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COMMENT

TAX POLICY AND EQUIPMENT LEASING AFTER TEFRA

Alvin C. Warren, Jr.* and Alan J. Auerbach**

The Tax Equity and Fiscal Responsibility Act of 1982 substantially modified the "safe harbor" leasing provisions enacted by the Economic Recovery Tax Act of 1981. In this Comment, Professors Warren and Auerbach argue that the modifications did not remedy the defects they identified in an earlier Article and that a new category of "finance leases" may prove to be nearly as valuable for some taxpayers as were safe harbor leases before the 1982 changes.

In the June 1982 issue of the Harvard Law Review, we criticized the safe harbor leasing provisions added to the Internal Revenue Code by the Economic Recovery Tax Act of 1981.1 In August, Congress passed the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA),2 which substantially modified those provisions and mandated their repeal after 1983.3 This Comment briefly reviews the TEFRA changes to determine whether they affect our policy recommendations regarding tax-oriented equipment leasing.

We reached three principal conclusions in our earlier Article: (1) given the combined effect of the Accelerated Cost Recovery System (ACRS) enacted in 1981, the Investment Tax Credit (ITC), and the interest deduction, considerations of competitive neutrality argued for a mechanism to make similar benefits available to companies that lacked substantial current taxable income or tax liability;4 (2) the mechanism enacted in 1981 — safe harbor leasing — did not implement any of several possible concepts of competitive neutrality;5 and (3) by

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4 Warren & Auerbach, supra note 1, at 1758-62.
5 Id. at 1762-72, 1773-74, 1785-86.
transferring tax benefits through the fiction of leasing, the safe harbor provisions created legal issues that would not arise under a more explicit program of transferability or refundability.6

I. THE NEW STATUTORY PROVISIONS

TEFRA made three fundamental changes in the capital recovery and leasing provisions of the Internal Revenue Code. First, the 1982 legislation repealed the further acceleration of ACRS deductions scheduled to go into effect after 1984, and required taxpayers to reduce the basis of depreciable assets by one-half of the amount of the ITC.7 The rationale offered for these related modifications was that the combined value of ACRS deductions and the ITC should not exceed the value of currently deducting the cost of an asset (often called “expensing”), because taxpayers would make otherwise uneconomic investments to obtain the benefits of such an excess.8 Expensing the cost of equipment is roughly equivalent to exempting from taxation the income produced by the equipment;9 the new provisions were intended to provide investment incentives “comparable to those in a system without an income tax.”10

Second, TEFRA reduced the tax benefits that could be transferred through safe harbor leasing. Limitations were imposed on both the amount of tax liability that lessors can eliminate11 and the amount of a lessee’s property that can qualify for the safe harbor.12 The range of terms permitted in

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6 Id. at 1772-78.
9 See Warren & Auerbach, supra note 1, at 1755 & n.16.
10 S. Rep. No. 494, supra note 8, at 123, reprinted in 1982 U.S. CODE CONG. & AD. NEWS at 888. There was no House bill containing revenue provisions, and, accordingly, no report of the House Committee on Ways and Means with regard to TEFRA. A Treasury Department analysis of effective tax rates after TEFRA for various industries and categories of assets indicates that TEFRA successfully introduced effective tax rates approaching zero for equipment with ACRS class lives of three and five years. See Treasury Interprets Its Effective Tax Rate Tables, 17 TAX NOTES 779, 782 (1982).
11 See I.R.C. § 168(i)(1)(A) (West Supp. 1983) (lessor may not reduce total tax liability by more than 50%); id. § 168(i)(4) (prohibiting carryback of leasing-generated credits and deductions).
12 See id. § 168(f)(8)(D)(ii) (only 45% of a lessee’s “qualified base property” may qualify as “safe harbor lease property”).
qualifying sales and leases was also restricted, and the value of deductions and credits available for leased property was reduced. Certain types of assets, such as “public utility property,” were excluded from safe harbor leasing entirely. These provisions, which are subject to elaborate transitional rules, were enacted in response to several widely publicized cases of safe harbor leasing that were considered abusive. The Senate Finance Committee report states that the changes were intended to prevent taxpayers from avoiding “their equitable share of tax” by increasing the value of tax benefits not related to investment in equipment, by completely eliminating their tax liability, or by generating tax refunds through the carryback of purchased tax benefits.

Third, safe harbor leasing was repealed for property leased after December 31, 1983, and was replaced by a new stat-

13 See id. § 168(f)(8)(B)(iii) (limiting the term of the lease to the greater of 120% of the existing class life of the property or the applicable recovery period); id. § 168(i)(5) (limiting the interest rate on sales in sale-leaseback transactions to the rate payable on federal income tax underpayments and overpayments).

14 See id. § 168(i)(2) (requiring that depreciation deductions be taken under a schedule less accelerated than that permitted under ACRS); id. § 168(i)(3) (requiring that the ITC be taken over five years).

15 See id. § 168(f)(8)(D)(iv)(II). Also excluded are certain assets used by foreign taxpayers, tax-exempt organizations, and related parties. Id. § 168(f)(8)(B)(i), (D)(iv).

16 TEFRA also enacted special rules for the computation of percentage depletion for safe harbor leases. See id. § 168(f)(6). Not all the changes made by TEFRA reduced the value of safe harbor leases. The 1982 legislation liberalized the “at risk” requirements for some closely held lessors, see id. § 168(f)(8)(J), and authorized certain “ITC strip” leases entered into before October 20, 1981, see TEFRA, Pub. L. No. 97-248, § 208(c), 1982 U.S. CODE CONG. & AD. NEWS (96 Stat.) 324, 439. Strip leases — which transfer the ITC, but not ACRS deductions — are discussed in Warren & Auerbach, supra note 1, at 1767.

17 See, e.g., I.R.C. § 168 note (West Supp. 1983) (Effective Date of 1982 Amendments [TEFRA § 208(d)(3)(D), (F)]) (providing exceptions to the new limitations for commercial passenger aircraft and property used in the manufacture of steel if either is placed in service before 1984). See generally id. (Effective Date of 1982 Amendments [TEFRA § 208(d)(3)(A)]) (general transition rules).


utory category, "finance leases," effective in 1984. The availability of finance leases, like that of safe harbor leases, generally is limited to property that qualifies for the investment tax credit and to lessors with corporate status. Certain property excluded from the safe harbor, such as "public utility property," is also ineligible for finance lease treatment, but most of the other TEFRA restrictions on safe harbor leases are applicable to finance leases only until 1985 or 1986.

A finance lease is basically an arrangement that is characterized as a lease by the parties and that would be treated as a lease for tax purposes but for the presence of either or both of the following factors: (a) the lessee holds an option to purchase the property at the end of the lease for a fixed price equal to ten percent or more of the initial cost of the property, or (b) the property is usable only by the lessee.

The statutory mandate to ignore these factors is significant, because "leveraged leases," which were used to transfer tax benefits before enactment of the safe harbor leasing provisions in 1981, were treated as leases for tax purposes only if the lessor was the "true owner" of the leased property under a test...
of economic substance that considered all the rights and obligations of the parties. Under its view of that test, the Internal Revenue Service would not grant advance rulings that leveraged lease transactions were leases for tax purposes, if the lessee had an option to purchase the property at the expiration of the lease for other than fair market value or if the transactions involved "limited use" property. Essentially, these restrictions required the lessor to retain whatever interest remained in the property at the end of the lease (the "residual interest") and precluded favorable rulings on leases of property for which there was no postlease market other than the lessee.

Because finance leases were a creation of the Conference Committee, there was no statement by the Senate Finance Committee of the reasons for deviating from the pre-1981 test with respect to fixed price options and limited use property. Nor was any rationale offered in the Conference Committee report.

II. Evaluation of the New Provisions

In our earlier Article, we suggested that some form of refundability or transferability of ACRS deductions and the ITC was necessary to ensure competitive neutrality among "profitable," "loss," and "start-up" corporations. If the benefit of the interest deduction is disregarded, TEFRA has substantially reduced the need for either refundability or transferability by limiting the combined value of ACRS deductions and the ITC to that of expensing; as the Senate Finance Committee report suggests, expensing is roughly equivalent to an effective tax rate of zero. A company with no expectation of tax liability in the foreseeable future (a "loss company") would be in a position comparable to that of a company that is able to

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30 Rev. Proc. 76-30, 1976-2 C.B. 647 (defining "limited use" property as property for which the only potential lessee or buyer at end of lease term is current lessee).
31 The Senate bill originally provided that, for leases entered into after 1984, fixed price purchase options in excess of 10% of the cost of the equipment would not be taken into account in the determination of whether a transaction was a lease under the pre-1981 rules. See S. Rep. No. 494, supra note 8, at 139, reprinted in 1982 U.S. CODE CONG. & AD. NEWS at 903. The Senate Finance Committee report on this bill provided no reason for proposing this departure from the pre-1981 standard.
33 See supra p. 1581 & note 8.
take current advantage of effective expensing (a "profitable company"), because income from qualifying investments by both types of companies would be effectively exempt. Only "start-up" firms, which cannot take current advantage of ACRS and the ITC but which expect to have taxable income in the future, might have a claim for special treatment that would permit them to obtain the present value of expensing.

TEFRA did not, however, deny interest deductions to firms that benefit from effective expensing, and thus did not eliminate the possibility of substantial negative marginal tax rates on debt-financed investments in equipment by profitable companies. Given that result for profitable companies, the reasons of competitive neutrality that led us to conclude that refundability or transferability was justified for both loss and start-up companies before the 1982 legislation remain convincing today. Similarly, the argument that ACRS and the ITC should be regarded not as a tax exemption, but as an investment subsidy administered through the tax system, continues to suggest that the benefits of these provisions should not be limited to companies with tax liabilities if the object is to make a subsidy available to all companies on a neutral basis.

Our earlier Article compared the payments received by loss companies for transferring tax benefits as lessees under safe harbor leases with the payments necessary to accomplish two versions of competitive neutrality: equal capital costs and equal

34 "Loss," "start-up," and "profitable" companies are more fully defined in Warren & Auerbach, supra note 1, at 1758–61.

35 See id. at 1759. I.R.C. § 46(b) (1976 & Supp. V 1981) and I.R.C. § 172(b) (Supp. V 1981) permit ITC and loss carrybacks for three years and carryforwards for 15 years; but because their effect is deferred, the carryforwards cannot yield the same benefit as a credit or loss deduction taken by a profitable company against current tax liability or taxable income.

36 See Warren & Auerbach, supra note 1, at 1757 & nn.21–22. Although interest deductibility would be inappropriate under a tax system that permitted expensing of all investments, see id. at 1757 n.21, the deduction is arguably appropriate under an income tax that permits effective expensing of only certain assets. Full deductibility for interest incurred to purchase assets producing explicitly or effectively exempt income could be justified on the grounds that limiting the interest deduction would discriminate against taxpayers who borrow to invest in exempt assets, in favor of those who dispose of taxable assets to make the same investment. See Klein, Borrowing to Finance Tax-Favored Investments, 1962 Wis. L. Rev. 608, 609–10. A limitation on the deductibility of interest incurred to acquire effectively exempt income would also be a means of distinguishing interest incurred to acquire fully taxable income. Cf. I.R.C. § 163(d) (1976) (limiting deduction for interest on investment indebtedness); id. § 265 (1976 & Supp. V 1981) (denying deductions for interest on loans used to generate tax-exempt income).

37 See Warren & Auerbach, supra note 1, at 1756–62.
subsidies. Under the first version, the goal of transferability would be to leave loss and profitable companies in a position of competitive equality by equalizing their after-tax costs of capital for investments in identical assets. Under the second version of competitive neutrality, a loss company should receive an amount equal to the excess of the present value of tax reductions resulting from ACRS deductions and the ITC over the present value of tax reductions that would result from deductions for "economic depreciation," the actual decline in the value of the asset. This second goal would not put a loss company in the same after-tax position as a profitable company, which can deduct interest payments, but both companies would receive equal dollar benefits from ACRS and the ITC. In an analysis of representative examples, we concluded that payments received under safe harbor leasing would be too small to accomplish the first version of competitive neutrality, but too large to accomplish the second.

The Appendix to this Comment re-estimates the payments necessary to accomplish both versions of competitive neutrality after the 1982 legislation, as well as the payments that will be made in our examples under revised safe harbor and finance leases. The estimated values of those payments are shown in Table I along with the results under the original safe harbor provisions.

A. Safe Harbor Leases

As indicated by Table I, TEFRA reduced, for our representative leases, both the amount by which the value of ACRS and the ITC exceeds that of economic depreciation, and the benefits of safe harbor leasing. The 1982 legislation is, in

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38 See id. at 1768–71, 1781–86 (discussing Tables IV, V, and VII). We also briefly discussed a third version of competitive neutrality — equalizing the subsidy provided by ACRS and the ITC in excess of that provided by the pre-1981 ITC and depreciation deductions. See id. at 1771 (discussing Table VI).

39 These results assume that firms financed new investments with debt at the margin. For results assuming equity finance, see id. at 1783–86 and Appendix, infra pp. 1590–92. Restrictions that depend on the tax characteristics of the lessor or lessee, such as the amount of other property subject to safe harbor leases, are not taken into account in the examples. The results for five-year leases under TEFRA are shown in Table I for comparative purposes, even though such short-term leases are no longer feasible. Because ACRS deductions must be taken over eight years, see I.R.C. § 168(i)(2) (West Supp. 1983), a five-year lease term would leave the parties unable to take full advantage of the transfer of tax benefits.

40 Compare lines 3 and 7 of Table I.

41 Compare lines 1 and 4 of Table I.
some cases, considerably more successful than was its predecessor in limiting the amount transferred under safe harbor leases to the excess of the value of ACRS deductions and the ITC over the value of economic depreciation. But like the 1981 legislation, TEFRA does not systematically implement this or any of the other concepts of competitive neutrality that we discussed in our earlier Article. Revised safe harbor leasing also continues to accomplish transferability of tax benefits through the fiction of leasing and thus burdens the transfer with the troublesome legal issues that result from maintenance of the fiction.

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42 Compare in Table I, for ten-year leases, the difference between lines 1 and 3 with the difference between lines 4 and 7.

43 See Warren & Auerbach, supra note 1, at 1772–78.
B. Finance Leases

The effects of finance leasing, the legislative successor to safe harbor leasing, are more difficult to predict at this time, in part because it is unclear how the new statutory provisions will be integrated with the pre-1981 tests for economic substance. The statute provides, for example, that a lessee may hold an option to purchase the leased property at the end of the lease as long as the option price is at least ten percent of the original cost,\(^44\) whereas the Internal Revenue Service's pre-1981 ruling guidelines on leveraged leases required lessors to retain a residual interest in the property worth at least twenty percent of the original cost.\(^45\) On one hand, it would seem inconsistent both to require the lessor to retain a residual interest worth twenty percent of the initial cost and also to permit the lessor to sell that interest to the lessee for only ten percent of the initial cost. On the other hand, the Conference Committee's report suggests that, except for the legislative provisions regarding limited use property and lessee purchase options, the pre-1981 tests of economic substance are to be retained for finance leases, a result that might require application of both the ten- and twenty-percent tests, even if these tests are otherwise inconsistent.\(^46\) Although the Treasury is reviewing its position on leasing in light of TEFRA, it has not as yet announced how many of the pre-1981 guidelines, if any, will survive the 1982 legislation.

Despite these uncertainties, it is necessary to estimate the results under the new finance lease provisions if they are to be compared with the benefits of safe harbor leasing. The Appendix calculates the value of the various transfers under finance leases in our representative examples after the new provisions become fully effective in 1985.\(^47\) We assume that the lessee has a ten-percent fixed-price option to purchase the property at the end of the lease term, as permitted by the 1982 legislation, but that the lease must otherwise fulfill the requirements of economic substance in the Internal Revenue Service's

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\(^47\) During the phase-in period, finance leases will be subject to some of the new restrictions on safe harbor leases. See sources cited supra note 25.
pre-1981 guidelines for favorable rulings on leveraged leases. As shown in Table I, finance leases under those assumptions will be nearly as valuable in our examples as were safe harbor leases before TEFRA. These results, however, must be considered very tentative, because a number of factors, such as interest and inflation rates, cannot be predicted with assurance at the present time. Subject to that limitation and ignoring transaction costs, our estimates suggest that the 1982 legislation may have merely suspended the benefits created by the enactment of safe harbor leasing in 1981, at least for transactions that can qualify as finance leases.

Unfortunately, the partial return to the requirements of pre-1981 law for finance leases will undoubtedly increase transaction costs for some companies and preclude transferability for others. Transactions will again have to be structured in a way that takes into account factors such as title under state law and the distribution of attributes of ownership among the parties. The parties will also be burdened with a continuing relationship that will require monitoring of payments, a burden that safe harbor sale-leasebacks eliminated by permitting a single cash payment. Finally, some owners of eligible property will probably find themselves unable to use the new provisions because of restrictions imposed by lenders or regulatory agencies on the transfer of title to the property.

III. CONCLUSIONS

Despite the substantial changes made in the leasing provisions by TEFRA, the three principal conclusions that we

48 Compare in Table I, for ten-year leases, the difference between lines 5 and 7 with the difference between lines 1 and 3.
49 The examples in the Appendix assume an interest rate of 15% and an inflation rate of 8% in order that the results may be compared with those in our earlier Article. See infra p. 1596 & note 52. Finance leases could also be less beneficial if a different test for economic substance, such as the requirement of a substantial pretax return, were imposed. See Hilton v. Commissioner, 74 T.C. 305, 353 n.23, 360 (1980) (suggesting that a positive present value, using a six-percent discount rate, might be required for an investment to satisfy the requirement of economic substance), aff'd, 671 F.2d 316 (9th Cir. 1982) (per curiam) (deeming the six-percent rate to be "for illustrative purposes only"); INTERNAL REVENUE SERV., INTERNAL REVENUE MANUAL, PART IV — AUDIT: INCOME TAX EXAMINATION TAX SHELTERS HANDBOOK § 872 (1979) (suggesting a present value test for evaluating equipment leases and using a six-percent discount rate as an illustration); Warren, The Requirement of Economic Profit in Tax Motivated Transactions, 59 TAXES 985 (1981).
51 See Warren & Auerbach, supra note 1, at 1762-67.
reached in our earlier Article remain applicable today: (1) the combined benefit of interest deductibility and effective expensing for profitable firms requires some form of transferability or refundability of tax benefits for other firms to ensure competitive neutrality; (2) neither revised safe harbor leasing nor the new finance lease provisions effectively implement a coherent concept of competitive neutrality; and (3) both sets of provisions create the potential for legal issues that would not exist under a program of refundability or explicit transferability of tax benefits.

In addition, our initial estimates suggest that, for some taxpayers, finance leases may turn out to be nearly as valuable as were pre-TEFRA safe harbor leases. If finance leasing develops in the manner predicted by these estimates, the principal results of the 1982 changes will have been merely to exclude some property, such as “public utility property,” from the benefits of safe harbor and finance leasing; to reduce the benefits of tax leasing for qualified property between 1982 and 1985; and to complicate the form of the transaction required to obtain those benefits, thus increasing transaction costs for some potential lessees and excluding others altogether.

These potential results, as well as the pace of recent legislative activity with regard to leasing, indicate that the current statutory provisions may not remain in effect for long. Our analysis of the 1981 and 1982 enactments suggests that any successor to finance leasing should be designed to implement a coherent program of transferability with a minimum of transaction costs, rather than merely eliminate the abuses perceived in a few large-scale transactions.

**APPENDIX**

In our earlier Article, we presented numerical estimates for the values of representative five- and ten-year leases of assets in the five-year ACRS class with exponential economic depreciation rates (δ) of .10 and .15. We assumed a nominal market interest rate of fifteen percent and an inflation rate of eight percent. In this Appendix, we calculate comparable estimates for safe harbor leases after the 1982 revisions and for finance leases after completion of the phase-in in 1985.

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52 See id. at 1786 table VII.
53 For a detailed discussion of the calculations and assumptions, see id. at 1785.
A. Safe Harbor Leases

The down payment ($d_{sh}$) per dollar of leased property under the pre-TEFRA safe harbor\(^{54}\) was

$$d_{sh} = (k + \tau z_t) - \tau PV_P(1 - d_{sh}),$$

where $k$ is the ITC, $\tau$ the corporate tax rate, $z_t$ the present value of ACRS deductions per dollar of basis (discounted at $r_t$, the lessor's after-tax discount rate), and $PV_P$ the present value of principal repayments per dollar of level payment loan.\(^{55}\) Under the TEFRA modifications to safe harbor leasing described above,\(^{56}\) the down payment becomes

$$d_{sh} = k'_t + \tau(1 - .5k)z'_t - \tau PV_P(1 - d_{sh}),$$

where $k'_t$ is the present value of the ITC when spread over five years and $z'_t$ is based on the eight-year cost recovery mandated by TEFRA.\(^{57}\)

The following table shows the value of down payments in our representative examples under revised safe harbor leasing with both debt and equity finance, as well as estimates of the payments that would be necessary to achieve equal costs of capital or equal subsidies,\(^{58}\) as described in our earlier Article:\(^{59}\)

\(^{54}\) Under safe harbor leasing, the total value of the transfer to the lessee equals the down payment. See id. at 1763–64.

\(^{55}\) See id. at 1762–67, 1780.

\(^{56}\) See supra pp. 1581–82.

\(^{57}\) See supra. The approximate depreciation deductions per dollar of basis for years one through eight are set forth in H. REP. No. 760, supra note 32, at 497, reprinted in 1982 U.S. CODE CONG. & AD. NEWS at 1276.

\(^{58}\) See Warren & Auerbach, supra note 1, at 1781–85. For debt finance, the nontaxable lessee's discount rate, $r_n$, equals $i$, the market interest rate, while $r_l$ equals $i(1-\tau)$. For equity finance, $r_n = r_l = p$, the equity-holder's nominal discount rate, which is assumed to equal $i$. As in our earlier Article, the payment that would equalize the costs of capital, given equity financing, is slightly negative. See id. at 1786.

\(^{59}\) Although I.R.C. § 168(f)(8)(B)(iii) (West Supp. 1983) now limits lease terms to the greater of 120% of the existing class life or the applicable recovery period, that limitation does not affect our examples of five- and ten-year leases because we have assumed class lives of 12.5 and 10 years, which are rough averages of the different midpoint lives under ADR. See Warren & Auerbach, supra note 1, at 1785 & n.87. Restrictions that depend on the tax characteristics of the lessor or lessee, such as the amount of other property subject to safe harbor leases, see I.R.C. § 168(f)(8)(D)(ii) (West Supp. 1983), are not taken into account in the examples. The results for five-year leases under TEFRA are shown in Table II for comparative purposes even though such short-term leases are no longer feasible. See supra note 39.
TABLE II
TRANSFERS UNDER REVISED SAFE HARBOR LEASING AND VARIOUS ALTERNATIVES

<table>
<thead>
<tr>
<th>Transfer per Dollar of Assets</th>
<th>Asset Depreciation Rate</th>
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<td>.10</td>
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</tbody>
</table>

1. Payments under Safe Harbor Leases
   Debt Finance
   Five-year lease .1045 .1045
   Equity Finance
   Five-year lease .0912 .0912
   Ten-year lease .2040 .2040

2. Payments That Would Equalize Costs of Capital
   Debt Finance .4200 .3300
   Equity Finance -.0531 -.0531

3. Value of ACRS and ITC in Excess of Economic Depreciation .1608 .1177

Safe harbor leasing remains either too generous, or not generous enough, depending on how firms finance their investments and on what version of competitive neutrality is desired. If the provisions were intended to transfer to loss companies the value of ACRS deductions and the ITC in excess of economic depreciation, then TEFRA is considerably more successful in these examples than was pre-1982 law.

B. Finance Leases

In this Section, we restructure our examples as finance leases, compute the amounts transferred to lessees in a form that can be compared with down payments under safe harbor leases, and test these finance leases for compliance with the government's pre-1981 guidelines for finding economic substance in leveraged leases.

60 Table II shows the maximum amounts a lessor would pay a lessee; these amounts would be reduced by transaction costs, including commissions retained by lessors for engaging in the transaction. The Treasury Department's preliminary estimates indicated that 84% of the benefits of pre-TEFRA safe harbor leasing were passed on to lessees in 1981. See Preliminary Report on Safe Harbor Leasing Activity in 1981, 15 Tax Notes 85 (1982).

61 Compare the values in Table II with those in Table VII of our earlier Article, see Warren & Auerbach, supra note 1, at 1786.
I. The Form of the Transaction. — The finance leases analyzed in this Appendix are structured as follows. The lessee-user purchases the equipment from a vendor and immediately sells it to the lessor, which leases the equipment back to the user. The lessor supplies only a fraction, \( d_f \), of the purchase price of the equipment out of its own funds (the "down payment"); the remainder, \((1-d_f)\), is provided to the lessee from funds that the lessor borrows from a lender. The loan to the lessor is fully amortized by level payments of interest and principal over the term of the lease. The lessee's annual rental payments exceed the lessor's annual interest and principal payments by two percent of the down payment. In accordance with an option granted at the time the lease is negotiated, the lessee will purchase the property from the lessor at the end of the lease term for ten percent of the original cost. This form of transaction, which is intended only to be illustrative, has been chosen to make the finance lease as comparable as possible to the sale-leaseback version of safe harbor leasing that we examined in our earlier Article.

2. Value of Finance Leases to Lessees. — The expression for the lessor's down payment, \( d_f \), in a finance lease structured as indicated above is

\[
d_f = k + \tau(1 - .5k)z_t - \tau PV_P (1 - df) + dfy(1 - \tau) + PV_T(1 - \tau),
\]

where \( PV_P \) is the present value of principal repayments per dollar of level payment loan. \( PV_T \), the present value of the option price of \( r \) in \( T \) years (the term of the lease) is

\[
PV_T = \frac{r}{(1 + r_t)^T}.
\]

The present value of the annual excess of rental payments over debt service is

\[
y = .02 \left[ \frac{1}{1 + r_t} + \cdots + \frac{1}{(1 + r_t)^T} \right] = .02 \left[ \frac{1 - (1 + r_t)^{-T}}{r_t} \right].
\]

Solving for \( d_f \), we get

\[
d_f = \frac{k + \tau(1 - .5k)z_t - \tau PV_P + (1 - \tau)PV_T}{1 - \tau PV_P - (1 - \tau)y}.
\]

---


63 This excess cash flow is provided to comply with the pre-1981 guidelines for economic substance in leveraged leasing. See infra p. 1597.
The lessee's cash flows under the finance lease are (1) the purchase price received from the lessor, (2) the rental payments to the lessor equal to the lessor's interest and principal payments plus the additional \(0.02d_f\) per annum, and (3) the option payment to the lessor of \(I\) at the end of the lease term. The net present value of the overall cash flows to the lessee, excluding transaction costs and any profit retained by the lessor, is thus not simply the down payment (as it was under a safe harbor sale-leaseback), but rather

\[
i - (PV_D + dfy) - PV_T,
\]

where \(i\) is the purchase price, \(y\) and \(PV_T\) are calculated at the pretax interest rate because the lessee is assumed to have no taxable income, and \(PV_D\) is the present value to the lessee of principal and interest payments on the lessor's debt, or \((i - df)\). Substituting \((i - df)\) for \(PV_D\) in expression (5) yields the following expression for the present value received by the lessee under our finance leases:

\[
d_f - dfy - PV_T.
\]

Because the expression in (6) is the net present value to the lessee of all the cash flows associated with the lease, it is directly comparable to the amount received as a down payment by the lessee under a safe harbor sale-leaseback.\(^{64}\) We can now solve for the benefit to the lessee in our examples by calculating \(d_f\) according to equation (4) and substituting the relevant values in expression (6). The results in our examples, using our previous assumptions (leases of five and ten years, a nominal interest rate of fifteen percent, and an inflation rate of eight percent), are set forth in Table III.

The value to lessees of finance leases in our examples is greater than the value of post-TEFRA safe harbor leases\(^{65}\) and nearly equal to the value of pre-TEFRA safe harbor leases, when the diminution of the combined value of ACRS deductions and the ITC to owner-users under TEFRA is considered.\(^{66}\) The additional cash flows required by the finance

\(^{64}\) This measure of benefit to the lessee is used to facilitate comparison with safe harbor leasing. Lessees may actually evaluate finance leases as they did leveraged leases — by comparing rental costs with the net costs of ownership, including debt service. See Ahlstrom & Bole, Economics of Leveraged Leasing, in EQUIPMENT LEASING—LEVERAGED LEASING, supra note 27, at 627, 677–80.

\(^{65}\) Compare the second column in Table III with section 1 in Table II.

\(^{66}\) TEFRA, Pub. L. No. 97-248, § 205(a)(1), 1982 U.S. CODE CONG. & AD. NEWS (96 Stat.) 324, 427, requires that all owners, whether users or lessors, either subtract one-half of the ITC from basis for calculating ACRS deductions or take a reduced
TABLE III

<table>
<thead>
<tr>
<th></th>
<th>Down Payment ($d_j$)</th>
<th>Value to Lessee ($d_j - d_{jy} - PV_f$)</th>
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</thead>
<tbody>
<tr>
<td>Five-Year Lease Term</td>
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<tr>
<td>Debt Finance</td>
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<td>.1551</td>
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<tr>
<td>Ten-Year Lease Term</td>
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<td>.3308</td>
<td>.2407</td>
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</tbody>
</table>

leases — a higher down payment in exchange for the future option payment and rentals in excess of debt service — reduce the benefits to the parties because the lessor must pay taxes on the additional receipts.

3. Compliance with IRS Guidelines. — We now inquire whether the transaction described above satisfies the unmodified requirements of the Internal Revenue Service’s pre-1981 guidelines for favorable advance rulings on the tax consequences of leveraged equipment leases. Five such requirements, designed to test the economic substance of the lease, were not explicitly changed by TEFRA. 67

(a) The Profits Test. — The first requirement — that the lessor receive a pretax profit — consists of two parts: an overall profit test and a cash flow test. 68 The first test is satisfied if the sum of all payments by the lessee to the lessor (the rentals in our examples) plus the lessor’s residual interest, $R$, exceeds the sum of all expenditures by the lessor (here, the down payment to the lessee plus interest and principal payments to

ITC, thus diminishing the total value of ITC and ACRS. See supra p. 1581 & note 7.

67 The guidelines were promulgated in Rev. Proc. 75-21, 1975-1 C.B. 715, and modified in Rev. Proc. 76-30, 1976-2 C.B. 647 (limited use property) and Rev. Proc. 79-48, 1979-2 C.B. 529 (lessee improvements). Rev. Proc. 75-28, 1975-1 C.B. 752, details the information that the taxpayer must submit to the IRS to obtain an advance ruling. The guidelines state that they “do not define, as a matter of law, whether a transaction is or is not a lease for Federal income tax purposes and are not intended to be used for audit purposes.” Rev. Proc. 75-21, § 3, 1975-1 C.B. 715, 715. Nevertheless, the guidelines had a significant impact on the structure of leveraged leases before the introduction of the safe harbor in 1981. See, e.g., Macan, supra note 28, at 383.

the lender).\textsuperscript{69} $R$ is defined as a reasonable estimate of the fair market value of the equipment at the end of the lease term "without including in such value any increase or decrease for inflation or deflation during the lease term."\textsuperscript{70} Since the aggregate undiscounted rentals in our examples exceed the aggregate undiscounted payments of principal and interest by $0.02d_T$, where $T$ is the lease term in years, the transaction satisfies the overall profits test if

$$R - d_f + 0.02d_T > 0,$$

which will be true when the residual value exceeds $0.9d_f$ in five-year leases and $0.8d_f$ in ten-year leases. Table IV presents the minimum residual value required for each down payment shown in Table III and the exponential depreciation rate that will satisfy the overall profits test for each such value.\textsuperscript{71}

\begin{table}[h]
\centering
\caption{Finance Leases—Profits Test}
\begin{tabular}{lll}
\hline
 & Residual Interest ($R$) & Maximum Permissible Depreciation Rate ($\delta$) \\
 & (Per Dollar of Leased Asset) & \\
\hline
\textbf{Five-Year Lease Term} & & \\
Debt Finance & .2270 & .2566 \\
Equity Finance & .2207 & .2608 \\
\textbf{Ten Year Lease Term} & & \\
Debt Finance & .2677 & .1245 \\
Equity Finance & .2646 & .1235 \\
\hline
\end{tabular}
\end{table}

As long as the equipment depreciates at an exponential rate less than that shown in Table IV, the overall profit test will be satisfied in our examples. Because depreciation rates of .10 and .15 are typical for assets in the five-year ACRS class, most equipment should meet this test, although certain assets may not.\textsuperscript{72}


\textsuperscript{70} Rev. Proc. 75-21, 1975-1 C.B. 715, 715-16.

\textsuperscript{71} The residual value ($R$) and depreciation rate ($\delta$) are related by the equation $R = (1-\delta)^T$, where $T$ is the term of the lease in years.

\textsuperscript{72} See Hulten & Wykoff, The Measurement of Economic Depreciation, in DEPRECIATION, INFLATION, AND THE TAXATION OF INCOME FROM CAPITAL 81, 95 & table 1 (C. Hulten ed. 1981) (deriving estimates for economic depreciation for a variety of assets). Although the estimated rates of depreciation for some five-year assets exceed those shown in Table IV, the margin of error in such estimates makes it very likely that leases of most assets will qualify under the overall profit test.
The second part of the "profits" guideline, the cash flow test, requires that the lessor receive a positive cash flow (an excess of aggregate rental payments over aggregate payments of interest and principal in our example) during the term of the lease. The guidelines merely state that the excess must be "reasonable," but experienced practitioners report that the Internal Revenue Service has considered the requirement satisfied if the lessor receives a net cash flow equal to two to four percent of the initial equity investment (here, \( d_f \)) times the number of years the property is under lease. Our examples have assumed an annual pretax cash flow to the lessor of \( .02 d_f \) per dollar of asset cost, and thus the aggregate cash flow test is necessarily satisfied.

(b) The "At Risk" Requirement. — This requirement also has two parts: the lessor must (1) initially have at least a twenty-percent equity interest in the equipment, and (2) maintain at least a twenty-percent interest throughout the lease term. As shown in Table III above, the lessor's initial investment, the down payment, exceeds twenty percent of the asset's cost in each of our representative leases.

A lessor is considered to have maintained its twenty-percent investment if (a) the lessee's payments to the lessor minus (b) the lessor's disbursements (excluding its original equity investment) never exceeds the sum of (c) the lessor's original equity investment in excess of twenty percent of the cost of the equipment and (d) the cumulative pro rata portion of the projected overall profit from the transaction (as such profit is defined above in the overall profit test). This condition is apparently intended to assure maintenance of the lessor's minimum equity investment by prohibiting the lessor from receiving at any time during the term of the lease more than a pro rata portion of its overall profit plus any equity investment in excess of the twenty-percent minimum. The requirement is necessarily satisfied in our examples, because the total cash flow to the lessor, \( .02 d_f T \), will always be less than the excess of the down payment over \( .2 \). Using the values of \( d_f \) shown in Table III, we can calculate the values of \( .02 d_f T \) and \((d_f -.2)\), which are shown in Table V.

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74 See Macan, supra note 28, at 453.
76 Rev. Proc. 75-28, § 4.02(g), 1975-1 C.B. 752, 753.
TABLE V

<table>
<thead>
<tr>
<th></th>
<th>Total Cash Flow (.02d/t)</th>
<th>Excess Down Payment (d - .2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Five-Year Lease Term</strong></td>
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(c) The Lessor's Residual Interest. — The guidelines also require that the lessor's residual interest exceed twenty percent of the original cost of the equipment.78 As shown in Table IV above, in each of our examples R must exceed .20 in order to satisfy the overall profit test. Because most equipment in the five-year ACRS class depreciates at a rate that will satisfy that test, the residual interest test will also be satisfied in our examples.79

(d) The Lease Term. — The guidelines require that the lease term not exceed eighty percent of the property's useful life.80 This requirement will be satisfied for five-year leases if the property has a useful life of at least 6.25 years and for ten-year leases if the equipment has a useful life of at least 12.5 years. The requirements should be fulfilled by most five-year property, although some particular assets may not qualify.81

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79 See supra p. 1596 & note 71.
80 Rev. Proc. 75-28, § 4.02(6)(C), 1975-1 C.B. 752, 753; Rev. Proc. 75-21, § 4(1)(C), 1975-1 C.B. 715, 715-16. The guidelines require that the remaining useful lifetime at the end of the lease term be established by "an opinion, from a qualified expert who has professional knowledge of the type of property subject to lease." Rev. Proc. 75-28, § 4.02(b), 1975-1 C.B. 752, 753.
81 Unfortunately, there are no generally accepted estimates of actual asset lifetimes. Economists have tended to estimate depreciation rates, whereas the Treasury guidelines on useful lifetimes have been affected by other considerations such as the construction of classes of assets. Nevertheless, the available estimates of useful lifetimes suggest that most five-year assets would satisfy the requirements in the text. See Jorgenson & Sullivan, Inflation and Corporate Capital Recovery, in Depreciation, Inflation, and the Taxation of Income from Capital, supra note 72, at 171, 181 table 2 (comparing Bulletin F, 10 Fed. Taxes (P-H) ¶ 45,521-45,582 (1983), and ADR midpoint lifetimes); see also Rev. Proc. 62-21, 1962-2 C.B. 418 (depreciation guidelines), revoked by Rev. Proc. 72-10, 1972-1 C.B. 721, 731 (effective Jan. 1, 1971).
(e) Lessee Investment or Financing. — Finally, the guidelines prohibit the lessee from either investing in the equipment or financing the purchase by the lessor.82 Neither prohibition is violated in our examples.

4. Conclusions Regarding Finance Leases. — The examples of finance leases examined here are illustrative rather than exhaustive. The form of the transaction, which was chosen to facilitate comparison with safe harbor leases, may well not be typical of future finance leases. Nevertheless, these examples indicate that, apart from possibly increasing transaction costs, finance leases may be nearly as valuable for eligible equipment as were safe harbor leases before TEFRA if the pre-1981 guidelines on economic substance are not made more stringent. If the guidelines are modified by, for example, including the lessee's fixed price option rather than the lessor's residual interest in the computation of overall profit, the results in particular examples may change. But even with such modifications, it may nevertheless be possible to restructure the transaction to preserve the benefits identified above and still qualify under the new guidelines.