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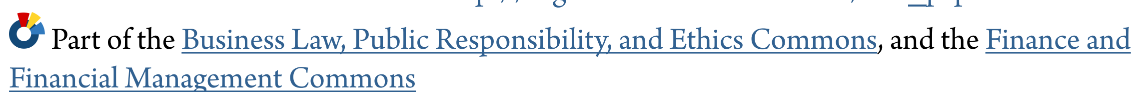

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# THE IMPACT OF THE REPEAL OF THE STOCK-FOR-DEBT EXCEPTION ON CORPORATE BANKRUPTCY RESTRUCTURINGS

William D. Terando

Wayne H. Shaw*

## Introduction

This paper examines the effect of the repeal of the stock-for-debt exception on corporate bankruptcy restructurings. This exception permitted corporations to exclude Cancellation of Indebtedness (COD) income from gross income provided they exchanged their own common equity for debt while in Chapter 11. Because no COD income was recognized, the bankrupt corporation also avoided any reduction in tax attributes (primarily Net Operating Losses, or NOLs). Under the new law, firms that restructure in Chapter 11 are required to recognize COD income but can defer current taxation on these amounts by reducing NOLs by a like-amount.

Prior research has provided contrasting assessments as to the importance of this exception to bankruptcy filers and differing predictions as to their response to its repeal. Betker [1995] claims that most bankrupt firms received little, if any, benefit from avoiding COD income under the prior law because their debt restructure method required them to incur a greater than fifty-point change in underlying ownership (ownership change). As a result, they were forced to rely on another advantageous exception provided in the tax code (ownership change rule bankruptcy exception) to preserve NOLs because [pg. 4]: "it puts a less restrictive limitation on the annual use of NOLs." Since the change in tax law repealed the tax exception that firms did not rely on (stock-for-debt exception) and left substantially

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intact the exception that firms did rely on (ownership change rule bankruptcy exception), Betker's [1995] findings imply that the change in tax law should not have a significant impact on corporate bankruptcy restructurings.

In contrast, Easton [1994] asserts that the repeal is "the single most significant change in tax law governing bankruptcy" because it requires firms that exchange common equity with debt-holders for impaired debt to reduce one of their most valuable assets: NOL tax attributes. This reduction, in turn, reduces the NOL tax benefit available to firms that trigger an ownership change in bankruptcy because the deferral of COD income and the application of the ownership change rule bankruptcy exception are not necessarily independent: to the extent firms have lower available NOLs the ability of the ownership change bankruptcy exception to preserve NOLs is also reduced. Newton and Wertheim [1993] predict that bankrupt firms will respond to the increased tax cost of using common equity under the new law by issuing more debt. This allows them to reduce the amount of COD income recognized and approximate the NOL tax benefits available to bankruptcy filers under the prior law. They express concern, however, that this strategy will reduce the probability of the firm incurring a successful bankruptcy restructuring by forcing it to exit Chapter 11 with relatively higher levels of debt in their capital structure. We predict they will have incentive to do so when the marginal tax benefit of preserving NOL tax attributes exceeds the marginal financial statement costs of exiting bankruptcy with more debt.

We examine these competing predictions using a sample of firms that successfully emerged from Chapter 11 between 1994 and 2004. We show that, under the current law, bankruptcy filers continued to issue common equity in sufficient amounts to trigger an ownership change when restructuring impaired debt with debt-holders. Consistent with Easton [1994], however, we find that the deferral of COD income increased the tax cost of common equity and in many cases forced bankruptcy filers to alter how they restructured in Chapter 11 to preserve NOLs. The specific response, however, is more complicated than that suggested by Newton and Wertheim [1993] because the change in tax law divides firms into three sub-groups based on the trade-off between the tax benefits of preserving NOL tax

attributes and the related financial reporting costs of issuing more debt.[4]

The first group consists of firms that recognized COD income in excess of NOL tax attributes. Consistent with Easton [1994], the repeal imposed a significant explicit tax cost on this group by eliminating the NOL tax benefit they would have received under the prior law from triggering an ownership change in bankruptcy. In addition to eliminating their post-emergence NOLs, these firms were also required to make additional reductions to their other tax attributes (primarily the bases of depreciable assets) by the amount of excess COD income recognized (averaging $147 million per firm). Despite these explicit tax costs, we show that they were precluded from issuing more debt because the marginal financial reporting costs of doing so far exceeded the marginal tax benefit that could be obtained from preserving additional NOL tax attributes.

The second set of firms continued to benefit from receiving a less restrictive annual limitation on NOL tax attributes. Consistent with the concerns of Newton and Wertheim [1993], these firms responded to the change in the tax law by issuing more debt. This allowed them to save approximately $33 million of additional post-emergence NOLs (in present value, or PV terms), as opposed to a workout, but also forced them to exit Chapter 11 with significantly higher debt ratios and lower profitability. We provide evidence suggesting that this strategy was efficient because the marginal tax benefits of preserving NOL tax attributes for this group exceeded the marginal financial reporting costs of exiting bankruptcy with higher debt levels and reduced profitability.

Rather than issuing more debt, the final group of firms elected to reduce the adverse tax costs associated with the change in tax law by choosing an alternative provision under the ownership change rule bankruptcy exception that provides for a one-time reduction in NOL tax attributes. This alternative restructuring method allowed them to save approximately $77 million of post-emergence NOLs (or 92.6% of pre-restructure assets) by restructuring in rather than out of bankruptcy, and exit bankruptcy with relatively lower debt ratios.

[4] A fourth small sub-group of firms restructured primarily the terms of existing debt contracts and were primarily unaffected by the change in tax law.

Our contribution to the literature is twofold. First, we show how the repeal of the stock-for-debt exception impacted the tax benefit provided by the ownership change bankruptcy exception to firms that restructure in Chapter 11. Second, we show how the change in tax law provided incentive to these firms to alter how they restructured in bankruptcy to preserve this benefit and the importance of financial statement incentives in this decision. The remainder of this paper is organized as follows. Section two contains institutional information regarding the Chapter 11 bankruptcy process. The effect of taxes on bankruptcy restructurings before and after the change in tax law is examined in Section three. The hypotheses are developed in Section four and the sample selection method is discussed in section five. Section six contains research design while the results are presented in Section seven. Our conclusions are presented in section eight.

## Chapter 11

The rules and regulations governing the bankruptcy process are contained in Chapter 11 of the U.S. Bankruptcy Code (Chapter 11). Management is allowed to retain control of the firm after it enters into bankruptcy and has the exclusive right to propose the first plan of reorganization to the Bankruptcy Court (Court).[a] This plan must be submitted within 120 days (or as late as 180 days) of the initial bankruptcy filing date. If a plan is not submitted within this timeframe, any creditor class can propose their own reorganization plan. Each plan must assign claimholders to various classes and propose an exchange of property (cash or securities) by the firm for the debt held by each designated class. The value of property distributed is determined by the absolute priority rule, under which a creditor class is compensated for the face value of pre-bankruptcy claims only after the claims of each class designated as senior are resolved. Plan acceptance requires an affirmative vote by a majority (two-thirds in value and one-half in number) of claimholders in each class and is binding on all participants. To break deadlocks, the Court can unilaterally impose or "cram-down" on dissenting classes a reorganization plan that it deems to be "fair and equitable".

[a] The Court can also appoint a trustee to oversee operations if inappropriate conduct on the part of management is suspected.

In the late 1980's, a hybrid form of bankruptcy, called a prepackaged bankruptcy (prepak) began appearing in the marketplace. Prepacks are similar to workouts in the sense that a firm negotiates a reorganization plan with its creditors prior to entering into Chapter 11 [McConnell and Servais, 1993]. On the other hand, they are similar to traditional Chapter 11 bankruptcies because the reorganization occurs under the auspices of the Court. In most cases, the bankruptcy petition and reorganization plan are filed concurrently with vote on the reorganization plan occurring either shortly before (pre-voted) or after (post-voted) the firm enters into Chapter 11.

## Tax Consequences of Restructuring in Bankruptcy

### Prior Tax Law

Prior to 1995, the two most commonly cited tax consequences of restructuring in Chapter 11 were avoiding COD income and preserving NOLs [Betker, 1995]. Corporate discharge of indebtedness gives rise to ordinary income when the cash and value of property used to satisfy impaired debt is less than its adjusted issue price.[3] In this event, COD income arises because the assets a debtor would otherwise be required to apply towards debt repayment are now free to be used for other purposes.[4] Under the *stock-for-debt* exception, firms could exclude COD income from gross income provided they exchanged their own stock to creditors for impaired debt while in Chapter 11.[5] Because no COD income was recognized, the

[3] COD income is characterized as ordinary rather than capital gain income since no sale or exchange is deemed to have occurred [IRC Regulation Section 1.61-1(c) (3)].

[4] Firms that use cash (or new debt) to restructure impaired debt in Chapter 11 can defer current recognition of COD income under the *bankruptcy exception* by reducing tax attributes by a like amount per IRC Section 108(a). Under the ordering rules, NOLs are first reduced but the debtor may also elect to reduce other tax attributes (such as the bases of depreciable assets, general business credits, alternative minimum tax credits, net capital losses, passive activity losses and foreign tax credits).

[5] The exception was created through a series of judicial decisions. See e.g., Commissioner v. Capento Sec. Corp., 47 B.T.A. 691 (1942), *nonacq., aff'd* 140 F.2d 392 (1st Cir. 1944); Alcazar Hotel Inc. V. Commissioner, 1 T.C. 872 (1943) *acq.;* Claridge Apartments Co. V. Commissioner, 1 T.C. 143 (1942), *rev'd in part,* 138 F. 2d 962 (7th Cir. 1943); *rev'd on other grounds,* 323 U.S. 141 (1944), *acq.;* Commissioner v. Motor Mart Trust, 4 T.C. 931 (1945) *aff'd,* 156 F. 2d 122 (1st Cir. 1946), *acq.;* Tower Bldg. Corp. v.

corporation also avoided any reduction in tax attributes.[6] The exception was based on two perceived characteristics of the impaired debt: (1) that it was merely being replaced with a corporate stock liability [Pratt, 2004], and (2) its fair market value (FMV) of the debt represented the anticipatory subscription price of the common stock ultimately issued [Silverman and Keyes, 1992].[7]

Miller [1991] suggests that the primary tax cost of restructuring with common equity is associated with the triggering of an ownership change under IRC Section 382. This occurs when a group of 5 percent (or greater) shareholders increase their ownership percentage of qualifying stock (by value) by more than fifty-percentage points during a three-year look-back period.[8] In this event, the amount of "pre-change" NOLs that can be applied against "post-change" taxable income is limited on an annual basis to the product of the firm's "pre-change" equity market capitalization and the applicable federal long-term tax-exempt rate (annual limitation). If an ownership change is triggered while the firm is in Chapter 11, however, the tax code allows bankrupt firms to choose between two special provisions contained within a special exception to the ownership change rules (*Ownership Change Rule Bankruptcy Exception*) to

Commissioner, 6 T.C. 125 (1946), *acq.*, Rev. Rul. 59-222, 1959-1 C.B. 80; TAM 8730003; TAM 8735007; TAM 8735006. Congress indirectly recognized this exception in the Bankruptcy Act of 1980 by adding IRC Section 108(e)(8) to limit its availability to certain corporations.

[6] In cases where both stock and non-stock consideration was exchanged in satisfaction of debt, the non-stock consideration was applied first to the debt equal to the value of such consideration, with the stock satisfying the remainder. This allowed firms to exclude the entire amount of the COD income under the stock-for-debt exception even though only a portion of the consideration consisted of common equity.

[7] The stock-for-debt exception does not apply to "nominal or token" issues of common equity (IRC Section 108(e)(8)(A)) or to exchanges of "disqualified stock" (preferred stock) for impaired debt (IRC Section 108(e)(10)(B)). Firms that are "insolvent" (book value of liabilities exceed the fair market value of assets) but not in Chapter 11 may also utilize the stock-for-debt exception but only to the extent of their insolvency. The cost of proving insolvency can be avoided, however, by simply restructuring in rather than out of Chapter 11.

[8] Qualifying stock for the purpose of determining whether an ownership change has been triggered includes both common equity and common equity equivalents, such as stock options, convertible preferred stock, and convertible debt.

preserve NOL tax attributes. The first provision (*enhanced valuation provision*) provides for a less restrictive annual limitation amount by including in its computational formula the value of post-change equity market capitalization. In most cases this is likely to result in a higher NOL annual limitation amount since the firm is able to include the value of common equity issued while in Chapter 11 in its computational formula.[9] The second provision (*attribute reduction provision*) allows corporations to use their NOL tax attributes without limitation in the post-bankruptcy period.[10] Unrestricted NOL utilization in the post-change period comes at a cost, however. First, each firm must incur a one-time NOL reduction (toll charge) by: (1) one-half of the COD income that would have been recognized but for the stock-for-debt exception, and (2) the amount of interest expense incurred in the previous three years leading up to and including the year of bankruptcy.[11] Second, they must carry on a significant amount of pre-change business in the post-change period and avoid additional common equity sufficient to triggering a second ownership change within two years or risk losing all remaining NOLs. Weitzner [1994] suggests that firms chose will choose the attribute reduction provision when the net benefit that it provides (PV of post-emergence NOLs less cost of restricted use of assets/financing options) exceeds the PV of post-emergence NOLs tax benefit provided by the enhanced valuation provision.

### Change in the Tax Law

The repeal of the stock-for-debt exception is included as a part of the Omnibus Budget Reconciliation Act of 1993 (OBRA93). The new law applies to all corporate bankruptcy restructurings after 1994, except for bankruptcy petitions filed

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[9] IRC Section 382(l)(6).

[10] Firms qualify for this exception when their "pre-change" shareholders and historic creditors receive common equity representing more than 50% of the ownership of the newly reorganized company.

[11] Beard [1993, pg. 361]:" The rationale for the interest expense reduction is that the equity interest received by the creditor actually arose well in advance of the reorganization. In effect, as the losses of the corporation accumulate, the creditor gradually assumes the position of shareholder. What was originally deducted as interest expense, and added to the loss corporations NOLs, is now characterized as dividends. Since dividends are nondeductible, the deductions for interest are eliminated from the NOLs."

prior to January 1, 1994. Under the new law, firms that exchange common equity for debt are required to recognize COD income upon debt discharge. Current taxation on these amounts is deferred using the bankruptcy exception by reducing NOL tax attributes by a like-amount. While no changes were made under the new law to the annual limitation computational formula under the enhanced valuation exception, OBRA93 changed the statutory formula used to compute the one-time NOL reduction under the tax attribute reduction exception. Under the new rules, the NOL toll charge includes only the interest expense adjustment to conform to the repeal of the stock-for-debt exception.

**Hypotheses Development**

Betker [1995] examines the relative importance of the stock-for-debt and ownership change rule bankruptcy exceptions to firms that restructured in Chapter 11 under the prior law and suggests that the primary tax benefit of restructuring in Chapter 11 during this time period was not in preserving NOLs per se by avoiding COD income. This is for two reasons. First, most sample firms would have been able to exclude their COD income had they reorganized as a workout due to insolvency considerations. Second, no firm would have incurred current taxes from debt forgiveness had they reorganized as a workout.[12] Rather, he concludes that the primary benefit of restructuring in Chapter 11 is that [pg. 4]: "it puts a less restrictive limitation on the annual use of NOLs" relative to a workout because the advantageous provisions of the ownership change bankruptcy exception are not available to firms that restructure out of bankruptcy. He estimates that the PV of future taxes saved by firms that triggered an ownership change in rather than out of bankruptcy was approximately $9 million per firm, or 3% of total assets.

Since the change in tax law repealed the tax exception that firms did not rely on (stock-for-debt exception) left substantially intact the exception that firms did rely on (ownership change rule bankruptcy exception), Betker's [1995] findings imply that the change in tax law will have little, if any, impact on corporate

[12] Most sample firms in his study triggered an ownership change while in Chapter 11. These firms primarily elected the enhanced valuation provision since they would have lost all (or substantially all) of their NOL tax attributes had they elected the attribute reduction provision.

bankruptcy restructurings. Under the current law, it is expected that bankrupt firms will continue to rely on the less restrictive annual NOL usage provisions of the enhanced valuation provision to minimize the relative cost of using common equity to restructure impaired debt. This is stated in the following hypothesis (stated in the null form):

**H1:** The repeal of the stock-for-debt exception will not effect how firms reorganize in Chapter 11

Easton (1994), in contrast, asserts that the repeal of the stock-for-debt provision is "likely the single most significant change in the tax law governing bankruptcy" and "is a complete turnaround from prior policies designed to help financially distressed corporations to make a fresh start." He suggests that the change in emphasis from exclusion to deferral of COD income under the new law will decrease the value of bankrupt firms by requiring them to reduce one of their most valuable assets by the amount of COD income recognized: NOL tax attributes. This in turn reduces the NOL tax benefit from triggering an ownership change in bankruptcy since there are fewer NOLs available to be preserved upon application of the ownership change bankruptcy exception.

We illustrate the impact of the repeal of the stock-for-debt exception on NOL tax attributes using the following example. Assume that Company X enters into Chapter 11 with NOL tax attributes of $10,000 that will expire in 20 years. Assume also that it triggers an ownership change by exchanging common equity with debt-holders for impaired debt (which it has paid interest expense in the amount of $3,000 in the previous three years), realizing COD income in the amount of $5,000. As shown in Figure 1 (Panel A), under prior-law rules firms could exclude COD income from gross income and not reduce NOL tax attributes under the stock-for-debt exception provided they restructured in Chapter 11. The firm must also decide to limit post-emergence NOLs by electing either the enhanced valuation or attribute reduction provisions of the ownership change rule bankruptcy exception. Assuming the enhanced valuation provision is chosen and the less restrictive annual limitation amount is computed to be $500 per year ($50 if the reorganization occurs as a workout due to the relatively low value of common equity attributable to the former shareholder group), the bankrupt firm is restricted to using their pre-change NOLs

over the entire 20 year post-change period.[13] Assuming a 6% discount rate, this reduces the PV of post-emergence NOLs to $5,297 (Figure 1, column 3). Under the attribute reduction exception, pre-change NOLs are reduced by the appropriate toll charge (50% of the COD recognized and the interest expense toll charge to $3,500). The PV of post-change NOLs under either provision are still higher than had the firm reorganized as a workout ($1,059) due to the deferral of COD income and application of the ownership change rule restrictions and emphasizes the NOL tax benefit of triggering an ownership change in rather than out of bankruptcy. In contrast, under the current-law rules, each firm is required to recognize COD income and reduce NOL tax attributes regardless of whether the restructuring occurs in or out of Chapter 11. If the restructuring occurs while the firm is in Chapter 11, firms that elect the enhanced valuation exception experience a reduction in the number of years that it can carryforward its annual limitation amount that the firm (from 20 to 10 years) because there are fewer pre-change NOLs available to be preserved. This in turn reduces their level of post-emergence NOLs (in PV terms) by $1,617 (from $5,297 to $3,680) as opposed to restructuring under the prior-law. Firms that elect the attribute reduction exception experience an incremental reduction to NOL tax attributes equal to 50% of the previously excluded COD income, or $2,500 (from $4,500 to $2,000). These reductions do not completely eliminate the tax benefit of triggering an ownership change in rather than out of bankruptcy due to the substantial restrictions on annual NOL utilization to firms that restructure out-of-court.

Newton and Wertheim [1993] predict that bankrupt firms will respond to the increased tax cost of using common equity under the current law by issuing more debt.[14] For example, assume a debtor exchanges common equity with debt-holders for impaired debt and has the option to: (1) recognize COD income, or (2) discharge the difference between the market value

[13] This assumes that the firm was not insolvent at the time it restructured. If an ownership change were not also triggered, the application of the stock-for-debt exception allows Chapter 11 firms to exit bankruptcy with $5,000 more NOLs as opposed to restructuring as a workout.

[14] In extreme cases, Easton [1994] suggests that the loss of NOL tax attributes will provide incentive for bankrupt firms to liquidate under Chapter 7 rather than reorganize as an on-going business concern under Chapter 11.

of the stock and the tax basis of the impaired debt through the issuance of a very long-term note with a face amount equal to the tax basis of the debt that has the minimum allowed interest rate to avoid the Original Issue Discount Rules. In many cases the second option will be chosen because it reduces the amount of COD income recognized and allows the firm to approximate post-emergence NOL levels available under the prior law. It also allows the bankrupt firm to continue receiving the non-tax benefits of common equity issuance in Chapter 11.[18]

There are, however, costs associated with this strategy. First, issuing more debt reduces the firm's long-term survival prospects by leaving the bankrupt firm with more debt in its capital structure. It also reduces post-bankruptcy profitability through increases in future interest expense charges. Prior research suggests these two factors may be important in the firm's trade-off between obtaining tax benefits and incurring financial statement costs (Matsunaga, Shevlin and Shores [1992]). If the tax benefit from issuing more debt is not positive, then the related financial reporting costs are not relevant. However, for positive net tax benefits, firms will have incentive to issue more debt when the marginal tax benefit of preserving NOLs exceeds the marginal financial reporting costs of issuing more debt. The empirical test of this trade-off is as follows (stated in the alternative form):

**H1A:** Firms that restructure in Chapter 11 under the current law will issue more debt if the marginal tax benefit of preserving NOL tax attributes exceeds the financial reporting marginal costs of issuing more debt.

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[18] Detragiache [1995] suggests that non-tax considerations play a primary role in its use for a number of reasons. First, when a distressed firm is not very profitable and reorganizes in bankruptcy, it must obtain substantial debt forgiveness in order to survive as a going concern. In this instance, common equity allows creditors to grant debtors the debt forgiveness they need to survive while retaining the up-side potential to recover their original investment through future increases in firm value. It also recognizes that the creditor class has gradually assumed the position of de facto equity stakeholder and provides them influence over future business decisions. Debtors also benefit as exchanging impaired debt for common equity increases the probability of a successful restructuring by allowing the firm to emerge from bankruptcy with less debt in their capital structure.

## Sample Selection Method

### *Current-Law Firms*

We used the LEXIS/NEXIS database to identify firms that reorganized in bankruptcy between 1995 and 2004 (*Current-Law Firms*). This search resulted in an initial sample of 120 firms. We eliminated 33 firms that did not have the necessary pre-filing financial statement information in the year prior to filing for bankruptcy and/or descriptive information detailing their bankruptcy restructure plan. Finally, we eliminated eight firms that resolved their bankruptcy restructuring by merging with another firm, eleven bankruptcies involving foreign owned corporations and non-corporate entities (S-Corps), and seven firms whose bankruptcy filing was limited to one of its subsidiaries. This resulted in a final sample of 61 firms. Most sample firms emerged from bankruptcy between 1997 and 2000 (56) with the highest number of resolutions in 1997 (18 firms). Sixty firms had SIC codes between 1000 and 7000, with fifteen firms having SIC codes in the 5000 ranges. This sample consists of 38 firms restructured using the traditional Chapter 11 bankruptcy filing process (traditional chapter 11 firms) and 23 firms that restructured using prepackaged bankruptcies (prepaks).

### *Prior-Law Firms*

Using the NAARs database, we obtained a comparison sample of corporations that emerged from bankruptcy between 1987 and 1994 (*Prior-Law Firms*).[19] This group helps us to understand whether the tax and non-tax characteristics of bankruptcy filers varied across tax regimes. We considered only firms that emerged from bankruptcy after 1986 to coincide with the enactment of the ownership change rules as a part of the Tax Reform Act of 1986 (TRA86). Consistent with the repeal

[19] The NAARS and LEXIS/NEXIS databases are used as the primary sources for our search for two reasons. First, they contain a large set of publicly traded companies including those traded on the New York, American, and OTC stock exchanges. Second, they include firms involved in cash and exchange offerings as well as public offerings and private placements. To supplement these data sources, however, we also identified bankrupt firms using the National Newspaper Index, National Magazine Index, the Bankruptcy Datasource, and Bankruptcy.com. We use the NAARS database as a source to select the prior-law firm sample since it includes public filings through 1994. We use the LEXIS/NEXIS database as one source to select out current-law sample group since it includes public filings from 1995 to the current date.

of the stock-for-debt exception, the sample period only extends through 1994. This group is chosen using the same criteria as the current-law firm group and consists of 44 firms. Most of these firms emerged from bankruptcy between 1990 and 1992 (38) and had SIC codes between 1000 and 7000 (41). This sample consists of 26 traditional Chapter 11 firms and 18 prepaks.

**Description of Empirical Tests and Results**

*Financial and Restructure Profiles*

Pre-bankruptcy financial profiles for the current and prior-law firm groups are presented in Table 1, Panel A.[17] Both sets of firms are, on average, of similar size (total assets and net sales), have similar liquidity and property levels, and carry similar debt loads into bankruptcy. In addition, they both incurred significant losses in the period leading up to bankruptcy. Current-law firms, however, were significantly less profitable in the pre-filing period with a negative 41.6% return on average assets compared to a negative 17.3% return on average assets for the prior-law group. Consistent with this finding, 58 current-law firms entered Chapter 11 with pre-existing NOLs averaging 94% of pre-bankruptcy assets. In contrast, 42 of the 44 prior-law firms entered Chapter 11 with NOLs averaging only 55% of pre-bankruptcy assets.

We find also that a majority (54 out of 61) of current-law firms exchanged common equity with debt-holders for impaired debt, with the former creditor group owning, on average, 75.9% of the outstanding common equity of the newly reorganized firm (Panel B). This percentage is comparable to similar former debt-holder equity ownership percentages for prior law firms (68.7%).[18] Reliance on common equity resulted in 53

[17] Fifty-eight current-law firms adopted fresh-start reporting in accordance with the American Institute of Certified Public Accountants Statement of Position 90-7 "Financial Reporting by Entities in Reorganization Under the Bankruptcy Code". Of these firms, 56 wrote down their assets to fair market value. As a result, the relative size and results of operations of the predecessor and successor companies are not comparable and not presented in this section.

[18] These ownership percentages are also consistent with similar statistics reported in other studies. For example, Tashjian, Lease, and McConnell [1996] show that creditors owned 64.5% of post-bankruptcy common equity of firms that filed prepackaged bankruptcies between 1980 and 1993. Gilson [1990]

current-law sample firms (86.9%) triggering an ownership change (OC firms).[19] This is similar to the percentage of firms triggering an ownership change in the prior-law group (36 of 42 firms, or 85.7%). The remaining 8 current-law firms (13.1%) did not issue sufficient levels of common equity to trigger an ownership change (NOC firms).

Finally, there was little change in the magnitude of COD income recognized by bankruptcy filers in the current-law period. Current-law firms realized COD income averaging 46.6% of pre-bankruptcy assets, compared to an average COD income level of 40.1% of pre-bankruptcy assets for the prior-law group. These results suggest that current-law firms continued to rely on the combination of issuing common equity to and obtaining debt forgiveness from creditors to restructure or replace impaired debt.

*Impact of the Change in the Tax Law on Tax Attributes*

In this section, we examine whether the tax cost of using common equity increased as a result of the change in tax law. Using the current-law firm sample, we estimate what the PV of post-emergence NOL tax attributes would have been assuming the prior-law rules were in effect. We compare these amounts to the PV of actual post-emergence NOLs. All amounts are scaled by each firms' total assets in the year prior to entering into bankruptcy to remove any size effects that occurred during the bankruptcy process. We separate the analysis between the OC and NOC firms since the change in tax law impacts the NOL tax attributes of each sub-group differently.

Our initial results suggest that the change in tax law had a relatively small impact on NOL tax attribute levels. As shown in Table 2 (column 1), the application of the ownership change

and Weiss [1990] provide similar results by showing that creditors held 79.2% and 71.1% of the post-reorganization equity of firms that restructured using the traditional Chapter 11 bankruptcy process.

[19] Fifty OC firms were directly impacted by the change in tax law because they exchanged common equity with debt-holders. Three OC firms triggered an ownership change but were not impacted by the change in tax law because they issued common equity to third parties. All tests performed in this study on the OC firm sub-group include all 53 firms. This allows us to determine the impact of the change in tax law on the NOL tax benefit to all firms that trigger an ownership change in Chapter 11. All tests performed in this study were re-run using just the 50 OC firms directly impacted by the change in tax law with no change in any inferences being noted.

rule bankruptcy exception under the prior law significantly reduced the PV of NOL tax attributes of OC firms from 95.94% to 56.13% of pre-bankruptcy assets. In contrast, the incremental reduction in NOL tax attributes attributable to the change in tax law only reduced NOLs by 18.15% of pre-bankruptcy assets (from 56.93% to 37.98% of pre-bankruptcy assets). This reduction is not significant at the usual levels (one-tailed). Similarly, the six-percentage point incremental reduction (70.48% to 64.56% of pre-restructure assets) in NOL tax attributes for the NOC firms was also small. This is because only three firms in this group exchange some common equity to debt-holders for impaired debt and received minimal amounts of debt forgiveness.

We find, however, that the above analysis underestimates the overall impact that the change in tax law had on Chapter 11 filers because it does not take into consideration its effect on their other tax attributes. We take this factor into consideration by examining the individual effect that deferring COD income and the ownership change bankruptcy exception had on each firm's tax attributes. As shown in Table 3, we find that the change in tax law divided the OC firm set into three distinct groups. Consistent with Easton [1994], 13 OC firms (COD firms) incurred significant explicit tax costs attributable to the change in tax law because they recognized COD income in excess of their NOL tax attributes (column 1). To avoid current taxation on the COD income recognized (averaging $271 million per firm), they were forced to eliminate all of their NOL tax attributes (averaging $124 million or 61.8% of pre-bankruptcy assets). In addition to losing the tax advantage of triggering an ownership change in bankruptcy, they also lost future depreciation deductions because they were also required to reduce the balances of other tax attributes (primarily the adjusted bases of depreciable assets) by the amount of excess COD income recognized (averaging $147 million per firm, or 26.4% of pre-bankruptcy assets).

Second, in contrast to Betker [1995], we show that eighteen OC firms elected the attribute provision as a means to preserve NOLs (AR firms) despite the asset sale and financing restrictions it places on the firm in the post-bankruptcy period. As shown in Table 3, Column 4, AR firms entered Chapter 11 with high NOL attribute levels averaging 186.51% of pre-bankruptcy assets. While the COD income recognized (averaging 65.57%

of pre-bankruptcy assets) is comparable to the COD income recognized by COD firms, the AR firms, because of their large NOLs, were still able to retain NOL tax attributes averaging 120.94% of pre-bankruptcy assets. These firms also benefited from the reduced one-time NOL toll charge afforded to this provision under the current law to exit bankruptcy with NOL tax attributes averaging 95.45% of pre-bankruptcy assets, or $82 million per firm. Had AR firms elected the enhanced valuation provision, we estimate that they would have exited bankruptcy with NOLs averaging $37 million (in PV terms), or 21.10% of pre-bankruptcy assets. As a result, electing the attribute reduction over the enhanced valuation provision allowed these firms to preserve an additional $45 million in NOL tax attributes (or 74.40% of pre-bankruptcy assets). These mean differences (in dollars or percentages) are significant at the 0.01 level (one-tailed). In addition, we estimate that AR firms would have recognized NOL tax attribute levels of only $5 million or 2.90% of pre-bankruptcy assets, had they had reorganized in a workout. As a result, they were able to emerge from bankruptcy with additional NOL tax attributes averaging $77 million, or 92.6% of pre-restructure assets, by restructuring in bankruptcy, relative to a workout. These differences are significant at the 0.01 level of significance (one-tailed).

The remaining 22 OC firms continued to use the enhanced valuation provision to preserve NOLs (EV firms). Consistent with Betker [1995], had they elected the attribute reduction provision, most would have lost substantially all (or all) of their NOL tax attributes.[20] Similar to COD firms, EV firms are characterized by relatively lower levels of pre-bankruptcy NOL levels (57.4% of pre-restructure assets). However, they were able to retain significant tax benefits, averaging $33 million per firm or 12.7% of pre-bankruptcy assets, in part because they recognized significantly smaller amounts of COD income than AR or COD firms.

*Debt Restructure Characteristics*

In this section, we examine whether firms issued more debt to minimize the adverse impact of the change in tax law on NOL tax attributes. This is done by comparing the relative mix

[20] Three firms elected the enhanced valuation provision because their debt restructure method did not allow them to qualify for the attribute reduction provision.

of cash, securities (common equity or debt) and debt forgiveness given in consideration for impaired debt by current-law firms to similar percentages utilized by prior-law firms. All amounts are stated as a percentage of total debt restructured. A research finding that current law bankruptcy filers issued more debt in bankruptcy to reduce COD income levels is consistent with the prediction of Newton and Wertheim [1993]. On the other hand, results that indicate that bankrupt firms did not alter how they restructure their debt under the current law are consistent with the assertion of Betker [1995].

The results of the debt restructure mix comparisons are shown in Panel A of Table 4. We present results separately for EV, AR and COD firms since the previous test indicates that EV firms realized lower COD income levels that AR/COD firms. The results for current-law firms are presented in Panel A. Panel B includes the restructure statistics for the prior-law group. COD firms did not exist in the prior period since their loss of NOLs can be traced directly to the repeal of the stock-for-debt exception. The prediction of Newton and Wertheim [1993] that firms would utilize more debt in bankruptcy are supported only for the EV group. These firms exchanged significantly higher levels of new debt in reorganization (averaging 21.81% of impaired debt) than prior-law EV firms (averaging 11.16% of impaired debt). In addition, the percentage of new debt in the current-law EV firm reorganization package was significantly higher than the amount of debt issued by either current-law AR firms (averaging 11.51% of impaired debt) or COD firms (averaging 9.15% of impaired debt). Consistent with the results noted in the previous test, the higher issuance of EV firm debt was met by a commensurate decrease in the amount of debt forgiveness (averaging 34.85% of impaired debt). This percentage was significantly lower than comparable amounts realized by prior-law EV firms (averaging 46.32% of impaired debt), current law AR (averaging 52.03% of impaired debt) and COD firms (averaging 58.57% of impaired debt). On the other hand, the mix of cash, stock, debt and debt forgiveness offered by current-law AR firms for impaired debt did not differ from the packages of AR firms from the prior period or COD firms in the current period.[21] Finally, we show that NOC were largely unaffected

[21] COD firms did not exist in the prior period since their loss of NOLs can be traced directly to the repeal of the stock-for-debt exception.

by the change in tax law because they primarily used cash to pay down impaired debt or restructured the terms of existing debt contracts.

To understand why only EV firms issued more debt, we estimate their associated marginal tax benefit and financial reporting costs. We include in this analysis AR/COD firms but exclude NOC firms from consideration since they were largely unaffected by the change in tax law. For EV firms, we estimate what their post-emergence NOL, debt and pre-tax profitability levels would have been had they elected to maintain their debt usage at prior-period levels (approximately 11.16% of impaired debt). We then compare these estimated amounts to actual post-emergence levels for these variables. The results, as shown in Table 5, column 1, show that the reduction in the level of COD income due to increased debt utilization allowed EV firms to increase post-emergence NOL tax attributes (in PV terms) by 76.41%, from 10.6% to 18.7% of post-emergence assets. This benefit was realized despite an incremental increase of post-emergence debt loads of only 31.61% and reduction in post-bankruptcy profitability of 8.13%. These results are consistent with hypothesis H1A.** Increased debt utilization in Chapter 11 increased post-emergence debt ratios from 42% (based on our estimate of what post-emergence debt ratios would have been had EV firms maintained debt usage at prior period levels) to 56% of post-emergence assets. The "as-if" percentage is comparable to similar post-emergence debt ratios for prior-law EV firms and current-law AR and COD firms. In contrast, their actual post-emergence debt ratios are significantly higher (at the 0.01 level, two-tailed) than similar ratios for AR and COD firms. These results consistent with the concerns of Newton and Wertheim [1993] that the increased debt usage of firms in response to the change in tax law would force bankruptcy filers

** It is possible, however, that EV firms issued more debt not necessarily to preserve NOLs but rather because they had the debt capacity to do so. We test for this possibility by comparing EV firm post-bankruptcy debt levels to similar amounts for AR and COD firms. Assuming that EV firms maintained their debt usage at prior period levels, we estimate that they would have emerged from Chapter 11 with post-bankruptcy debt ratios averaging 42% of post-emergence total assets. This ratio is higher (though not significantly so) than similar ratios for AR firms (averaging 36% of total post-emergence total assets) and COD firms (averaging 28% of post-emergence total assets). This result does not support this alternative explanation for increased EV firm debt usage.

to emerge from bankruptcy with more debt in their capital structure.

In contrast, we find that AR and COD firms would not have benefited from issuing more debt under the current law. Assuming that AR firms issued more debt in bankruptcy equal to levels maintained by EV firms (approximately 21.81% of impaired debt), they would have only realized an 8% increase in their level of post-emergence NOLs while incurring an 80% increase in post-emergence debt as the relatively large NOL tax attribute balances result in relatively lower marginal tax benefits from issuing more debt. COD firms also would not have benefited from issuing more debt because only 4 of 13 firms would have preserved any NOLs tax attributes by increasing their debt usage. This is because COD recognized by the other 9 firms would still have exceeded pre-existing NOL tax attribute levels, even after the additional debt issuances. The small NOL tax savings would have come at the cost of a 94% increase in current debt levels and a doubling of their pre-tax losses. These results suggest that firms trade-off the tax benefits of preserving NOLs against the financial reporting costs of higher debt loads and reduced profitability.

*Prepackaged versus Traditional Chapter 11 Bankruptcies*

Prior research has suggested that taxes may play a role in encouraging firms to file a prepackaged Chapter 11 reorganization for two reasons (McConnell and Servais, 1993). First, prepaks know their debt restructure method (and available tax benefits) prior to filing for bankruptcy. Second, prepaks may represent a low-cost way of achieving these benefits because the length of time (and cost) that the firm is expected to stay in bankruptcy is less because most creditors have already agreed to the terms of the restructuring plan [Tashjian, Lease and McConnell, 1996]. Because of these claims, we next examine prepaks and traditional Chapter 11 firms separately to ensure that are results are not driven by one of the groups.

We find that no support for concerns that incentives for prepaks vs. other filers might lead to differing tax results. Instead, we find that prepaks and traditional chapter 11 firms recognized similar levels of COD. While prepaks recognized slightly higher COD income levels than traditional chapter 11 filers (53.5% vs. 42.5% of pre-restructure assets), the mean difference is not significant at the usual levels. In addition, the

relative composition of prepaks between EV, AR, COD and NOC firms is similar to the traditional Chapter 11 group. Of interest is that 8 of 23 prepaks were willing to restructure in Chapter 11 without receiving any tax related benefits. One prepak debt restructure plan did not require the triggering of an ownership change and seven prepaks recognized COD income in excess of pre-restructure NOLs. Of the remaining 15 firms, 8 elected the enhanced valuation exception while 7 firms chose the attribute reduction exception. As with the traditional chapter 11 group, both EV and AR prepaks preserved significant NOL levels upon emerging from bankruptcy, however, the primary benefit from triggering an ownership change in bankruptcy was attributable to AR firms. Finally, we show that both traditional Chapter 11 and prepak EV firms issued more debt in bankruptcy as compared to AR or COD firms in order to preserve the NOL tax attribute. As a result, it appears that firms that restructure using the traditional Chapter 11 bankruptcy process as well as those that use prepackaged bankruptcies value the tax benefits provided by the ownership change bankruptcy exception similarly.

**Conclusions**

This paper investigates how the repeal of the stock-for-debt exception how firms restructured while in Chapter 11. Consistent with claims made by Easton [1994)], we find that the change in tax law imposed significant explicit tax costs on bankruptcy filers. Despite these costs, we find that many of these firms altered their debt restructure method to preserve NOLs and reduce their cost of equity. We document that concerns raised by Newton and Wertheim (1993) are justified since almost half of our sample firms issued significant levels of debt while in Chapter 11. Additionally, approximately a third of these firms responded to the change in tax law to preserve NOLs by electing an alternative provision available under the ownership change rule bankruptcy exception that allows for a one-time reduction in NOL tax attributes. We also show that the remaining firms were precluded from changing their debt restructure method, despite the loss of all of their NOL tax attributes, because the financial reporting marginal costs of doing so exceeded any marginal tax benefits that might have been generated. Finally, we find that the impact of the repeal of the stock-for-debt exception on corporate bankruptcy

reorganizations was similar for firms that filed for prepackaged bankruptcies and firms that restructured using the traditional Chapter 11 process. We conclude that, in addition to non-tax factors, taxes appear to be an important consideration in how firms restructure while in Chapter 11.

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**Figure 1**

*Example: Impact of Change in Tax Law On NOL Tax Attributes*

| | Chapter 11 | | Workout |
|---|---|---|---|
| Description | Enhanced Valuation | Attribute Reduction | |
| **Panel A:** | | | |
| **Prior Law** | | | |
| Pre-BR NOLs | $10,000 | $10,000 | $10,000 |
| Less: COD Income Reduction | | | (5,000) |
| Net NOLs | 10,000 | 10,000 | 5,000 |
| Less: Ownership Change Restrictions: | | | (3,941) |
| Less: Ownership Change Bankruptcy Restrictions: | | | |
| Enhanced Valuation: | (4,703) | | |
| Attribute Reduction: | | (5,500) | |
| Post-BR NOLs | 5,297 | 4,500 | 1,059 |
| **Panel B:** | | | |
| **Current Law** | | | |
| Pre-BR NOLs | $10,000 | $10,000 | $10,000 |
| Less: COD Income Reduction | (5,000) | (5,000) | (5,000) |
| Net NOLs | 5,000 | 5,000 | 5,000 |
| Less: Ownership Change Restrictions: | | | (3,941) |
| Less: Ownership Change Bankruptcy Restrictions: | | | |
| Enhanced Valuation: | (1,320) | | |
| Attribute Reduction: | | (3,000) | (3,941) |
| Post-BR NOLs | 3,680 | 2,000 | 1,059 |

Pre-BR NOLs: Represents pre-bankruptcy NOL tax attributes.
COD Income Reduction: Represents reduction in NOL tax attributes attributable to the deferral of COD income.

| | |
|---|---|
| OC Change Restrictions | Represents the reduction in the PV of NOL tax attributes due to the application of the ownership change bankruptcy rule exception. |
| Enhanced Valuation | Represents reduction in the PV of NOLs assuming that the firm elects to preserve NOLs using the enhanced valuation provision. |
| Attribute Reduction | Represents reduction in the PV of NOLs assuming that the firm elects to preserve NOLs using the attribute reduction provision. |
| Post-BR NOLs | Represents the PV of post-emergence NOL tax attributes assuming an ownership change has been triggered. |
| Workout NOLs | Represents the PV of estimated NOL tax attributes assuming the firm had reorganized as a workout. |

**Table 1**

*Comparison of Financial, Tax and Restructure Profiles*

| Variable | Current-Law Firms[A] | Prior-Law Firms[A] |
|---|---|---|
| **Panel A: Pre-Filing Financial Profiles** | | |
| Assets | 221,461 | 202,367 |
| Sales | 194,226 | 212,275 |
| Current Ratio | 2.947 | 2.208 |
| PPE Ratio | 0.362 | 0.325 |
| Debt Ratio | 1.011 | 0.825 |
| ROA | -0.416 | -0.173** |
| NOL Ratio | 0.925 | 0.554 |
| **Panel B: Restructure Profiles** | | |
| Equity Ratio | 0.759 | 0.687 |
| COD Ratio: | 0.466 | 0.401 |

| | |
|---|---|
| ** | Indicates significance at the 0.05 level using a two-sided test. For Assets and Sales, the mean difference tests are performed using the natural log amounts. |
| A | Current-Law Firms reorganized in bankruptcy between 1995 and 2004. Sample size is 61 firms. Prior-Law Firms reorganized in bankruptcy between 1987 and 1994. Sample size is 44 firms. |
| Assets: | Total assets in the year prior to filing for bankruptcy. Amounts presented are median amounts. |
| Sales | Net sales in the year prior to filing for bankruptcy. Amounts presented are median amounts. |
| Current Ratio: | The mean of current assets divided by current liabilities (less the current portion of long-term debt) at the end of the year prior to filing for bankruptcy. |
| PPE Ratio | The mean of net property plant and equipment divided by total assets at the end of the year prior to filing for bankruptcy. |
| Debt Ratio | Mean of : Sum of long term debt plus the current portion of long-term debt divided by total assets at the end of the year prior to filing for bankruptcy. |
| ROA | The mean of net income (before extra-ordinary items and taxes) divided by average assets at the end of the year prior to filing for bankruptcy. |
| NOL Ratio | Mean of NOL tax attributes divided by total assets at the end of the year prior to filing for bankruptcy. |
| Equity Ratio | Percentage of common equity in newly reorganized firm held by debt-holders. |

| | |
|---|---|
| COD Ratio | COD income recognized scaled by total assets at the end of the year prior to filing for bankruptcy. |

**Table 2**

*Incremental Cost Associated With Change In Tax Law*

| Description | OC Firms[A] | NOC Firms[A] |
|---|---|---|
| Pre-BR NOLs[B] | 0.9594 | 0.7048 |
| *Prior Law Reduction*[B] | (0.3981) | (0.0000) |
| Prior-Law NOLs[B] | 0.5613** | 0.7048 |
| *Current Law Reduction*[B] | (0.1815) | (0.0592) |
| Post-BR NOLs[B] | 0.3798 | 0.6456 |

| | |
|---|---|
| ** | Mean difference between (1) Pre-BR NOLs vs. Old Law NOLs, or (2) Old Law NOLs vs. Post-BR NOLs is significant at the 0.5% level using a one-sided test. |
| A | OC firms are sample firms that triggered ownership changes. Sample size is 53 firms. NOC firms did not trigger an ownership change. Sample size is 8 firms. |
| B | All amounts are scaled by total assets in the year prior to filing for bankruptcy. |
| Pre-BR NOLs | Represents pre-bankruptcy NOL tax attributes. |
| Prior Law Reduction | Represents the reduction in the PV of NOL tax attributes under the prior law. |
| Prior Law NOLs | Represents the PV of post-bankruptcy NOL tax attributes under the prior law. |
| Current Law Reduction | Represents the reduction in the PV of NOL tax attributes attributable to the change in tax law. |
| Post-BR NOLs | Represents the PV of post-emergence NOL tax attributes under the current law. |

**Table 3**

*Analysis of COD Income and Ownership Change Rule Restrictions on NOLs*

| | OC Firms[A] | | | |
|---|---|---|---|---|
| Variable | EV Firms[A] | AR Firms[A] | COD Firms[A] | NOC Firms[A] |
| Pre-BR NOLs[B] | 0.5740 | 1.8651[1] | 0.3534[2] | 0.7048 |
| Less: COD Reduction[B] | (0.3564) | (0.6557)[1] | (0.6175)[1] | (0.0592) |
| Net NOLs[B] | 0.2176* | 1.2094***, 1 | 0.0000* | 0.6456 |
| Less: OC Rule Restrictions[B] | (0.0836) | (0.2548)[1] | (0.0000) | (0.0000) |
| Post-BR NOLs[B] | 0.1340 | 0.9545[1] | 0.0000[1] | 0.6456 |
| Workout NOLs[B] | 0.0070* | 0.0290* | 0.0000 | 0.6456 |

| | |
|---|---|
| ***,**,* | Mean differences between: (1) Pre-BR NOLs vs Net NOLs, (2) Net NOLs vs. Post-BR NOLs, or (3) Post-BR NOLs vs. Workout NOLs is significant at the 0.10, 0.05, or 0.01 levels, respectively, using a one-tailed test. |
| 1,2 | Mean difference between (1) EV and AR firms or (2) EV and COD firms is significant at the 0.01 and 0.05 levels of significance, respectively, using two-tailed tests. |

| | |
|---|---|
| A | OC firms are firms that triggered ownership changes (sample size is 53). The OC firm group is divided into three groups: EV firms elected the enhanced valuation exception (sample size is 22); AR firms elected the attribute reduction provision (sample size is 18); COD firms did not benefit from triggering an ownership change because their COD income exceeded pre-bankruptcy NOL tax attributes (sample size 13 firms). NOC firms are firms that did not trigger an ownership change (sample size is 8). |
| B | All amounts are scaled by total assets in the year prior to filing for bankruptcy. |
| Pre-BR NOLs | Represents pre-bankruptcy NOL tax attributes. |
| COD Reduction | Represents reduction in NOL tax attributes attributable to COD income recognition under the current law. |
| OC Reduction | Represents the reduction in the PV of NOL tax attributes due to the application of the ownership change bankruptcy rule exception. |
| Post-BR NOLs | Represents the PV of post-emergence NOL tax attributes. |
| Workout NOLs | Represents the PV of estimated NOL tax attributes assuming the firm had reorganized as a workout. |

**Table 4**

*Analysis of OC Firm Debt Restructure Method*

| | OC Firms | | | |
|---|---|---|---|---|
| | EV Firms[A] | AR Firms[A] | COD Firms[A] | NOC Firms |
| **Panel A: Current-Law Firms[B]** | | | | |
| Cash[C] | 9.96 | 7.95 | 4.34 | 29.03* |
| Common Equity[C] | 33.38 | 28.51 | 27.95 | 9.88* |
| Debt[C] | 21.81 | 11.51** | 9.14** | 47.06* |
| Debt Discharge[C] | 34.85 | 52.03** | 58.57** | 14.03* |
| **Panel B: Prior-Law Firms[B]** | | | | |
| Cash[C] | 7.73 | 13.26 | | 22.31 |
| Common Equity[C] | 34.79 | 28.60 | | 11.19 |
| Debt[C] | 11.16[z] | 9.15 | | 37.51 |
| Debt Discharge[C] | 46.32[z] | 48.99 | | 28.99 |

| | |
|---|---|
| ** | Mean difference between (1) EV and AR firms and (2) EV and COD firms and (3) EV firms and NOC firms is significant at the 0.05 level of significance using a two-tailed test. |
| z | Mean difference between Current Law and Prior-Law firm amounts is significant at the 0.05 level of significance (two-tailed test). |
| A | The OC firm group is divided into three groups: EV firms elected the enhanced valuation exception (sample size is 22 for current-law firms and 24 for prior-law firms); AR firms elected the attribute reduction provision (sample size is 18 for current-law firms and 8 for prior-law firms); COD firms did not benefit from triggering an ownership change because their COD income exceeded pre-restructure NOLs (sample size 13 for current-law firms). NOC firms are firms that did not trigger an ownership change (sample size is 8 for current law firms and 6 for prior-law firms). |
| B | Current-Law Firms reorganized in bankruptcy between 1995 and 2004. Sample size is 61 firms. Prior-Law Firms reorganized in bankruptcy between 1987 and 1994. Sample size is 44 firms. There is not a COD firm sub-group with the prior-law firms due to the application of the stock-for-debt exception. |

C Represents relative amount of cash /common equity/debt/debt forgiveness used to replace impaired debt. All amounts are stated as a percentage of the total debt discharged in bankruptcy.

**Table 5**

*Benefits and Costs of Issuing Additional Debt*

| | NOL[B] | DEBT[B] | ROA[B] |
|---|---|---|---|
| **Panel A: EV Firms[C]** | | | |
| As If: No Additional Debt Exchanged | 0.106 | 0.427 | -0.160 |
| Actual | 0.187*** | 0.562*** | -0.180 |
| Percent Increase (decrease) | 76.41% | 31.61% | (8.13%) |
| **Panel B: AR Firms[D]** | | | |
| Actual | 1.582 | 0.288 | -0.163 |
| As If: Issued More Debt | 1.717 | 0.518* | -0.179 |
| Percent Increase (decrease) | 8.53% | 79.82% | (9.81%) |
| **Panel C: COD Firms[D]** | | | |
| Actual | 0.000 | 0.369 | -0.030 |
| As If: Issued More Debt | 0.042 | 0.717* | -0.060 |
| Percent Change | N/A | 94.31% | (100.00%) |

***, * Mean difference between "Actual" and "As-if" amounts is significant at the 0.10, 0.01 level of significance (one-tailed).

A The OC firm group is divided into three groups: EV firms elected the enhanced valuation exception (sample size is 22); AR firms elected the attribute reduction provision (sample size is 18); COD firms did not benefit from triggering an ownership change because their COD income exceeded pre-restructure NOLs (sample size 13 firms).

B NOL represent the PV of post-emergence NOL tax attributes. DEBT is the sum of long-term debt plus the current portion of long-term debt. Both NOL and DEBT are scaled by total assets at the end of the year after each firm emerged from bankruptcy. ROA is the pre-tax return on average assets (before extra-ordinary items) in the first year after each firm emerged from bankruptcy.

C This analysis estimates the PV of post-emergence NOLs, DEBT and ROA assuming that each EV firm did not issue incrementally more debt to debtholders as compared to prior-law firms. These "as-if" estimates are then compared to actual amounts for NOLs, DEBT, and ROA

D This analysis estimates the PV of post-emergence NOLs, DEBT and ROA assuming that each AR and COD issued incrementally more debt to debtholders similar to EV firms. These "as-if" estimates are then compared to actual amounts for NOLs, DEBT, and ROA