



Tax shelters and corporate debt policy ☆

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Abstract

We gather a unique sample of 44 tax shelter cases to investigate the magnitude of tax shelter activity and whether participating in a shelter is related to corporate debt policy. The average annual deduction produced by the shelters in our sample is very large, equaling approximately nine percent of asset value. These deductions are more than three times as large as interest deductions for comparable companies. The firms in our sample use less debt when they engage in tax sheltering. Compared to companies with similar pre-shelter debt ratios, the debt ratios of firms engaged in tax shelters fall by about 8%. The tax shelter firms in our sample appear underlevered if shelters are ignored but do not appear underlevered once shelters are considered.

Introduction

During both 1991 and 1992 Compaq Computer Corporation reported taxable income that averaged more than \$170 million. According to public financial statements, during these same years Compaq's debt averaged 1.3% of total assets at a time when comparable firm debt ratios averaged 25%. Based on its apparently low debt ratio, Compaq appeared to leave money on the table in terms of paying more taxes than necessary. If the company had levered up to a 25% debt-to-assets ratio, the incremental debt would have produced interest deductions worth approximately \$65 million annually (assuming a 9% coupon rate, which was the average for newly issued investment grade corporate debt in the early 1990s). If Compaq's federal tax rate was the maximum 34%, the firm could have saved more than \$22 million annually in federal taxes (not to mention state and local taxes). Apparent bypassing of such large tax benefits has led some researchers to argue that many firms appear to be underlevered (e.g., Miller, 1977; Graham, 2000).

One potential problem with the above argument is that apparently underlevered firms could have off balance sheet tax deductions that are not easily observable and which are therefore often ignored in

empirical analyses. For example, Graham, et al. (2004) show that debt policy at Standard & Poors 100 and Nasdaq 100 firms appears to be conservative if stock option deductions are ignored but is notably less conservative once option effects are considered. Stefanescu (2005) finds a similar effect for firms that use defined benefit pension plans. In this paper, we investigate the magnitude of corporate tax shelters and also whether the use of tax shelters is related to corporate debt policy.

Compaq is one of the tax shelter firms in our sample. In the case of Compaq, the government alleges that the firm used cross-border dividend capture and transfer pricing (described in Section 2) to produce at least \$115 million in annual tax deductions in 1991 and 1992. That is, Compaq used tax shelters to produce tax deductions that are nearly twice as large as the interest deductions that the firm appeared to forgo by maintaining a debt ratio lower than at comparable firms (i.e., the \$65 million in interest deductions). Said differently, if one were to factor in all deductions, including both legal deductions that appear on financial statements and tax shelter deductions, Compaq does not appear to be underlevered relative to peer firms.

Given the sharp decline in corporate tax payments in the past decade, the possibility exists that tax sheltering is a widespread and growing problem. For example, S&P 500 firms paid federal taxes of 29 cents per dollar of reported profits in 1994, but this fell to just 18 cents/ dollar one decade later (see Fig. 1). A similar declining effective tax rate pattern also holds for all publicly traded firms. (The main exceptions to the declining tax rate are the increase that occurred in 1993 when the maximum statutory corporate tax rate increased from 34% to 35%, and at the end of the sample period). Corporate tax sheltering activity could play an important role in this reduction in tax collections.

Current estimates indicate that sheltering allows US firms to avoid more than \$10 billion in federal income taxes annually (Bankman, 1999). More recently California offered a one-time tax amnesty that led to corporations reporting and extinguishing \$30 billion in shelters, suggesting that aggregate sheltering at the national level is much larger still (Bankman and Simmons, 2003). Recently the Internal Revenue Service (IRS) claimed that one firm alone, GlaxoSmithKline P.L.C., owes \$5.2 billion in back taxes and penalties related to a transfer pricing strategy dating back to 1989 (Philadelphia Inquirer, 2004). Tax sheltering activity has also allegedly led to a significant reduction in state tax collections. The Multistate Tax Commission reports that state corporate income tax revenue, which totaled \$35.4 billion in 2001, would have been one-third larger had tax sheltering not occurred (PR Newswire, 2003).

Information about tax shelters is notoriously hard to find. Companies do not publicize their use of shelters and the IRS treats tax investigations confidentially. Based on an exhaustive search of Tax Court records and financial news stories, we identify 44 tax sheltering cases (involving 43 firms) between 1975 and 2000. To the best of our knowledge, our sample of tax sheltering cases is the largest collected to date. Because the firms in our sample were caught or filed suit or both regarding their shelter activity, there are sample selection considerations related to our sample. One issue is that our sample selection procedure might identify primarily large tax shelter cases. Another issue is that the firms in our sample might have taken specific actions, such as reducing debt ratios or filing suit against the government, that led to their shelter being detected by the government and by our sample selection process. To the extent that this is true, it hinders our ability to conclude that the characteristics of firms in our sample are representative of other shelter firms. These issues potentially make our results difficult to directly generalize to the population of firms, and we interpret the results accordingly.

The tax shelters in our sample are large. The median shelter produces, on an annual basis, a deduction sufficient to shield income equal to approximately 9% of asset value. In comparison, a debt-to-assets

ratio of 30% produces interest deductions equal to only 3% of assets if coupon rates are 10%.

We also investigate whether companies appear to substitute between the tax shields provided by shelters and debt interest. As predicted by DeAngelo and Masulis (1980), we show that firms use less debt when their nondebt tax shields (NDTS; in this case, deductions from tax shelters) are large. In particular, in the year(s) that the tax shelters are in use, sheltering firm debt ratios are more than 800 basis points lower than the debt ratios of similar-size same-industry firms. This is true even though several years before the shelter is implemented, shelter firm debt ratios are indistinguishable from matched firm debt ratios.

We also investigate whether the existence of tax shelters affects incremental financing decisions. We find that 60% of the shelter firms in our sample issue debt sometime during the years preceding the inception of tax shelter activity. In contrast, 70% of matched firms issue debt. Holding all else constant in a logistic regression, shelter firms are significantly less likely to issue debt than are non shelter firms.

Tax shelters potentially affect more than just debt ratios. Stock prices can also be affected. McGill and Outslay (2004, p. 751) summarize Tyco International Ltd.'s belief that, by reducing its tax rate by 700 basis points via offshore activity, it increased its earnings per share (EPS), which in turn increased its market capitalization by nearly \$5 billion. Moreover, if tax shelters substitute for debt-induced tax deductions, sheltering could also increase financial slack, reduce expected bankruptcy costs, enhance credit quality, reduce the risk of covenant violation, and reduce the cost of debt. For example, in our sample in the years leading up to the inception of the tax shelter, we find that shelter firm credit ratings improve one notch relative to matched firms, most likely because of falling debt ratios. All of this must be weighed against the risk, potential penalties, and other negative effects of engaging in tax shelters.

Our paper is related to other research that investigates tax shelters. Desai (2003) investigates whether the growing wedge between taxable income reported on financial statements and tax return income can be explained by accelerated depreciation, stock options, or earnings management. He concludes that these traditional vehicles explain only a portion of the wedge. Desai argues (p. 1) that new “enhanced opportunities for avoiding and evading taxes through cheaper, more sophisticated, and less transparent mechanisms” (i.e., tax shelters) explain at least one-third of the book-tax income gap as of 1998. Schallheim and Wells (2004) measure nondebt tax shields based on the difference between taxes paid and financial statement tax expense in an attempt to capture the effect of “off financial statement” deductions such as accelerated depreciation, stock option deductions, tax shelters, and the like. In contrast to often-found results that are based on traditional measures of nondebt tax shields, Schallheim and Wells find that tax spread is negatively related to debt usage.

One advantage our approach has over Desai (2003) and Schallheim and Wells (2004) is that we know actual sheltering activity (as alleged or proven by the government) and hence do not need to indirectly infer the propensity of sheltering. The accompanying disadvantage to our approach is that our sample is relatively small because of the difficulty of identifying firm-specific instances of sheltering.

Our analysis is also related to papers that study whether observed debt ratios are too low (e.g., Miller, 1977; Parrino and Weisbach, 1999; and Graham, 2000).¹ For example, because the ratio of interest deductions to expected income is small at many firms, Graham (2000) argues that the average magnitude of debt usage appears to be small relative to the tax benefits of debt. Underleverage appears to be severe at some firms that on the surface appear to have a low marginal cost of debt (e.g., Compaq, AHP, Microsoft).

Our analysis complements these papers and, for the firms in our sample, offers a partial solution to both the magnitude and cross-sectional underleverage issues raised by Graham (2000). In terms of magnitude,

the shelters in our sample are large, at least three times what would be expected to be generated by debt interest deductions. Cross-sectionally, as shown in Table 1, many of the firms in our sample appear to be low cost of debt firms (that appear to use too little debt when shelters are ignored). Therefore, debt policy at these firms is not as conservative as appears on the surface, because of plentiful tax shelter deductions that reduce the need for debt. We do not claim, however, that incorporating the effects of tax shelters eliminates the possibility that some firms are underlevered. For one thing, we investigate a select sample of primarily large firms, so our results do not directly address debt policy at small firms. For another, our analysis does not address whether firms are underlevered in the years before or after their tax shelter is active.

Finally, our paper is related to other works that investigate tax shelters, but at the macro level. Clausing (2003) and Bartelsman and Beetsma (2003) find substantial evidence of tax-motivated transfer pricing, which is one of the most popular tax shelters in our sample. Hines (1997) reviews literature that finds indirect evidence of transfer pricing. Finally, Desai et al. (2004) find evidence that multinationals relocate income to tax haven countries, in part to delay repatriation to high tax rate parents.

Bankman (1999) provocatively argues that, as of the end of the 1990s, the tax shelter industry was “growing at breakneck speed” and was valued at least in the tens of billions of dollars. He reasons that even though many shelters would be struck down by the courts if litigated, the dollar benefit of participating in a shelter far outweighs the cost, once one incorporates the low probability of detection. Bankman cites at least two factors that have contributed to increased sheltering activity: (1) the relative ease with which shelter promoters can obtain favorable opinion letters from attorneys, which generally protect corporations from penalties if the shelter is ruled illegal, and (2) business norms that have weakened in the face of the attractive economics of sheltering income. While our sample represents only the tip of the shelter iceberg described by Bankman, we believe that our analysis sheds light on tax shelter participation and its effect on corporate policies.

The rest of the paper proceeds as follows. Section 2 provides details about tax shelters including the legal doctrines the government uses to combat tax evasion. It also lays out the debt substitution hypothesis. Section 3 describes our sample and presents summary statistics. Section 4 investigates how tax shelters affect the corporate use of debt, and Section 5 concludes.

Section snippets

Classifying and combating corporate tax shelters

The US Congress (Joint Committee on Taxation, 1999) defines a tax shelter as an endeavor principally designed to avoid taxation without exposure to economic risk or loss.² Bankman (2003) argues that tax shelters are tax-motivated vehicles that use a literal interpretation of government statute or regulation to misstate economic...

Data and summary statistics

This section describes the sample formation and the dollar magnitude of tax shelters....

Do tax shelter deductions substitute for interest deductions?

In this section, we perform multivariate regressions to determine whether sheltering activity is correlated with debt ratios, all else equal. We control for other factors that are known to affect corporate debt policy by including right-hand side variables that have been used in previous studies to explain debt policy. We start with the right-hand side variables identified by Frank and Goyal (2004) as the most significant regressors in empirical studies of debt policy. These variables are also...

Summary and conclusions

We investigate the use of 44 corporate tax shelters at 43 firms from 1975 to 2000. The shelters in our sample are large economically, producing annual deductions that average about 9% of asset value. The tax savings produced by these shelters are much larger than interest tax deductions for comparable firms that we do not identify as using tax shelters.

Not only are tax shelters large economically, but they also appear to interact with corporate debt policy. Firms that use tax shelters use less...

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