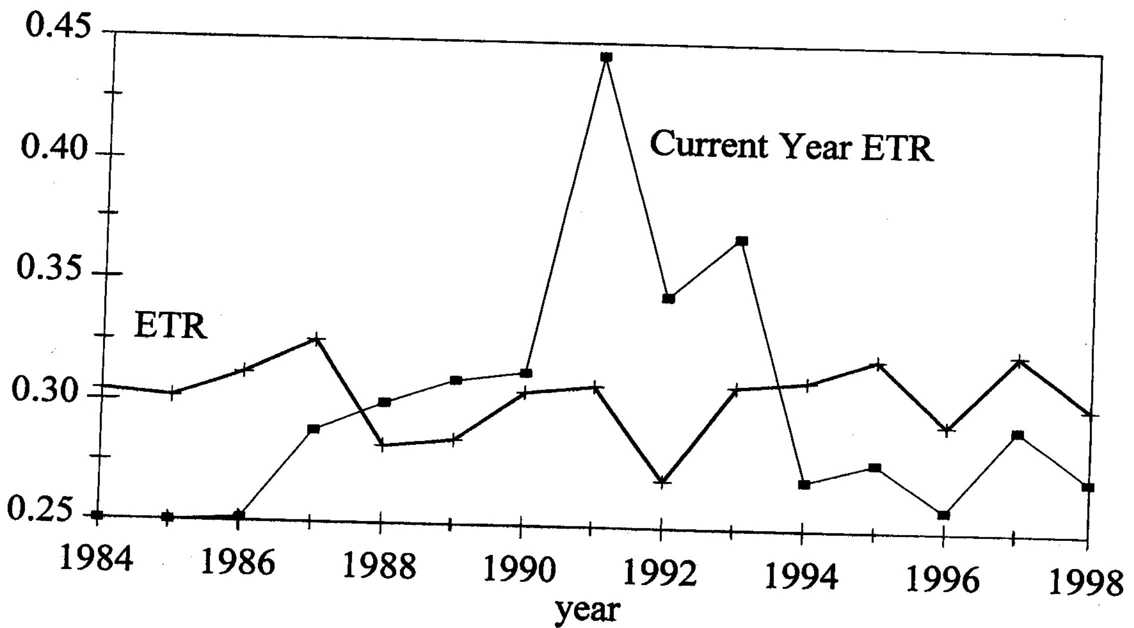


Figure 4: **Total and Current ETR**



financial reporting purposes that were not recognized for tax reporting purposes in the same year.

Figure 4 provides another look at the effect deferred taxes have had on reported tax liabilities. Here, the domestic effective tax rate is calculated as the domestic tax expense divided by domestic pretax income. The current year ETR removes the deferred portion of tax liabilities. As in Figure 3, the greater variability is seen in the current year ETR, which is greater than the ETR beginning in 1988, increases dramatically in 1991, and falls below the ETR in 1994.

If nothing else, these figures suggest that the sources of any differences between taxable and book income could be due to a large number of factors, ranging from changes in tax and financial reporting to macroeconomic effects. Given the substantive differences in the reporting of income under each system, simple book-tax comparisons at an aggregate level provide neither support nor contrary evidence regarding tax shelter activity. While the divergence of taxable and book income over the past few years is clearly pronounced, without further detailed analysis it will not be clear how much of these differences are due to natural differences in the two accounting systems, how much is due to business cycle effects and their reflection through the accounting systems, and how much is due to purposeful manipulation of income reported for tax or financial purposes. Further study to quantify the magnitude of these effects is clearly needed and would provide benefits to the evaluation of numerous potential changes in the corporate tax system, not merely those related to tax shelters.

Notes

1. The effective tax rate is defined as a book tax liability divided by a measure of book income, and will not be equal to the average tax rate calculated from the tax return. See Dworin (1985) and Plesko (1999, 2000) for a discussion of these issues.
2. A possible explanation for this difference is differences in the sample firms' adoption of SFAS112, "Employers' Accounting for Postemployment Benefits."
3. This direct comparison does not account for the effect of tax rate and base changes that may have occurred over the period. Grossing-up the current tax expense by the statutory rate in order to compare pretax income to an estimate of taxable income has no effect on the reported comparisons.
4. Mackie (2000) suggests that the growth in tax liabilities may have been adversely affected by the use of net operating losses from the last recession, and that lower receipts may be a natural result of such features in the tax system.

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