

An Empirical Examination of the Effect of the Section 465 At-Risk Rules on Equipment Leasing Tax Shelters

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Abstract

Congress enacted the at-risk rules in the Tax Reform Act of 1976 to curb tax shelter abuses. It later added a recapture provision to the at-risk rules in the Revenue Act of 1978 designed to prevent taxpayers from temporarily increasing the amount at risk at year end. Tax shelter promoters have attempted to avoid the at-risk rules through questionable interpretations of the law. This study examines various interpretations of the at-risk rules and the impact of the recapture provision. It concludes that (1) the inclusion of debt assumed in the amount at risk significantly affects the tax benefits accruing to investors whereas the inclusion of the note payable in the amount at risk does not; and (2) the recapture provision applies in many cases to equipment leasing tax shelters and operates as intended to limit tax benefits to investors.

Introduction

Congress enacted the Section 465 at-risk rules in the Tax Reform Act of 1976 (TRA 76) to curb the abuse of taxpayers deducting losses from tax shelters in excess of their economic investment. These rules define an amount at risk which represents the upper limit on the deductibility of losses (Sec. 465(b)). The amount at risk includes the amount of money and the adjusted basis of other property contributed by the taxpayer to the activity plus amounts borrowed for which the taxpayer is personally liable. Any amounts protected against loss via nonrecourse financing, guarantees, or other similar arrangements do not increase the amount at risk. As a result, losses otherwise deductible may be currently disallowed and suspended until future years under the at-risk rules.

After the enactment of the at-risk rules, tax shelter promoters attempted to circumvent the at-risk rules through schemes which temporarily increase the amount at risk at year end. In an attempt to reduce this loophole in the law, Congress responded in the Revenue Act of 1978 (RA 78) by adding the Section 465(e) recapture provision to the at-risk rules. This provision requires that losses previously deducted be recaptured (taxed as income) up to the negative amount at risk existing at the end of the following tax year.

Subsequently, tax shelter promoters have tried to avoid the at-risk rules through complex legal arrangements and questionable interpretations of the law. Specifically, investors are required to assume a portion of the debt of the shelter in an effort to increase the amount at risk and maximize the amount of deductible losses. The legal form of this arrangement is to make the investor technically liable. However, in substance, it is highly unlikely that the investor will ever be called upon to pay the debt. The result is a conflict between the investor and the Internal Revenue Service (IRS) concerning the amount at risk. Various interpretations for the amount at risk are possible due to both the complexity and ambiguity of the at-risk rules.

The purposes of this study are: (1) to compare the present value of tax benefits to investors in private equipment leasing tax shelters under various interpretations of the at-risk rules and (2) to investigate the impact of the Section 465(e) recapture provision on tax benefits provided to investors.

The Tax Reform Act of 1986 (TRA 86) created the Sec. 469 passive activity loss limitation (PAL) rules which operate to limit losses from passive activities to

income from those activities. They further limit losses that would be deductible after application of the at-risk rules. The at-risk rules apply to limit the deductibility of losses before PAL (for tax years beginning on or after January 1, 1987). This study examines the impact of the at-risk rules alone on investors and does not purport to analyze the effect of both the at-risk rules and the PAL on investors. This is done for two reasons: (1) to do so would require knowledge of every individual investor's portfolio of passive investments and detailed tax situation; and (2) the tax shelters under study are pre-TRA 86 and are only bound by the at-risk rules.

Positions Regarding the Amount At Risk

In the equipment leasing tax shelters analyzed in this study, the investor pays part of the subscription price in cash and signs a recourse promissory note payable for the remainder. The note payable is due in annual installments over a number of years with interest at a market rate. In addition, the investor signs an assumption agreement for a pro-rata portion of the shelter's recourse debt and agrees to contribute further amounts equal to the debt assumed (if called upon to do so by the shelter). The assumption agreement states that the investor is personally liable for the portion of debt assumed.

A beneficial feature of these agreements to the investor is that, in form, the investor is personally liable on the debt while, in substance, the investor is only liable if the rental income received by the shelter is not sufficient to make payments on the debt. Given the high standing and credit rating of the typical lessees in these shelters (i.e., Fortune 500 companies), the potential for this contingency to materialize appears unlikely.

A major issue that must be addressed by investors in the shelters under study is the amount at risk. From the standpoint of the investors, the cash invested plus the amount of the note, plus the amount of debt assumed constitute the amount at risk on the date of subscription. The IRS takes a narrower view of the amount at risk. All cash contributed to the shelter is considered at risk under Section 465(b)(1)(A). However, the inclusion of the amount of the note payable and the shelter's recourse debt assumed in the amount at risk is subject to challenge.

There are four possible amounts at risk for the investor. These are identified as the Conservative, Fixed/Contingent, Literal, and Aggressive positions. The first possibility is identified as the "Conservative Position" since it is the one taken by the IRS. Under this position, only the cash paid on subscription is at risk. The amounts due on the promissory recourse

note payable are only deemed at risk when they are actually paid per Prop. Reg. Sec. 1.465-22. Similarly, amounts that may have to be paid under the assumption agreement are only at risk if and when they are paid based on various Proposed Regulations under Sec. 465. First, Prop. Reg. Sec. 1.465-22 could apply to limit increases in the amount at risk to the point of payment (as in the case of the note payable). Second, Prop. Reg. Sec. 1.465-1(b) could be invoked in arguing that the amount at risk will not be increased since assumption agreements were not prevalent in equipment leasing tax shelters prior to TRA 76. Therefore, the transaction is inconsistent with normal commercial practices and is, in essence, merely an attempt to avoid Section 465. A National Office Technical Advice Memorandum (Ltr. Rul. 8452001 (April 9, 1984)) has taken this position.

A final argument for not including the amount of debt assumed in the amount at risk is the contingent obligation theory of Prop. Reg. Sec. 1.465-6(c). Under this theory, the investor is not considered at risk for amounts representing a liability for which repayment is only required upon the occurrence of a contingency, if the likelihood of that contingency occurring is such that the taxpayer is effectively protected against loss. In two National Office Technical Advice Memoranda, the IRS has used this rationale to disallow the inclusion of a limited partner's assumed debt in the amount at risk (Ltr. Ruls. 8404012 (October 13, 1983) and 8421004 (January 25, 1984)). Each ruling held that a limited partner's obligation to contribute additional funds or to pay on the recourse debt assumed was indefinite, contingent, and based on a remote event. Given the high credit rating of the lessees in most of these shelters, it seems quite unlikely that they would default on the rental payments that are to be used to retire the shelter's recourse debt (1).

The second possibility is referred to as the "Fixed/Contingent Position." Under this position, the cash paid on subscription plus the amounts due on the promissory note payable are at risk at the time of subscription. Amounts that may have to be paid because of the recourse debt assumed are only deemed at risk if and when the investor is called upon to make payment. The logic for this position is that the promissory note payable should be included in the amount at risk immediately since it represents a fixed obligation for the remainder of the subscription price. On the other hand, the amount of shelter debt assumed by the investor represents a contingent obligation to contribute and should only be included in the amount at risk when this obligation becomes fixed. The Fixed/Contingent Position is an intermediate position between that of the IRS and the taxpayer.

The third possibility is the reverse of the second and

is identified as the "Literal Position." Under this position, the cash paid on subscription plus the amount of recourse debt assumed is considered at risk immediately. Amounts due on the promissory note payable are at risk when actually paid. Possible logic for this position is the literal interpretation of Prop. Reg. Secs. 1.465-22 and 1.465-24. Prop. Reg. Sec. 1.465-22 specifically disallows the amount of a note payable to increase the amount at risk until actual contributions under the note are made to the activity. On the other hand, Prop. Reg. Sec. 1.465-24 allows amounts assumed to be included in the amount at risk since the investor is personally liable under state law.

The fourth possibility is that all amounts are at risk at the time of subscription (i.e., the cash paid, plus the face amount of the note, plus the amount of debt assumed). This is the position taken by tax shelter promoters and their legal counsel based on Prop. Reg. Sec. 1.465-24 and the investor's personal liability under state law for both the note payable and the debt assumed. This possibility is referred to as the "Aggressive Position." See Figure I for a comparison of the amounts at risk under the four at-risk positions.

Figure 1
Comparison of Amounts At Risk Under
the Four At-Risk Positions

	Conserv	Fixed/Cont	Literal	Aggressive
Cash	X		X	X
Note Payable		X		X
Debt Assumed			X	X

Note: X signifies that an item is included in the amount at risk under the respective position (i.e., Conservative, Fixed/Contingent, Literal, or Aggressive).

Research Questions

The above discussion leads to the first question of research interest. To what extent does the amount of losses deductible by tax shelter investors differ under the four positions regarding the amount at risk? An empirical comparison of the present value of tax benefits to investors under each position is made.

A second question of research interest relates to the Section 465(e) recapture provision added by RA 78. This provision requires a taxpayer to recognize income at the end of subsequent years up to the amount of losses previously taken if the amount at risk is reduced below zero. This may occur, for example, because of a change in the status of debt from recourse to nonrecourse, cash distributions, or the payment by the shelter of debt for which the taxpayer is personally liable (Prop. Reg. Sec. 1.465-24(b)(2)). The second research question is: what is the effect of the recapture provision on the present value of tax benefits accruing to investors under the various positions regarding the

amount at risk?

Research Methods

The research methodology of this study involves the collection of data from tax shelter prospectuses, the modeling of the tax provisions under study, the manipulation of the data via the tax models to obtain results, and the statistical analysis of the results to answer the research questions. Each of these aspects is discussed below.

Sample Selection Procedures

This study employs data from private equipment leasing tax shelter prospectuses. This source was chosen for use for the following reasons: (1) private equipment leasing tax shelters are subject to the at-risk rules since they generally provide write-off ratios in excess of one-to-one; and (2) the prospectuses of private (as opposed to public) tax shelters contain detailed projected (ex ante) information for all the key variables in this study (2).

Private placement prospectuses are not readily available to the general public. In addition, there is no complete listing of private tax shelters from which to select a random sample. This results in a selection problem that can only be overcome through the cooperation of tax shelter professionals. In this study, equipment leasing tax shelter sponsors are chosen at random and asked to send recent prospectuses of such shelters. The listing used in the selection process is from *The Tax Shelter Blue Book* (Ober, 1984). According to tax shelter professionals, this publication is the most comprehensive listing of its kind in the tax shelter industry. There is no reason to believe that those included in this publication are unrepresentative of the population of tax shelter professionals.

Of the sponsors selected, 77 percent responded. A total of 34 prospectuses were received from these sponsors. Thirty-one prospectuses were usable. Three prospectuses were not usable since the write-off ratio over time did not exceed one-to-one. To address the question of nonresponse bias, phone calls were made to those sponsors who would not participate in the study. The reason given for nonresponse was that the information contained in the private prospectuses was privileged and that it is against company policy to send prospectuses to those outside the private group of purchasers for whom they were intended. From discussions with the nonresponding sponsors, there is no reason to believe that their tax shelters are different from those of responding sponsors. Thus, those prospectuses received appear to be representative of the population.

Tax Models

To perform the analysis necessary to answer the research questions discussed above, computer models for all the tax provisions studied are constructed. Two tax models are constructed. Model 1 is the model of the at-risk rules. It includes four variations, each corresponding to one of the positions for the amount at risk. Model 1 is needed to analyze all of the research questions in this study. Model 2 is the model of the at-risk rules excluding the recapture provision. It is needed to examine the second research question. This model also contains four variations, one for each of the positions regarding the amount at risk.

The models are constructed so that data from tax shelter prospectuses can be processed to obtain results expressed in terms of the present value of tax benefits to an investor. Results are obtained from each model for each tax shelter. To determine the present value of tax benefits, each model performs three steps: (1) computes the amount of deductible loss to an investor in each year of the shelter under the appropriate tax provision; (2) multiplies the amount of deductible loss each year by a 50 percent marginal tax rate to calculate the tax benefits from the shelter each year; and (3) discounts each year's tax benefits back at an appropriate discount rate to obtain the present value of tax benefits (3).

The discount rate used in this study is based on the Adjusted Present Value rule (APV) in finance theory (Myers, 1974). Under this rule, the tax shelter's cost of borrowing is deemed to be the appropriate discount rate. It is obtained from each shelter's prospectus.

Statistical Design For the First Research Question

The first research question requires comparison of the present value of tax benefits under the four at-risk positions. This results in four treatments for comparison and a total of 6 comparisons between treatments. The exploratory nature of this study necessitates making multiple pairwise comparisons rather than a limited number of planned comparisons. If only planned comparisons were made, the number of them would have to be severely limited to maintain control over the experimentwise error rate (EWER).

Given the need for many comparisons and a conservative view toward controlling EWER, two alternative tests are available: (1) the Scheffe' Method of post hoc comparisons; and (2) the F Method of pairwise comparisons (Lindman, 1985). Both allow the comparison of an unlimited number of treatment means while maintaining an EWER of alpha. However, the F Method using the Ryan/Welsch adjustments to the alpha level is more powerful than Scheffe' (Einot and

Gabriel, 1975 and Ramsey, 1978). The added power is achieved since the Scheffe' Method only compares two means directly while the F Method also includes any means falling between the two being compared. Given the increased power of the test and the same degree of control over EWER, the F Method is used in this study.

Statistical Design for the Second Research Question

The second research question requires comparison of the present value of tax benefits to investors under the at-risk rules including the recapture provision to those excluding the recapture provision. This is tested separately as a planned comparison.

The null hypothesis is that the present value of tax benefits to investors under the at-risk rules including the recapture provision is equal to the present value of tax benefits excluding such provision. Under this hypothesis, the results from the model of the at-risk rules for each position regarding the amount at risk are compared to those from the model of the at-risk rules under the corresponding position excluding the recapture provision. For example, the results for the model of the at-risk rules under the Conservative Position are compared to those under the model for the Conservative Position excluding the recapture provision. To statistically analyze the results of the tax models for this hypothesis, a matched-pairs t-test is used. This test is appropriate since the observations are not independent (Harnett, 1982).

Results Under the F Method of Pairwise Comparisons

Table 1 presents the statistical results under the F Method of pairwise comparisons. It indicates whether the results for the hypothesis of a given comparison are significant. The means obtained for the results under the models fell in the following order from smallest to largest: Conservative Position, Fixed/Contingent Position, Literal Position, and Aggressive Position. This order is identical to that expected a priori. One unanticipated finding is the identical results under the Literal and Aggressive Positions. For all the shelters under study, the early inclusion of the amount of debt assumed in the amount at risk under both positions causes the timing of the inclusion of the note payable in the amount at risk to be immaterial.

Results of Specific Hypotheses

Hypothesis 1 is a comparison between extremes. It compares the Conservative and the Aggressive Positions under the at-risk rules. As expected, there is a significant difference due to the inclusion of both the note payable and the debt assumed in the amount at risk at the time of subscription. Hypothesis 2 compares

the Conservative and Literal Positions under the at-risk rules. A significant difference exists due to the inclusion of the debt assumed in the amount at risk irrespective of the note payable. Hypothesis 3 compares the Fixed/Contingent and Aggressive Positions under the at-risk rules. Again, a significant difference exists due to the inclusion of the debt assumed in the amount at risk. However, this difference exists in the context of moving from the Fixed/Contingent to the Aggressive Position rather than from the Conservative to the Literal Position. The results of hypotheses 1, 2, and 3 indicate that there is a significant effect due to the inclusion of the debt assumed in the amount at-risk whether alone or in combination with the note payable.

Table 1
F Method Comparisons and Results

Ho #	Positions Compared	F Value	P Value
1	Conservative v. Aggressive	71.82	<.001
2	Conservative v. Literal	57.77	<.001
3	Fixed/Contingent v. Aggressive	60.96	<.001
4	Conservative v. Fixed/Contingent	2.51*	.085
5	Fixed/Contingent v. Literal	63.18	<.001
6	Literal v. Aggressive	.0000*	1.000

Note: all results are significant at less than the .001 level except those indicated by an asterisk (*).

Hypotheses 4 and 6 deal with the effect of including the not payable in the amount at risk immediately versus as payments are made. Hypothesis 4 compares the Conservative and Fixed/Contingent Positions whereas hypothesis 6 compares the Literal and Aggressive Positions. The results under both hypotheses are not significant. This shows that the timing of the note payable in the amount at risk is immaterial irrespective of the treatment of the amount of debt assumed for at-risk purposes. This result occurs since the note payable is relatively small in amount compared to the debt assumed.

Hypothesis 5 is the final comparison of at-risk positions. It compares the Fixed/Contingent and Literal Positions. The significant difference for the results under this hypothesis shows that the inclusion of the debt assumed in the amount at risk has a greater effect on an investor than the inclusion of the note payable.

Matched-Pairs T-Tests

Table 2 sets forth the statistical results of the matched-pairs t-tests analyzing the effect of adding the recapture provision to the at-risk rules. The recapture provision has a significant effect on the present value of tax benefits accruing to investors under each position regarding the amount at risk.

Descriptive Analysis

In addition to statistical analysis, a descriptive analysis

of the results of this study provides additional insights. The focus of this analysis is the effect of the tax provisions on the average equipment leasing tax shelter investor. Table 3 presents the descriptive statistics for the F Method comparisons including average results, measures of variability, and average absolute and average percentage decreases in tax benefits from that expected by tax shelter investors (the Literal/Aggressive Positions result). The descriptive analysis shows that the average investor should expect a decrease in tax benefits of between \$18,000 and \$21,700 or between 30 and 37 percent under the Conservative and Fixed/Contingent Positions.

Table 2
Matched-Pairs T-Tests Results
Effect of Recapture Provision

At-risk position	t Value	P Value
Conservative	6.96	<.001
Fixed/Contingent	7.00	<.001
Literal & Aggressive	8.01	<.001

Note: All results are significant at less than the .001 level.

Table 3
Descriptive Analysis
F Method Comparisons

	Conservative	Fixed/Contingent	Literal/Aggressive
Average	\$37,683	\$41,350	\$59,401
Std. Dev.	14,547	16,592	27,372
Coef. of Var.	39%	40%	46%
Absolute Decr.*	21,719	18,052	-0-
% Decrease*	37%	30%	0%

* shows decrease from the Literal/Aggressive result.

Table 4 presents the descriptive statistics for the comparisons reflecting the effect of the recapture provision. The average absolute and average percentage decreases in tax benefits due to the recapture provision are shown for all at-risk positions. The descriptive analysis shows that the recapture provision causes an average decrease in tax benefits to an investor of between \$1,863 and \$2,023 or between 3.1 and 4.7 percent when it applies.

Table 4
Descriptive Analysis
Effect of the Recapture Provision

	Conservative	Fixed/Contingent	Literal/Aggressive
Avg. Decr.*	\$1,863	\$2,023	\$1,886
Avg. % Decr.*	4.7%	4.7%	3.1%

* average absolute or percentage decrease due to the recapture provision.

Conclusions

The results of this study indicate that there is a major difference between the tax benefits expected by investors in equipment leasing tax shelters and those the IRS wishes to allow investors. This difference is mainly attributable to the allowance/disallowance of the debt assumed in the amount at risk. The timing of the inclusion of the subscription note payable in the amount at risk does not significantly affect the amount of tax benefits to investors.

In addition, the results indicate that the recapture provision added by RA 78 applies in many equipment leasing tax shelters and operates as intended to limit tax benefits to investors. If the tax returns of investors in the type of shelters under study do not reflect recapture of previously deducted losses, it may mean that return preparers are not complying with the law. The IRS should consider examining such returns.

Limitations of the Study

There are several limitations of this study. First, the results are based on the tax laws and the structure of equipment leasing tax shelters in effect during the period under study (1982-1984). They are interpretable only in this context. Tax shelter promoters may utilize different shelter structures under other sets of tax laws. As a result, the effect of any TRA 86 changes to the tax laws are not analyzed here (4). Second, the results are based on projected data from equipment leasing tax shelter prospectuses. This data reflects the expected outcomes from the shelter under various assumptions. To the extent that projected outcomes from the shelters under study differ from actual outcomes, the results might differ. Finally, there is the potential for bias in the results due to the sampling procedure. Since there is no listing of equipment leasing tax shelters from which to sample, sponsors were selected randomly from a listing and asked to send prospectuses of recent shelters. A possibility for bias exists since sponsors had discretion regarding which prospectuses they chose to send. If those prospectuses which were not sent (if any) differ materially from those received, bias is present.

Suggestions For Future Research

A logical extension of this research is to examine the effect of both the at-risk rules and the passive activity loss (PAL) limitation rules on investors after TRA 86. This could be done for tax shelters existing at the time of the enactment of the law. Future research could also focus on the effect of the PAL rules on investment in income-producing limited partnerships

subsequent to TRA 86 whose passive income is used to offset losses generated by pre-TRA 86 tax shelters. 20

Endnotes

1. In *Pritchett v. Commissioner* (85 T.C. No. 35 (1985)), a limited partner's obligation to contribute additional amounts to cover partnership recourse notes was held to be a contingent obligation that does not increase the amount at risk until the limited partner is actually called upon to make payments. This controversial decision in which seven Tax Court judges dissented was appealed to the Ninth Circuit Court of Appeals where it was reversed. (87-2 USTC 9517 (CA 9, 1987)). The court held that the limited partners had the ultimate responsibility for the debt and were at risk. In the court's view, the liability was not contingent.
2. The data taken from the tax shelter prospectuses included the following: type of equipment leased, month equipment was placed in service, shelter's cost of borrowing, cash paid by the investor, amount of subscription notes payable over time, amount of debt assumed, reductions in debt assumed over time, taxable income/loss each year, depreciation each year, tax preference depreciation each year, and cash distributions to the investor over time.
3. The 50 percent tax rate is used for two reasons. First, from a practical point of view, only persons in the 50 percent tax bracket are able to meet the stringent requirements as "accredited investors" under the Security and Exchange Commission's Regulation D for the period under study (1982-84). For example, these investors must represent that they have gross income of at least \$200,000 per year for a number of years or net worth greater than \$1 million. In the shelters under study, only accredited investors are eligible to invest. Second, the prospectuses generally recommend that persons investing in the tax shelters be in the 50% tax bracket, and the projections are based on this assumption.
4. The TRA 86 addition of the passive activity loss limitation (PAL) rules does not affect this study for two reasons. First, this study is limited to those tax laws and tax shelter structures in effect during the period under study (1982-84). In general, Sec. 469 applies to tax years beginning on or after January 1, 1987. Second, the new law states that the at-risk rules are to apply to limit the deductibility of losses before the application of the PAL rules. Therefore, even if Sec. 469 were in effect during the period under study, this analysis would still be valid since the PAL rules apply after the at-risk rules are applied.

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