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AN EMPIRICAL INVESTIGATION INTO THE JUDICIAL CLASSIFICATION OF TRANSACTIONS AS SALES OR LEASES FOR FEDERAL INCOME TAX PURPOSES

The University of Oklahoma PH.D. 1983

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AN EMPIRICAL INVESTIGATION INTO THE JUDICIAL CLASSIFICATION OF TRANSACTIONS AS SALES OR LEASES FOR FEDERAL INCOME TAX PURPOSES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By

ROBERT JOSEPH ROLFE

Norman, Oklahoma

1983

AN EMPIRICAL INVESTIGATION INTO THE JUDICIAL

CLASSIFICATION OF TRANSACTIONS AS SALES OR LEASES

FOR FEDERAL INCOME TAX PURPOSES

A DISSERTATION

APPROVED FOR THE COLLEGE OF BUSINESS ADMINISTRATION

By

Ted D. Englebrecht

Osborne M. Reynolds Jr.

Mary Adele Humphreys

Travis P. Boggan

Daniel A. Wren

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CHAPTER I

INTRODUCTION

One method employed by businesses to increase the availability of depreciation deductions and investment tax credits involves the use of leveraged leases. These transactions allow the transferal of tax benefits, such as investment tax credits and depreciation deductions, from taxpayers who do not have sufficient tax liabilities to fully utilize them to those that do. Due to the liquid nature of these benefits, the Internal Revenue Service (hereafter referred to as the Service) has examined lease transactions to determine whether they were actually conditional sales. Potential lessees and lessors have been forced to analyze complex and often contradictory judicial decisions and administrative rulings to avoid reclassification of the agreement as a sale, thereby eliminating the tax advantages of leases.

The Service and judiciary have agreed that the original intention of the lessor and lessee should govern the transaction's tax status. However, there has been considerable disagreement on how this should be done. Two

strikingly different tests have been developed by the judiciary to determine original intent. The first, the economic test, seeks to ascertain whether there was a reasonable economic basis at the time of contract to infer that the parties originally intended the transaction to be a sale. By considering only economic relationships, advocates of this test claim that it provides for more consistency of application than would exist if a more subjective approach were employed.

In contrast, advocates of the intent test maintain that economic elements are only part of the factors to be considered in determining the parties' intent. Moreover, they aver that within the limits of reason, the lessor and lessee have the right to exercise their own judgement in structuring their transactions. Accordingly, their "intent" test is not as mechanical as the economic test and analyzes all of the facts in the lease agreement, economic and noneconomic, in determining proper tax classification.

To reduce the uncertainty of application caused by these conflicting tests and encourage leveraged leases, Congress enacted safe-harbor rules in the Economic Recovery Tax Act of 1981 (P.L. 97-34) that delineated the circumstances when a lease existed between two or more parties. However, these rules only applied to transactions whose lessor was a corporation leasing assets eligible for the investment tax credit. Consequently, noncorporate lessors (individuals, partnerships, Subchapter S

corporations, and personal holding companies) and all parties leasing real estate were excluded from partaking of the advantages these new safe-harbor rules offer. Instead, they had to adhere to the aforementioned judicial and administrative guidelines.

After their enactment, the safe-harbor provisions came under severe criticism as being too generous to corporations. Since they were expected to reduce tax revenues by at least $41.6 billion over the next six years (Joint Committee on Taxation, 1982, p. 35), Congress felt the country simply could not afford them in a period of record budget deficits. Consequently, the safe-harbor rules were repealed for years after 1983 by the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97-248). Subsequent transactions must have some economic substance in order to avoid reclassification.

In place of the repealed provisions, the Tax Equity and Fiscal Responsibility Act created "finance leases." These leases provide advantages to leases that would have qualified under the former safe-harbor rules that are not available to regular leases. For example, a finance lease may permit the lessee to purchase the leased property for a fixed amount, as long as the option is at least 10% of the property's original cost. In contrast, the Service would prohibit fixed options for regular leases. As will be demonstrated in Chapter II, no definitive criteria or guidelines are apparent from lease litigation despite the

fact that noncorporate lessors are forced to rely upon it. Moreover, it is not even clear whether courts abide by the pronouncements on leases made by the Service. As a result, nonsafe-harbor lessors and lessees are confronted with considerable uncertainty as to the proper treatment of their lease transactions. This study attempts to reduce this confusion by systematically analyzing lease litigation. The next section examines the various issues investigated.

PURPOSE OF THE STUDY

The objective of this study is to identify factors used by the judiciary in distinguishing between sales and leases for Federal Income Tax purposes. The complexity inherent in this issue has caused taxpayers and the Service to often disagree with respect to the proper type of classification, resulting in considerable litigation. While these decisions have been analyzed previously, no systematic assessment of those factors crucial in differentiating between sales and leases has been undertaken. This study attempts to fill this void by addressing five research questions.

Research Question 1. What Factors Explain Judicial Distinctions between Sales and Leases?

To identify factors utilized by the judiciary, a statistical model was developed based on relevant judicial decisions. The primary source of data was opinions of lease versus sale litigation in the court of original jurisdiction.

The coefficients developed by the model can be used to determine the variables' relative importance. However, no conclusion could be made that judges actually used these weights, but only that the model predicts their decisions.

Research Question 2. Is a Model Developed Only from Tax Court Cases Different from One Developed for the Court of Claims and District Courts?

Since lease versus purchase cases have been litigated in several judicial forums, various approaches may have been taken to resolve this issue. Any lack of uniformity may be due to differences in backgrounds and expertise of the judges in the different forums. Specifically, Tax Court judges come from tax practice backgrounds and try only tax related cases. In contrast, judges in the Court of Claims and District Courts do not necessarily come from tax practice backgrounds and hear primarily nontax cases. Naturally, this limits the amount of specialization in taxation for Court of Claims and District Court judges. Moreover, judicial inconcistency has been shown to exist in another area of taxation. Kramer (1982) determined that decisions valuing large blocks of publicly traded stocks in the District Courts and Court of Claims were significantly different from those in the Tax Court. This may indicate that selection of the judicial forum can affect the outcome of the case.

To determine whether this judicial diversity is also true with leases, the accuracy of the original model's

classifications for Tax and District Court classifications were compared and contrasted. Additionally, a separate model was developed for Tax Court cases. Differences in classification accuracy, significant variables and related weights from the original model were used to indicate any differing approaches have been used. Intercircuit controversy could not be statistically determined because of the relatively small sample size. Nonetheless, a visual analysis of misclassifications of the original model did not reveal any noticeably different judicial patterns.

Research Question 3. Have the Factors and Their Relative Importance Changed Over Time?

Decisions involving proper classification of lease transactions have covered a period of over forty years. If the judicial analysis changed over time, factors developed in Research Question 1 may not be reliable in predicting future decisions since they could incorporate patterns no longer in use. Accordingly, the stability of this model needed to be determined. Though no statistical tests exist in the statistical technique used to do this, a heuristic method developed by Stewart (1982) was employed. In this method, decisions are segregated into time periods with a logit function developed separately for cases in each period. The separate models are compared to determine whether differences in significant variables or coefficients exist, which may suggest changes over time. To further check for instability, each function was used to predict

cases in the other time periods. An analysis of the accuracy of the classification and any resulting misclassifications provided further indications of any shift in the decision variables over time.

Research Question 4. Can the Requirements of Rev. Proc. 75-12 Explain Judicial Decisions?

As will be discussed in Chapter II, the Service's positions in Rev. Procs. 75-12 (1975-1 CB 715) and 75-28 (1975-1 CB 752) may be contrary to accepted case law because they require accurate predictions of future values, while commentators believe the judiciary does not (e.g. Berlin, 1976). This research question seeks to determine whether any divergence actually exists between the Service and judiciary. To do this, the guidelines developed in these revenue procedures will be used to classify transactions contained in lease versus sales cases.

Research Question 5. Are the Guidelines Developed By the Accounting Profession in FASB 13 Consistent With the Judiciary's Position?

Taxpayers have not only had to consider the tax consequences of their lease transactions, but also the appropriate accounting presentation. The proper classification of leases has been of great concern to the accounting profession so that users of financial statements can evaluate the impact of lease commitments. Several opinions and statements have been issued, seeking to

distinguish between leases that have the characteristics of sales (known as capital leases) from those that do not (known as operating leases) -1-. Differences in accounting and tax rules have caused a great deal of complexity. However, the requirements of the most recent accounting statement, FASB 13, appear to be very similar to the Service's positions in its two principal pronouncements, Rev. Proc. 75-12 and Rev. Rul. 55-540 (1955-2 CB 39) -2-. The objective of FASB 13 was to have leases that transfer most of the benefits and risks of ownership accounted for as sales (Financial Accounting Standards Board, 1976). To accomplish this, a transaction would be treated as a capital lease if any of the following criteria are present:

a. The lessee will automatically become owner at the end of the lease term.

b. The lease contains a bargain purchase clause.

c. The lease term is 75% or more of the estimated useful life.

d. The present value of the minimum rental payments is greater than or equal to 90% of the property's original fair market value less any investment tax credit retained by lessor.

Figure 1-1 compares these requirements with those previously issued by the Service. The first three

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-1- ARB No. 38. APB No. 5, APB No. 7, APB No. 27, APB No. 31, and FASB No. 13.

-2- Both of these are discussed in detail in Chapter II.

Figure 1-1

Comparison of FASB No. 13's and Service's Positions on Leases

Requirements of FASB 13	Stated Previously by the Service in: Rev. Rul. 55-540 Yes	Rev. Rul. 55-540 No	Rev. Proc. 75-12 Yes	Rev. Proc. 75-12 No
1. Lessee automatically becomes owner at end of term.	X		X	
2. Lease contains a bargain purchase clause.	X		X	
3. Lease term is 75% or more of the estimated useful life.		X	X[a]	
4. The present value of minimum rental payments is greater than or equal to 90% of the property's original fair market value less any investment tax credit retained by lessor.	X[b]			X

a. Rev. Proc. 75-12 considers a lease to be a sale if the lease term is 80% of useful life.

b. Rev. Rule 55-540 compares the future values of rental payments and beginning fair market value.

requirements have been explicitly stated by the Service in previous positions. Proc. 75-12. Though the Service had not specifically referred to the fourth, it had a very similar requirement in Rev. Rul. 55-540 (1955-2 CB 39). This requirement compares the future value of beginning fair market value under a hypothetical sale with total lease payments while FASB 13 concentrates on the present values of these terms. Accordingly, these two provisions are essentially equivalent.

While the similarity of application between the private sector and executive branch of the federal government is encouraging, it is not sufficient to reduce the complexity caused by different rules for taxation and accounting. To do this, the judiciary must also abide by these guidelines. Accordingly, this study will examine judicial decisions to determine whether any difference exists.

LIMITATIONS

While the models developed in this study can be used by taxpayers to predict future decisions, it must be remembered that the judicial system is dynamic in nature. That is, additional variables may be introduced into the issue through changes in the code, regulations, or leasing environment. Consequently, taxpayers should not blindly follow the model's predictions.

A sample bias in this study may exist if nonlitigated cases differ from those that have been litigated.

Presumably, in litigated cases taxpayers carefully examine their transaction before they decided to contest a reclassification by the Service. Some variables may be important in this decision if they automatically determine that the court would agree with the Service. Accordingly, taxpayers would not be willing to challenge the Service in those circumstances. If this is true, litigated cases in general may have similar characteristics. When cases involving both possible outcomes (sales and leases) have similar values for certain variables, these variables would not be found to be statistically significant discriminators. As a result, factors may be important in the decision to litigate but still not be statistically significant in this study.

The source of data may be biased if judges attempt to justify their decisions by including in their opinions only those variables that strengthen their position. Nonetheless, the omission of relevant factors could cause the decision to be appealed to a higher court. This possibility of appeal should reduce the propensity for judges to omit relevant information.

Bias may occur in coding the variables because the decision is reported in the judicial opinion before the facts of the case are described. This prior knowledge of the dependent variable could inadvertently influence the measurement of the independent variables, especially when they are somewhat ambiguous in nature. Copeland, Taylor,

and Brown (1981) have determined that this foreknowledge does have a significant impact upon the data collection process. Specifically, subjects in a lab experiment were inclined to code variables in such a manner that they appeared consistent with the judicial decision. These biased measures artificially strengthened the relationship between the dependent and independent variables to create what was in essence a self-fulfilling prophecy.

Due to the seriousness of this observation bias, Copeland, et. al. have suggested three methods that can be used to reduce its impact:

a) Two or more individuals should independently gather the research data.

b) The person who plans the study and has a strong commitment to its outcome should not collect the data.

c) An independent audit should be made of the data.

Given the constraints of a dissertation, the first two suggestions are not appropriate. However the third is feasible and was used in this study.

CONTRIBUTIONS OF THE STUDY

The statistical results of this study should be able to be used in several ways. First, lessors and lessees of nonsafe-harbor leases can incorporate the identified factors into their leasing transactions to minimize the risk of reclassification. Furthermore, the logit model could be used to evaluate the probability of a favorable court

ruling. This could assist taxpayers in their decision of whether or not to contest a reclassification of the lease by the Internal Revenue Service.

Additionally, Congress may be able to utilize the results in any subsequent revision of leasing rules. The variables identified by this study could provide a workable test due to their consistent application by the judiciary in its determination of the economic substance of lease agreements. An incorporation of these factors as safe-harbor rules could reduce uncertainty while still recognizing the economic essence of the transaction.

The statistical technique used to examine the decisions was logit analysis. AS will be discussed in Chapter III, this is a significant advancement over the often used linear discriminant analysis because it can systematically analyze the data without assuming away its basic structural relationship. Research similar to this study may be helpful to taxpayers and tax policymakers when they are confronted with uncertainty in other areas of taxation.

OUTLINE OF CHAPTERS

This study is divided into six chapters with Chapter I serving as the introduction. Chapter II examines the development of guidelines distinguishing between sales and leases by the judiciary and Service. This analysis is supplemented in Chapter III with a review of prior lease studies.

Chapter IV discusses the statistical techniques

utilized in this study and contrasts them to those used in other areas of tax research. The empirical findings are reported in Chapter V.

The research conclusions are summarized and interpreted in Chapter VI. In addition, recommendations for future research are put forth.

CHAPTER II

LEASE VERSUS SALE GUIDELINES

The objective of this chapter is to identify guidelines developed by the judiciary and Service that have been used to distinguish between sales and leases. To provide a framework for this discussion, relevant Internal Revenue Code sections are analyzed. Subsequently, various judicial and administrative positions are examined, with particular emphasis placed upon differences and similarities of the different approaches.

LEASE TRANSACTIONS

Individuals often choose lease arrangements in order to use high-cost equipment without incurring fixed equity commitments required by conventional financing sources if the property were purchased. Lease transactions can take two basic forms: direct leases and leveraged leases. In direct leases the manufacturer or owner negotiates directly with a lessee to form a lease contract. These contracts generally stipulate that in return for periodic rental payments made by the lessee, the lessor will provide any necessary maintenance to the leased property. A lease option clause is often included to allow lessees to purchase their rented property at a future time. These clauses are

often benefitial to lessees since they allow lessees to acquire the use of expensive equipment with no initial commitment of funds and later obtain title by exercising the option.

In the late 1960s, leveraged leases, a much more complicated form of lease, became common. In their simplest form, leveraged leases consist of three parties: a lessor, a lender, and a lessee. The lessor purchases property from the manufacturer by making a small down payment and borrowing the balance from a lender. He then leases the property to the lessee who does not have any direct contact with the manufacturer. Typically, he also shifts the costs of upkeep and performance of the property or equipment to the lessee.

In addition to enabling lessees avoid conventional financing sources, leveraged leases also permit benefits of investment tax credits and depreciation deductions to be shifted to other taxpayers. Specifically, a company with a large tax liability can purchase equipment with a small down payment, finance the balance by using the property itself as security, and then lease it to the party that originally intended to use it. Since the lessor owns the property, he is entitled to utilize the accelerated cost recovery system (the newly enacted cost recovery system, hereafter referred to as ACRS), investment tax credit, and any other tax benefit associated with ownership. Part of these advantages can be passed to the lessee in the form of smaller rental

charges. As a result, both parties have benefited significantly. This procedure is illustrated below.

> Example (1): RE, a marginal company, needs to purchase equipment costing $1,000,000 with a life of 10 years and a 5-year ACRS recovery period. If RE purchases equipment directly, it would finance the acquisition price through First City National Bank. First City National would require RE to make a down payment of 20 percent of the acquisition cost with the balance financed at a rate of prime plus 5 percent. Under this method, RE is required to commit itself to a substantial initial investment and make large periodic payments. But it cannot utilize or take advantage of the investment tax credit or ACRS deductions because of its small net income.
>
> As a result, a leveraged lease arrangement might be more beneficial to RE. Lease Property Company, a profitable leasing company, could acquire the property needed by RE by making an initial payment of 20 percent of the acquisition price and financing the balance at prime, due to its profitable status. Since Lease Property is the owner, it can take advantage of the investment tax credit and ACRS deductions. Next, it can lease the equipment to RE for nine years, passing part of the tax benefits by charging a lower rent. Thus, RE is receiving the use of the property for almost the entire life of the asset with no initial investment and for lower periodic payments than would have been incurred if the property had been directly purchased. Futhermore, it could later acquire title to the equipment by exercising a purchase option.

The tax consequences just discussed generally occur when the lessor is a corporation. If the lessor is not a corporation, it can take the investment tax credit only if one of the following conditions is met (Sec. 46 (e) (3):

1) The lessor manufactured the asset.

2) The lease term, including all renewal options, is less than 50% of the prior Class Life Asset Depreciation Range System useful life and the expenses of the lessor associated with the asset during the first twelve months exceed fifteen percent of the related rental income.

If neither of these conditions are met, the credit cannot be taken by the lessor but can still be passed to the lessee.

Consequences of Reclassification

As long as a lease is considered valid by tax standards, the tax benefits originally conceived by the parties would be achieved. On the other hand, if the lease is actually a conditional sale, different tax consequences will result. These divergent tax results arise because the "lessor" would then be considered as having sold equipment to the "lessee." This requires recognition of any gain in the year of sale instead of reporting rental income over the term of the lease. Any benefits derived from the investment tax credit and accelerated cost recovery system must be recaptured because of the equipment's early disposition. Though the lessee-purchaser may be able to utilize the investment tax credit or accelerated cost recovery system, the amount of investment tax credit available may be reduced because the equipment would now be considered used property. Also, the lessee-purchaser would not be able to deduct periodic rental payments but would instead be required to capitalize the principal element as the asset's cost.

Safe-harbor rules

In the enactment of the Economic Recovery Tax Act of 1981 (hereafter referred to as ERTA), Congress displayed its concern with the reduced capital investment by business. To provide greater incentives for increased capital investment, a more rapid cost recovery system was offered. This system,

known as the Accelerated Cost Recovery System, and corresponding liberalized investment tax credit were viewed by Congress as providing the greatest benefit to the economy if they were made easily available to the corporate sector (U.S. Congress, 1981, p. 6). Since one method of increasing their availability is through leveraged leases, Congress enacted special safe-harbor rules in Section 168(f)(8) which allow lease parties to jointly treat the lessor as owner of the property if several requirements are met. Specifically, the lessor must have an "at risk investment" of 10% of the adjusted basis of the property throughout the life of the lease. Additionally, the lease's term (including extensions) cannot exceed the greater of 90% of the property's useful life or 150% of the midpoint life of the property under prior Class Life Asset Depreciation Range System (hereafter referred to as ADR). The property must be new and qualify for the investment tax credit. One great advantage of safe-harbor leases is that property leased within 90 days of acquisition will still qualify as new property. This allows the lessor in a sale-leaseback arrangement to fully utilize the available investment tax credit.

Impact of the Tax Equity and Fiscal Responsibility Act of 1982

The new safe-harbor rules were extremely successful in reducing tax liabilities. That is, the Joint Committee on Taxation (1982) estimated that these provisions would reduce

revenue by $3.2 billion in 1982, $4 billion in 1983, $5.7 billion in 1984, $7.1 billion in 1985, $9.5 billion in 1986, and $12.1 billion in 1987. Naturally, in a period of record budget deficits, this was not viewed as a positive situation. Critics of these provisions avered they were too generous to corporations at the expense of the rest of the public. In response to this furor, Congress drastically reduced the benefits associated with safe-harbor leasing though legislation in the Tax Equity and Fiscal Responsibility Act of 1982 (hereafter refered to as TEFRA). This crackdown covered the entire scope of safe-harbor leasing, from limitations in allowable deductions to outright repeal for years after 1983. Each new provision in TEFRA is subsequently analyzed in order to understand the impact these changes have upon this study.

Maximum Lease Term. As discussed above, ERTA stipulated that the length of safe-harbor leases could not exceed the greater of 90% of the property's expected useful life or ADR midpoint life. In effect, this allowed lessees to rent assets for substantially their entire productive period. TEFRA added another requirement prohibiting rental periods (including extensions) from exceeding the upper ADR limit as of January 1, 1981. This provision has the impact of reducing the length of rental term, preventing lessors from using leased assets for most of their useful lives. This could reduce the attractiveness of leasing situations since lessors would now have increased uncertainty associated with

disposing of the asset for their remaining lives.

Limited Reduction of Tax Liability. Prior to TEFRA, lessors could use deductions and credits stemming from safe-harbor leases to reduce their total income tax. Now these advantages are limited to 50% of the lessor's tax liability. Though disallowed credits or deductions can be carried over to subsequent years, the amount of these advantages has been reduced. Specifically, for property placed into service after July 1, 1982, the ACRS deduction for safe-harbor lease property must be computed using the 150% declining balance method, with a switch to straight-line in later years. No longer can depreciation be calculated using the accelerated ACRS method. Furthermore, the full investment tax credit cannot be claimed in the initial year. Instead, it is to be taken ratably over five years, with 20% allowable in each year.

The benefits to lessees were also limited. The amount of a lessee's property that may qualify as a safe-harbor lease may not exceed 45% of the cost basis of the lessee's qualified lease property placed into service.-1- Also, safe-harbor treatment is prohibited for leases of public utility property and all leases between related parties.

-1- Qualified lease property is the cost basis of all property that has been safe-harbored, plus Section 38 property that has been placed in service during the year, and the cost of leveraged leases whose term does not exceed 50% of the present ADR midpoint life and on which safe-harbor treatment was not elected.

Finance Leases. Not only did Congress reduce the advantages of safe-harbor leases, but it also repealed them for years after 1983. In their place, "finance leases" were created, which must meet most of the requirements for nonsafe-harbor rules delineated in Rev. Proc. 75-12. Basically, this revenue procedure requires for transactions to have the economic effect of leases. Nevertheless, Congress exempted finance leases from two of these requirements. Specifically, the contract can be for limited use property and can contain a fixed option price that is only 10% of the original value. As will be discussed subsequently in this chapter, both of these exceptions are denied to ordinary leases.

Generally, to qualify as a finance lease, the lessor must be a corporation. In addition, leases of Sec. 38 property used for farming purposes will qualify even if the lessor is not a corporation, as long as eligible farm property does not exceed $150,000 during any calendar year. The limitations enacted by TEFRA for safe-harbor leases also apply to finance leases.

Since most noncorporate taxpayers are excluded from the advantages of finance leases, they must qualify as valid leases under all guidelines established by the Service and judiciary. The remainder of this section examines these judicial and administrative positions in order to identify relevant factors in the classification of transactions as leases or sales.

Statutory Guidance

Code Section 162(a)(3) provides some guidance in determining the deductibility of rents. It allows deductions for:

> rentals or other payments required to be made as a condition to the continued use or possession, for purposes of the trade or business, of property to which the taxpayer has not taken or is not taking title or in which he has no equity.

This section stipulates that rents are not deductible if the transaction is actually a sale. This means that if any one of three conditions are present indicating a sale has actually taken place, rental payments must be capitalized. The first condition exists when title has shifted, as in a purchase with a mortgage. The second provision denies a rental deduction when the taxpayer is formally in the process of obtaining title. Neither of these instances is too complex. Nonetheless, the third condition, the acquisition by the taxpayer of an "equity" in the property, is less clear because equity is not used in the legal sense of an equitable title in property, but rather in an economic sense of value. That is, the taxpayer is receiving an interest in property in exchange for his payments (Schwanbeck, 1961). Since the Code provides no clarification as to when a lessee receives an equity interest, it becomes imperative to examine and analyze judicial and administrative positions.

JUDICIAL INTERPRETATIONS

Even before the first income tax in the United States,

the judiciary had to determine whether a lessee had acquired an equity in property. In 1876, the United States Supreme Court stated in Harvey v. Rhode Island Locomotive Works (93 US 664 (1876)) that the purpose, rather than form, of the agreement, should be decisive in determining whether the transaction was a lease or conditional sale. Other judicial forums have applied this principle to tax cases by ascertaining whether there was reasonable economic basis at the time of contract to infer that a sale was intended (Mertens, (1981)). If the parties did not originally intend for the transaction to be a sale, the lease will be valid even if the lessee subsequently purchased the asset. Although original intent is critical, determining it can be very difficult because many factors are not relevant. For example, existence of a purchase option is not controlling, because it merely signifies that the lessee hopes to purchase the asset. Mere hope does not create an equity interest (Mertens, (1981)). Additionally, the exercise of an option does not indicate the original intention of the parties.

Economic Test

Because of the difficulty inherent in determining intent, it is not surprising that many courts have utilized different tests to deduce original intent. The Tax Court and most circuit courts have relied upon an objective analysis known as the economic test. This test regards

transactions as sales if lessees receive anything of value other than use of the property. As a practical approach, the Tax Court has developed the following principle:

> If payments are large enough to exceed the depreciation and value of the property and thus give the payor an equity in the property, it is less a distortion of income to regard the payments as purchase price and allow depreciation on the property than to offset the entire payment against the income of one year (Chicago Stoker Corp. 14 TC 441 (1950), at 445).

Consequently, if the option is exercisable within a period less than the useful life of the property and rental payments approximate the property's cost, then the Tax Court would conclude that the lessee and lessor intended to have a conditional sale.

This position is illustrated in Marvin Berry (11 TCM 301 (1952)). In this case, the taxpayer paid $30,000 for two year's rent on a farm. After two years, he exercised an option to buy the farm for an additional $100,000. Since two years are obviously less than the property's useful life and total payments of $130,000 approximated the farm's cost, the Tax Court held that this was a conditional sale.

The judiciary can also determine the intention of the parties by comparing the option purchase price and the asset's anticipated fair market value. The Tax Court in Benton (197 F.2d 745) emphasized that a lessee did not acquire any equity if the property's expected value was less than the option price. However, if it did exceed the option price, the court would conclude that the lessee did have an equity interest. That is, since the lessee would be

acquiring property for less than its fair market value, he would be receiving economic benefits in addition to the use of the property.

The Tax Court has also required rents paid to represent fair rental value, especially when the contract contains an option to purchase clause. In Haggard (24 TC 1124 (1955)), the taxpayers rented land for amounts significantly higher than fair rental value. Simultaneous with the lease was an option agreement, costing $2,000, allowing the lessee to purchase the land for $24,000 in January 1950. The total payments of $48,000 equaled the amount for which the lessor had previously tried to sell the land. The Ninth Circuit Court of Appeals affirmed the Tax Court's application of the economic test and denied the rental deduction (241 F.2d 288 (CA-9, 1957)). The court maintained that the documents conferred an equity to the lessee because he could not economically sustain the loss of paying excessive rents without exercising the option. As a result, the rental payments could not be deducted.

Intent Test

While the economic test provides an objective method for determining original intent, it has not met with favor in all judicial forums. Specifically, the Fifth and Seventh Circuit Courts of Appeals have rejected this test as too arbitrary on the grounds that economic elements are only part of the factors to be considered in determining intent. This intent test was developed by the Fifth Circuit in its

Benton (197 F.2d 746) decision.

In Benton, the Fifth Circuit stated that any decision based soley on a rigid application of the economic test avoided the main question of whether the parties actually intended the transaction to be a sale. The economic relationship of the purchase option price and fair market value of the property is only one factor to be considered in this analysis. Futhermore,it must be examined in light of the time of the creation of the contract instead of at the exercise date. To do otherwise places the parties at an extreme disadvantage. The court felt, that within the limits of reason, the lessor and lessee have the right to exercise their own judgement in structuring their transactions.

The Fifth Circuit also emphasized that the option price in Benton was not unreasonably low because the market price did decrease during the rental period. Naturally, it was reasonable to have anticipated an even greater decline. These factors, coupled with reasonable rental payments, led the court to conclude that the parties intended to create a lease. As a result, the rental payments were deductible until the option was exercised.

Differing Application of Intent Test. The Seventh Circuit also rejected rigid application of the economic test in its Breece Veneer and Panel Company (232 F.2d 322) decision, but it provided a slightly different application of the intent test. In 1941, Breece Veneer attempted to purchase the

principal plant he had been leasing from Reconstruciton Finance Corporation (hereafter referred to as RFC). However, RFC rejected his initial offer as too low. Since Breece Veneer lacked the resources to purchase the plant for a higher price, he proposed that RFC redesign the lease contract by including an option to purchase the plant. RFC accepted this new offer, and the lease was amended.

The terms of the lease provided for $100,000 to be paid in equal monthly payments over five years, renewable for three additional years. The lease also gave the lessee an option to purchase the property for $50,000 at the end of five years, $37,500 at the end of seven years and $25,000 at the end of the eighth year. On July 1, 1947, the taxpayer exercised the option and paid the requisite $50,000. The Service claimed that this transaction was a conditional sale, and, as a consequence, the taxpayer could not deduct rent.

The Tax Court (22 TC 1386) applied the economic test and concluded that the transaction was a conditional sale. Nonetheless, the Seventh Circuit rejected this conclusion after an examination of the concept of conditional sales as defined in the Uniform Conditional Sales Act. This act states that a lease is substantially equivalent to a conditional sale if the buyer is bound to pay rent approximately equal to the value of the goods and has the option of becoming the owner or is to become the owner after all rent is paid (Uniform Conditional Sales Act, Sec. 1).

Because Breece Veneer was required to pay $50,000 before the property could be obtained, the Seventh Circuit reasoned that the rental payments were not substantially equivalent to the plant's value. Consequently, the court held that the transaction was a valid lease. Additional indicators of the lack of an intent to sell were the reasonable rent charged by RFC and its unsuccessful attempt to sell the property.

To further augment their rationale, the court uniquely interpreted Code Section 23(a)(1)(a), the predecessor of Code Section 163(a)(3). This section, as previously discussed, denies rental deductions if the lessee has an equity interest in the property. The court felt it implied that a lessee did not have an equity interest until he exercised the option. This is because before an option is exercised, monthly payments are necessary to continue using the property. As a result, Breece Veneer did not acquire any equity because payments were necessary for his continued use.

This liberal decision can be considered as authority, at least in the Seventh Circuit, for reaching a similar result. Furthermore, one tax commentator (Schwanbeck, 1961) has suggested that the intent test is utilized by the entire judiciary, including the Tax Court. Nevertheless, the Service, through a series of rulings, has placed considerable emphasis upon economic factors. These rulings, coupled with the predilection of most courts to follow the Tax Court's lead in the use of the economic test, would

place the taxpayer in a very difficult position if he relied upon this reasoning. The following section examines the Service's position.

ADMINISTRATIVE STANCE ON DIRECT LEASES

The Service formally expressed its position on the difference between conditional sales and direct leases in a series of revenue rulings issued in 1955. The major ruling, Rev. Rul. 55-540 (1955-2 CB 39), stipulated that each case must be examined in the light of its own particular facts in order to determine intent at the time the agreement was executed. Whenever the Service analyzes these facts, it will regard a transaction to be a sale if one or more of the following conditions are present (Rev. Rul. 55-540):

a) Portions of the payments specifically apply to an equity with the lessee or are specifically designated as interest.

b) The lessee automatically receives title after he pays a stated amount of required rentals.

c) The cumulative amount of rent the lessee is required to pay over a relatively short period of time is an "inordinately large portion" of the sum that would have been paid to transfer title.

d) The required payments exceed current fair rental value.

e) The property may be acquired with a purchase option at a price which is nominal in comparison to its expected fair market value at the time of exercise, or which is small

in relationship with the aggregate amount of required payments.

f) The total lease payments approximate the total amount the lessee would have paid if he had directly purchased the property.

These guidelines were applied in a series of rulings in 1955. In the first of these, Rev. Rul. 55-25 (1955-1 CB 283), a trust agreement allowed a taxpayer to lease automotive equipment from a trust. The trustee had only bare legal title to the equipment while the taxpayer had all rights and obligations of ownership. Rents paid approximated the trust's cost plus interest and incidental expenses. Moreover, the taxpayer could at any time acquire full title to the equipment simply by paying the unpaid balance. The Service, noting the equality of total rental and option payments with the amount the lessee would have paid in a sale, held that the transaction was actually a sale.

In the second of these rulings, Rev. Rul. 55-542 (1955-2 CB 59), a lessee contracted to pay $150X in quarterly payments over fifteen years for the use of equipment. Once again, the Service compared total payments made by lessee with the payments that would have been made under a hypothetical sale. It estimated that the equipment could have been purchased directly for $150X with interest of $40X being paid over 15 years for a total payment of $190X. Under the lease contract, the Service added an

estimated interest element of $36X to the rentals of $150X and option price of $40X to arrive at a total payment under the lease contract of $226X. This amount was considered to be approximately equal to the total payment of $190X under a hypothetical sale. Consequently, the transaction was reclassified as a conditional sales contract requiring the quarterly payments to be capitalized to the extent they did not represent interest or finance charges.

The last of this series of rulings, Rev. Rul. 55-541 (1955-2 CB 19), examined a transaction where a lessee enjoyed all of the benefits of ownership for substantially the entire life of the property. In this ruling, the owner furnished equipment to a lessee for 36 months at fixed rental payments. The agreement could be renewed, annually, for an aggregate of ten years with all operating expenses paid by lessee. Since there was no provision for the lessee obtaining legal title, he was required to return the property at the end of the lease period (thirteen years if all renewal periods were taken). Even so, the Service concluded that the lessee was enjoying significant benefits for substantially the entire life of the equipment and considered the transaction to be a conditional sale.

JUDICIAL REACTION TO THE SERVICE'S POSITION

The series of revenue rulings just discussed did not provide the desired certainty of judicial application. This is because the judiciary was usually more liberal in the analysis of leases than the Service. Specifically, one

commentator observed that courts tended to consider transactions to be sales only if several of the quantitative factors listed in Rev. Rul. 55-540 were present (Frank, 1964). In contrast, Frank believed the Service automatically reclassifies leases if any of those factors were present. This divergence of views was evident with several judicial decisions made soon after the promulgation of Rev. Rul. 55-540.

In direct contrast to the Service's automatic treatment of transactions containing explicit provisions for interest as sales, a jury in Norfolk Southern Railway (FS (DC) Va (1960)) held such a transaction was a valid lease. The judge emphasized in his instructions to the jury that it was their responsibility to determine whether a provision for interest prevented lease treatment. The jury's decision implies that other facts can overcome the inclusion of an interest factor, despite the Service's position to the contrary.

The Service would also treat a transaction as a sale if the lease payments were approximately equal to the amount that would have been made if the property had been purchased. This requirement would reclassify all contracts providing for the application of rental payments against the option price. Nonetheless, the presence of this provision may not automatically designate that a sale was the parties' original intent. Instead, the lessee may originally lease property to ascertain if it is satisfactory and then at a

later date make the decision of whether or not to purchase it. In this circumstance, intent at the time of contract was to lease and not to purchase.

The Tax Court has recognized the need for flexibility by allowing lease treatment in several cases containing this provision. For example, in WBSR (30 TC 747) a taxpayer leased a radio station to determine whether it would be a profitable venture. While leasing the station, he successfully obtained a license from the Federal Communication Commission which was necessary to operate the station. After it was received, the taxpayer acquired the station by reducing the purchase price with rental payments previously made. The Tax Court, noting that acquisition of the license was not assured at the time of contract, held there was no original intent to purchase. Accordingly, it did not reclassify the transaction as a sale.

These cases demonstrated that factors identified in Rev. Rul. 55-540 do not individually determine the outcome of judicial decisions. Instead, judges will weigh all factors in their determination of original intent. No steadfast rule has yet been developed.

ADMINISTRATIVE POSITION ON LEVERAGED LEASES

While the guidelines issued in 1955 provided some guidance for taxpayers constructing direct leasing transactions, many taxpayers could not ascertain the Service's position on the addition of third parties acting as lessors in leveraged lease transactions. Accordingly, in

1975 the Service issued two revenue procedures, Rev. Proc. 75-12 (1975-1 CB 715) and Rev. Proc. 75-28 (1975-1 CB 752) which delineate conditions that must be met before an advance ruling can be obtained. One commentator has suggested that these guidelines will probably be applied to direct leases even though they were geared toward leveraged leases (Berlin, 1975). These guidelines are discussed below.

Minimum Investment Requirement

The lessor must have a minimum unconditional investment of twenty percent in the total acquisition cost of the property (Rev. Proc. 75-12 Sec. 4(1)). This must be in the form of an equity investment of actual consideration paid or personal liability incurred by the lessor. He must also be able to demonstrate that he has sufficient net worth to satisfy this liability by submitting financial data in the ruling request.

Residual Value and Useful Life

Rev. Proc. 75-12 also requires leased property to have a reasonably estimated fair market value at the end of the initial lease term equal to at least twenty percent of original cost. The residual value must be estimated at the time of contract without taking into consideration inflation, deflation, or any cost of removal and delivery of the property back to the lessor. This appears to be a very demanding requirement because an estimate of the residual

value ten or fifteen years into the future is extremely difficult, and is often little more than an educated guess. In addition to this stringent provision, Rev. Proc. 75-12 stipulates that the remaining useful life at the end of the lease term must be the greater of one year or twenty percent of the originally estimated useful life. As a result, this revenue procedure appears to place an unreasonable burden upon the leasing parties.

Purchase Options

In an attempt to ensure that the lessor retained risks of ownership, the Service held that purchase options can only be based on the fair market value existing at the date of exercise (Rev. Proc. 75-12 Sec. 4(2)). Consequently, fixed dollar purchase options are not allowed. This rigid position is contrary to judicial positions in both intent and economic tests. Generally, fixed purchase options have been allowed if they approximate the fair market value at the end of the term estimated at the execution of the contract. Only when the purchase option price was low in comparison to the estimated fair market value would courts tend to classify transactions as conditional sales. The judiciary and even the Service in Rev. Rul. 55-540 have looked at the facts existing at the time the contract was made to determine the intent of the parties. Now, the Service is requiring the purchase option to be equivalent to the exact fair market value on the date of exercise. This requirement appears to be extremely arbitrary and may not

hold up under judicial scrutiny.

Any provisions in the lease agreement requiring the lessee to purchase the property at the end of the rental period were expressly prohibited by this procedure. These arrangements, known as puts, are attempts by lessors to lock in their profit which in most instances will be derived from the property's salvage value. The Service views this as transferring the risks of ownership to the lessee. Nevertheless, these guidelines do not appear to prohibit the lessor from entering into an agreement with a party totally unrelated to the leasing tranaction.

Profit Requirement

The lessor must demonstrate that a profit will be generated exclusive of any tax benefit, otherwise, the economic reality of ownership would be severely weakened.

Uneven Rent

The Service maintained that uneven rents often distort the lessor's income on an annual basis. Even so, several safe-haven criteria for uneven rents have been provided for in circumstances where it was felt a distortion of income would not occur. Specifically, the Service will not challenge a rent payment schedule if one of the following safe-habor rules is satisfied (Rev. Proc. 75-12 Sec. 4.08):

1) The annual rental payments for each year are within 10% of the average rental payment. This average is computed by dividing the total rental payments by the number of years

in the lease term.

2) During the initial portion of the lease term, annual rents are always within 10% of the average rental for that initial term. The initial lease portion is at least two-thirds of the entire lease term. Additionally, annual rent for any year during the remainder of the lease must not be greater than the highest annual rent in the initial lease period and also not less than fifty percent of the initial periods' average rent. If these safe-haven criteria are not satisfied, uneven rentals may be allowed if there is a valid business reason for their fluctuation.

Limited Use Property

An additional factor was added by the Service in Rev. Proc. 76-30 (1976-2 CB 647). That is, the Service will not issue advance rulings for leases of limited use property. This is property that is not expected to be useful to the lessor at the end of the lease term except through its continued renting to the lessee.

SUMMARY

In analyzing these revenue procedures, it must be remembered that they were not intended to legally identify situations where a lease exists, but merely to describe the circumstances when an advance ruling would be available. Taxpayers must consider these factors as well as judicial criteria in the construction of leasing transactions even though they do not have the same legal force.

Two administrative guidelines generated in Rev. Proc. 75-12 seem to run contrary to accepted case law. The provisions requiring purchase options to equal fair market value existing at the date of exercise and residual values to be accurately predicted at the time of the contract appear to be too strict. This is because courts have held that intent of the parties is to be determined in light of facts existing at the time of the original transaction. This study will attempt to reduce the uncertainty caused by this complex situation by empirically identifying quantitative factors utilized by the judiciary. Yet before this is done, the conclusions of previous lease studies are analyzed.

CHAPTER III

SELECTED LITERATURE REVIEW

The purpose of this chapter is to review past literature concerning proper tax classification of lease transactions. Because the majority of these articles are qualitative comparisons of guidelines established by the Service and various judicial forums, their approach is very different from the methodology that was used in this study. Even so, their analysis was useful in several ways. First, they constituted an excellent source for identifying factors crucial in the distinction between sales and leases. Additionally, they provided insight into development of judicial and administrative guidelines, particularly the relationship between the Service and the courts.

Since most of these studies followed a similar pattern, this section is not intended to be a complete literature search. Instead, it will summarize the major interpretations and point out any differences of opinion.

Johnson

The year before the Service anounced its positiion on leases in Rev. Rul. 55-540, Johnson (1954) critically analyzed the economic and intent tests developed by the

judiciary. By comparing them to the basic tax objectives of equity, certainty, and administrative ease, he concluded that both had severe shortcomings. Specifically, the economic test developed by the Tax Court had been expressed in so many different ways that Johnson decided it was of little help to taxpayers. Though it may at first have appeared to be an objective test based on economic factors, Johnson found this appearance to be deceiving. Objective tests provide certainty of application only if they are stated with clarity. Even after allowing for the difficulty inherent in devising a rule for the ambiguous and complex lease versus sale issue, Johnson decided that the necessary precision was absent. He concluded that the economic test did not at that time constitute a clear guide.

The more subjective intent test fared even worse. Despite the fact that it might be fairer than the economic test because of its flexibility, Johnson felt endless litigation and controversy would result if it were used. Introduction of noneconomic factors increases uncertainty since taxpayers would not know in advance what factors the courts would consider important. Relevant indicators of intent would change with each case, preventing taxpayers from relying upon judicial precedence. Johnson considered this an unsatisfactory situation.

Since neither of these tests were suitable, Johnson proposed several modifications to achieve the requisite certainty. With respect to the economic test, he believed

it was basically an analysis of two factors: excessive rent and nominal purchase option. Greater simplicity and clarity could be introduced if the courts realized this and restated the test accordingly. Johnson proposed the following approach:

1) If rental payments do not exceed fair market rental, the transaction is a lease.

2) If rental charges exceed fair rental value but the option price is equal to expected fair market value, the transaction is a lease.

3) In all other cases, the transaction is a sale.

Johnson suggested that this method would achieve the desired certainty of application while still staying within the framework developed by the Tax Court.

Alternatively, the intent test could be restructured so that the transaction's original form would be the sole criteria indicating the parties' intent. That is, transactions would be taxed in accordance with the form designed by the lessee and lessor, without any interference from the Service or judiciary. Since no transaction would be reclassified, the goals of certainty and administrative ease could be achieved. However, this would probably open the door to substantial tax abuse. Taxpayers could artificially determine the tax outcome of the transaction simply by designating its form, making leases an effective

avenue for tax avoidance. Due to the possibility of abuse, Johnson did not consider this modification of the intent test to be realistic.

Alternative Approach. Johnson reasoned that neither of these tests were totally satisfactory because they classified transactions as sales or leases without providing a third alternative. He felt this could cause absurd results by taxing a transaction as a sale even if the option was never exercised and the lessee never became owner. Insistence on classifying a transaction as either a sale or a lease ignored, he maintained, the fact that most transactions have elements of both leases and sales. Johnson believed this dual nature must be recognized in the determination of proper tax treatment.

To implement this concept, he suggested that all option agreements should be treated as sales unless title passed only upon payment of a substantial option price. In those circumstances, a transaction would receive dual treatment. That is, both the lessor and lessee would treat the payments as rent to the extent of fair market rental, with any excess considered as a partial payment on the purchase price. This would require the transaction to be left open until the cost basis of the lessor was exceeded by the purchase payments. At that point, the lessor would recognize a sale. Whenever the option was exercised, the transaction would be treated as a sale by both parties. If it was never recognized, the lessee would incur a loss in the year the option expired to

the extent of his excess payments.

Since this method took into account the dual nature of lease-purchase agreements, Johnson believed it recognized the economic essence of the transaction. Furthermore, it would be relatively easy to administer, since transactions would be left open to let future events determine the appropriate tax treatment. Consequently, there would be no need for judicial and administrative identification of original intent. Despite these advantages, this recommendation received little attention in the tax literature.

Silk

Silk (1964) noticed that the judiciary appeared to be more lenient than the Service in several of its decisions after the issuance of Rev. Rul. 55-540. He believed this discrepancy resulted from different approaches being taken by these two branches of government. To provide a foundation for his analysis, Silk developed a framework to explain basic lease relationships. In so doing, he concluded that taxpayers are motivated to lease property instead of purchasing it because of differences in allowable deductions for rent and depreciation. In many circumstances, the amount an individual can deduct as rent exceeds the amount of depreciation that would be available if he had purchased the property. In a lease-option transaction, a lessee has advantages of larger rental deductions resulting from the lease aspect of the agreement

in addition to potential benefits of ownership through exercise of the option clause.

In return, a lessor determines his rental charges in order to recoup his cost, profit, and an additional interest charge from the lessee before the property worthless. To serve as a cushion against future decreases in value, the rent charged during a period often exceeds the asset's decline in market value. Silk calls this difference between total rents received and decline in the asset's fair market value the reserve factor. The amount the lessor will charge to enable him to recover his cost, profit, and interest during the term of the lease gives rise to a normal reserve factor. However, an excessive reserve factor often occurs if the rental period is significantly less than the asset's useful life. Because the lessor would then have to rerent or sell the property in order to have a profit, he usually charges a higher rent. With higher rental charges, payments will exceed declines in market value to an even greater degree, causing a higher reserve factor. A higher reserve factor, enables the lessor to recoupe more of his cost and desired profit from the lease transaction. This allows him demand a smaller option payment, which could easily be below the asset's fair market value. Silk called the difference between the option price and value the equity factor.

After examining the provisions of Rev. Rul. 55-540, he concluded that the Service treates contracts whose option price is below the assets' market value as purchases. Or

when, in terms of his analysis, the lessee has an equity factor. In contrast, he maintained that the judiciary tolerated a normal equity and reserve factor,and will reclassify a transaction only if they are excessive. In other words, courts allow options to be below market values until the difference becomes too great, while the Service reclassifies transactions whenever option prices are below expectedvalues. He suggested the court's tolerance may reflect a subconscience desire to aid taxpayers who are not overly agressive in obtaining the tax advantages of leases.

Schwanbeck

Schwanbeck (1968) compared the lease capitalization requirements of APB No. 5 with those developed by the judiciary and Service. While APB Opinion No. 5 dealt solely with two economic relationships, Schwanbeck believed that the judiciary and Service did not limit thenselves to these factors but also considered other, more subjective criteria, both economic and noneconomic in nature. To illustrate this difference, he compared and contrasted the two factors in APB No. 5 to others he considered important in the judicial and administrative distinction between sales and leases.

The first provision of APB No. 5 prohibited lease treatment for transactions containing nominal renewal options. Despite the importance of this factor, neither the APB, Service, nor judiciary had specified what constituted "nominal". Instead, each group had examined the renewal option in light of facts and circumstances peculiar to its

lease contract. Though Schwanbeck agreed that no arbitrary formula could be derived to define "nominal", he did advocate an approach taxpayers could use to indicate whether the renewal rate was too low. This was done by comparing an asset's expected value with the present value of the rental payments during the renewal period. He believed that renewal options were nominal if the present value of the rental payments was less than anticipated value. If the two amounts were approximately equal, the renewal rate could be considered appropriate.

To operationalize this concept, Schwanbeck suggested that undepreciated cost at the end of the initial term could be used to approximate future expected value. Conceding that undepreciated cost is no indication of value, he still argued it may be a reasonable approximation of value ten or fifteen years into the future. This relationship may have been true when Schwanbeck wrote the article in 1968, a period of relatively little inflation. However, changes in the economy resulting from sustained inflation may have destroyed any connection between decline in value and accumulated depreciation. Consequenlty, Schwanbeck's reliance on undepreciated cost may not be warranted in today's economic environment.

Regarding APB No. 5's second provision prohibiting bargain purchase options, Schwanbeck cautioned that care should be taken in determining whether an option is a bargain. He avered that clauses allowing lessees to reduce

their purchase prices with rents ready paid should not automatically receive sale treatment. Though these provisions are strong evidence that the parties intended to create a sale, Schwanbeck argued that they can indicate an intention to lease if the rents were reasonable and the option price reflected the expected decline in value. Once again, Schwanbeck argued, all facts of case, including those noneconomic in nature, must be taken into consideration.

Schwanbeck maintained that the entire judiciary utilized the intent test, and used economic factors as only part of the criteria in determining original intent. This position was based on the fact that the Service was reversed in several judicial decisions. Basically, he believed that the judiciary considered not only factors listed in Rev. Rul. 55-540, but also other, more subjective indicators of original intent. These nonneconomic criteria included whether or not property was manufactured specifically for the lessee, which party assumed the risk of loss, whether the lessor could remove property at the end of the lease term, or if the lessee's costs of removing the property are substantial in comparison with the rental under the renewal option. Since the intent test is used, all surrounding facts and circumstances must be considered. Thus, Schwanbeck concluded there can be no hard and fast rule in differentiating between sales and leases.

Bitker and Meinikoff

Bitker and Meinikoff (1979) examined lease litigation

to identify factors that determine when a transaction can be restructured for tax purposes. Since both authors are lawyers, their approach was somewhat different from that taken by other commentators discussed in this chapter. While most of the articles in this area focused upon the criteria the Service and courts use to determine whether a transaction should be reclassified, this paper also examined issues dealing with the legal process, such as the parole evidence rule.

Before these issues were examined, the authors compared the economic and intent tests developed by the judiciary. In sharp contrast to Schwanbeck, they believed the total judiciary used the economic test despite the fact that some courts have preferred to search for the intent rather than the simply follow the Service's rulings. They suggested that any objection was confined to Rev. Rul. 55-540's arithmetic ratios, rather than to the factors it delineated. This is because Rev Rul. 55-540 was "distilled from prior case law rather than an imaginative revenue agent." Consequently, they felt taxpayers should be able to rely upon the economic factors listed in Rev. Rul. 55-540 in structuring their lease transactions.

After this examination of judicial tests, Bitker and Meinikoff sought to determine whether the lessor or lessee could attempt to restructure a transaction even if the Service was content to accept it in its present form. In other words, can taxpayers invoke the doctrine of substance

over form, or are they stuck with their original designation? The authors noted that some courts have permitted taxpayers to invoke this doctrine as freely as the Service, while others have refused to listen to taxpayers' pleas. Even so, they were of the opinion that most courts allow taxpayers to change their transactions' form in order to make it conform to its substance. This tolerance may result from the belief that the tax treatment should not depend on the labels originally used but that the substance should govern.

Focusing on another issue, the authors noted that the parties may receive different tax treatment if their cases were tried separately. Since each taxpayer has the burden of proof, one party might be more convincing in his arguments than the other. This is especially true if the cases are being tried in differrent judicial forums. While the lack of consistency is disturbing, the authors could not identify any enforceable safeguard against inconsistent treatment.

In as much as the Service and judiciary rarely consider prior oral agreements in their reclassification decision, the authors concluded that the parole evidence rule was not applicable to the lease versus sale issue. Nonetheless, if courts reclassify a lease, they may determine the appropriate sale price by referring to prior unsuccessful sale attempts.

Berlin

Berlin's article was written shortly after the Service anounced it position on leveraged leases in Rev. Procs. 75-12 and 75-28. After reviewing these new requirements, Berlin concluded they should help eliminate the lack of consistency previously existing for leases in both tax and financial accounting. For example, he viewed the doubling of percentage requirements for the asset's remaining useful life from the informal rules of ten percent an indication of the Service's desire to come closer to the positions previously taken by the FASB and SEC. Nonetheless, he observed that the Service's requirements were more stringent that those developed by the judiciary. Specifically, Rev. Proc. 75-12 stipulated that lease option prices must be exactly equal to market values at the time of exercise. This in essence proscribed the use of fixed options because prices determined at the beginning of lease terms would rarely equal market values at the time of exercise. Up until this time,Berlin noted, the judiciary had allowed options to appoximate the expected fair market value. If the option price was a reasonable approximation of the asset's future value, courts would generally not reclassify the lease transaction. Accordingly, Berlin concluded that this new provision went beyond the judicial criteria regarding options.

Berlin believed that the Service's more stringent position arose from a desire to insure that the economic risks of ownership would not be transferred from the lessor

to the lessee. However, in as much as the lessor is forced to assume more of the risks of ownership, the costs of of leveragedleases has increased, which may have harmful effects on the the economy.

Englebrecht and Rolfe

Englebrecht and Rolfe (1981) traced the development of judicial and administrative stances ir order to identify relevent factors in the classification of transactions as sales or leases. The factors they identified are depicted in Figure 3-1. The figure also contrasts those factors against the safe-harbor rules enacted in the Economic Recovery Tax Act of 1981. The authors believed that these new rules placed corporate lessors in a strong competitive position. Since tax benefits from the leasing transaction could be utilized in determining the existence of a profit motive for a corporate lessor and there was no requirement for a lease option to approximate fair market value, corporate lessors could charge less rent than noncorporate lessors.

FIGURE 3-1

Englebrecht and Rolfe's Summary of Qualifying Criteria for Leases

Pertinent Criteria / Tax Consequences	Existence in the Transaction		Tax Classification for Transaction NOT Qualifying for Safe Harbor Rules		Tax Classification for Transaction Qualifying for Safe Harbor Rules	
	Yes	No	Lease	Sale	Lease	Sale
1. Lessor has minimum continuous at risk amount of 20 percent of the equipment's cost.	X		X		X	
		X		X	a	
2. Twenty percent of the useful life and original value are expected to remain after lease term.	X		X		X	
		X		X	X	
3. Purchase option approximates expected fair market value of equipment at exercise date.	X		X		X	
		X		X	X	
4. Lessee furnishes funds to lessor.	X			X	a	
		X	X	X	X	
5. Profit to lessor apart from tax benefits.	X		X		X	
		X		X	X[b]	
6 Unevenness of rent exceeds allowable amounts.	X			X	X	
		X	X		X	
7. Portions of the payments made by lessee specifically apply to equity.	X			X	X	
		X	X		X	
8. Lessee automatically receives title after payment of a specific amount of rent.	X			X	X	
		X		X	X	
9. Rent is higher than fair market rent.	X			X	X[c]	
		X	X		X	
10. A large portion of the cost of the equipment equals the payments required to be made in a short time.	X			X	X	
		X	X		X	
11. Total payments plus the option price approximate the cost that the lessee could have purchased the equipment for plus an interest element.	X			X	X	
		X	X		X	
12. Property is not expected to be useful to the lessor at end of lease term except through continued leasing to lessee.	X			X	X	
		X	X		X	

a. Only 10 percent of the asset needs to be at risk under the safe harbor rules.
b. Tax benefits may be included as the lessor evaluates profitability.
c. The rental payments will probably be below the fair rental amount.

Nonetheless, the authors concluded that until Congress recognizes this inequity, noncorporate lessors must abide by the more stringent guidelines depicted in Figure 3-1.

SUMMARY

These articles demonstrate that no consistent guide had yet been identified to distinguish between sales and leases. Taxpayers did not know whether only economic factors determine the case's outcome, as suggested by Bitker and Meinikoff, or whether noneconomic factors are also considered, as proposed by Schwanbeck. Moreover, even when there is agreement on the significance of a particular variable, there is often no consensus as to its interpretation. For example, each of these articles stressed the importance of the relationship between option price and expected fair market value. Even so, there was no agreement as to the amount an option price can be below the asset's value before the transaction should be regarded as a sale. While the Service maintains the relationship should be exactly equal, the judiciary appears to accept an approximate relationship, or at the very minimum, an option that is not nominal. Since, no guidelines are provided to depict when an option price is satisfactory, taxpayers are left with a great deal of uncertainty.

This study seeks to fill this void by systematically analyzing lease versus sale cases to determine the factors, both economic and noneconomic, that can explain judicial decisions. The methodology that was employed not only was

able to identify the crucial variables, but also could interpret their impact upon the judicial process. The next chapter examines in detail the techniques that were employed.

CHAPTER IV

METHODOLOGY

Logit analysis was the statistical procedure used to examine the data in this study. The primary purpose of this chapter is to discuss the theory and application of this technique. Additionally, to support the use of quantitative techniques over the more widely used descriptive approach, results of previous empirical tax studies are examined and contrasted. The procedures used to verify and interpret the statistical models are also discussed.

EMPIRICAL STUDIES IN TAXATION

Previous Studies Using Regression Analysis

Much tax research consists of qualitative descriptive analyses of cases to identify key factors inherent in judicial decisions. This approach is useful when the issue is straightforward, with relatively few variables affecting the judicial decision making process. However, the increasing complexity involved in more intricate tax issues reduces the usefulness of such analysis. That is, when cases are decided only by assessing multiple and interactive variables, the effectiveness of relying on specific precedents is reduced since precedent cases will rarely

correspond closely enough to the current fact situation. Quantitative research techniques may be able to identify variables and patterns which would escape detection by qualitative methods because these techniques incorporate and synthesize patterns developed in separate cases.

Kort's Study. One of the first applications of quantitative analytical techniques to legal issues was Kort's 1957 study of the United States Supreme Court's right to counsel decisions. Kort hypothesized that the Supreme Court would not overrule a state court's decision unless there was more than one factor indicating the defendant had received an unfair trial. To test this theory, numerical values were assigned to qualitative factors mentioned in the decisions in order to calculate a score for each case. A critical score for an affirmative vote was determined by comparing the scores of cases that had been overruled with those that had not. Using this critical score, Kort correctly classified all fourteen cases in his hold out sample. The high degree of accuracy Kort achieved in this study and in a follow up study in 1963 using factor analysis and multiple regression are impressive, not only because they validated Kort's theory, but also because he did not have any statistical computer programs at his disposal. Obviously, the recent creation of computer packages has greatly facilitated this type of research.

Englebrecht's Study. Englebrecht (1976) used multiple

regression to examine the Tax Court's valuation process of closely held stock. He concluded that guidelines established by the Internal Revenue Code, Treasury Regulations, and Revenue Rulings jointly explained 86.5% of the Tax Court's valuations. A closer analysis revealed that court determined values were within ten percent of the stock's book value. Additionally, a simple regression model consisting of only the midpoint between the Service's and taxpayers' claimed values explained 97% of the valuations. If the judiciary uses compromise values instead of the requisite valuation principles, taxpayers and the Service could have a direct impact upon the courts' valuations by artificially stating their original appraisals. Accordingly, Bosland (1963) stated that this situation defeats justice. A followup study by Englebrecht and Jamison (1979) revealed that compromise values only explained nine percent of the Tax Court's determined values of charitable contributions. As a result, taxpayers and the Service should not be able to artificially influence the Tax Court's decision with respect to this income tax issue.

Boyd's Study. Another examination of Tax Court decisions with regression analysis was Boyd's (1977) study of the judicial determination of reasonable compensation in closely held corporations. His regression model consisting of the guidelines established by the U.S. Supreme Court in Mayson Manufacturing explained 87.1% of the variance in the 75 cases analyzed.

Kramer's Study. Regression analysis was also used by Kramer (1982) to investigate the valuation of large blocks of stock. Unlike the previous two studies, there were no legislative or administrative guidelines already developed in this area. Therefore, variables included in the analysis could only be identified through a search of the literature and relevant judicial decisions. These variables only accounted for 67% of the variance in Tax Court valuations, an amount lower than that obtained by both Boyd and Englebrecht. Less variance may have been explained because Kramer was attempting to identify variables that had not been formally delineated by the Service or judiciary while Englebrecht and Boyd sought to determing whether the judiciary was using established guidelines.

Previous Studies Using Discriminant Analysis

Since regression analysis assumes the dependent variable is continuous, it is applicable in the analysis of valuation decisions. However, it may not be appropriate in other areas of taxation where the dependent variable is binary. That is, the judicial decisions are either for or against the taxpayers. In these circumstances, discriminant analysis has often been used. For example, Bond (1977) used both linear and nonlinear discriminant analysis to determine how the Tax Court classifies as debt or equity funds provided by owners of corporations. The variables identified in the linear analysis misclassified only six of the ninety-six cases in the original sample and one out of

eight in the hold out sample. The quadratic analysis did not improve upon the accuracy of the linear model.

Another application of discriminant analysis was Madeo's 1979 study of the accumulated earnings tax. A discriminant function based on the IRS' audit manual was found to be more accurate than one based on the treasury regulations. She concluded this might give an unfair advantage to the Service since all taxpayers do not have access to audit guidelines.

Assumptions of Discriminant Analysis

Each of these studies revealed patterns or variables undetected and/or unproven by descriptive techniques. Given the complexity of the leasing issue and the success of previous researchers, cases involving leases were analyzed quantitatively with statistical methods. However, before discriminant analysis can be used, two critical assumptions must be met: the independent variables must observe a multivariate normal distribution and the group dispersion matrices must be equal across all groups (Eisenbeis (1977) p. 875). Because these assumptions are violated when some of the independent variables are discrete, discriminant analysis should only be utilized if its classification and prediction abilities are not materially affected by these violations.

Currently, the robustness of the multinormality assumption is unclear. Some early studies appeared to show that the classification ability of discriminant analysis is

not seriously affected. For example, Gilbert (1968) compared the performance of a linear discriminant function consisting of discrete variables with the performance of two logit models and concluded the loss of precision using the linear function was small. Krazanowski (1975) further substantiated this with his analysis of discriminant analysis using both binary and continuous variables. Despite these studies, recent research has cast a shadow over discriminant analysis' robustness with respect to this assumption. Pinches (1980) has stated it is much more important than most applied researchers have previously realized. Eisenbeis (1977) agrees, and maintains that violations bias the tests for significance and estimation of the error rates. Furthermore, whenever the independent variables are not multinormally distributed, group dispersion matrices are seldom equal (Pinches, 1980).

The second assumption of homogeneity of dispersion matrices is critical for the use of discriminant analysis (Eisenbies and Avery, 1975). If the group dispersion matrices are not equal, the classification rules and significance tests for the difference in group means could be seriously affected. For example, Cooley and Lohnes (1971, p. 267) have determined that in groups with equal probabilities of group membership the group with the larger dispersion will tend to have more cases assigned to it.

Fienberg (1980) noted that the use of statistical estimates developed from a discriminant analysis will not be

consistent if the basic assumptions are violated. He has suggested that in these circumstances logistic analysis may be superior to discriminant analysis because it does not have the same basic assumptions. Moreover, the basic logistic relationship seems to be more realistic than that of linear discriminant analysis. This is because linear relationships may not be appropriate if the presence of one factor, such as a nominal purchase option price, makes a particular decision inevitable. In these circumstances, variations of other variables would have little impact upon the decision. However, if that variable were not as pronounced, as when the option price approximated the expected fair market value, variation of the other variables may be significant. This interaction effect cannot be incorporated into discriminant analysis but can be in the cumulative logistic function (Pindyck and Rubinfeld, 1981).

FIGURE 4-1

Comparison of Linear and Cumulative Logistic Functions

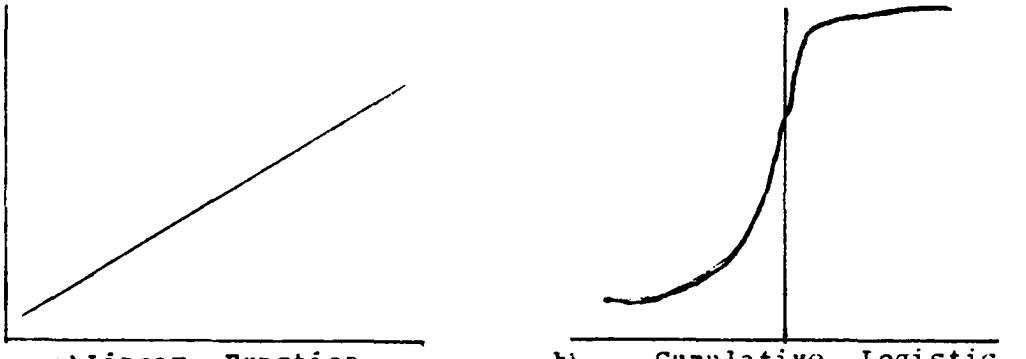

Figure 4-1 contrasts the cumulative logistic function,

the underlying relationship for logit, with a linear association. The cumulative logistic function has a tilted S association in that there are no uniform increases in the probabilities of a particular decision as the independent variable increases, as occurs in linear relationships. Instead, the independent variable has its greatest impact at the midpoint of its distribution, where the slope is the steepest. Near the endpoints of the distribution, large changes are needed to have a significant impact upon the dependent variable.

Since logit does not have the restrictive assumptions of discriminant analysis and observes a more realistic association between dependent and independent variables, it was used to analyze the data in this study.

Logit

Logit analysis constitutes one category of a broad group of statistical analysis known as log linear analysis. Whereas logit analysis focuses on the underlying relationship between known independent and dependent variables, ordinary log linear analysis does not specify any variable as dependent but examines all associations. Essentially, log linear models attempt to explain differences between observed and expected frequencies but bypasses the frequencies themselves by focusing on the odds related to various associations. These odds are the chance that a randomly selected observation will fall into one category as opposed to another. Even more specifically, log

linear models concentrate upon conditional odds, the chances of choosing an alternative given knowledge of its group membership. A useful variation of such conditional odds is the log odds ratio, simply a ratio of conditional odds. If the variables are not associated, the conditional odds will be equal (i.e., the odds ratio is 1). A ratio greater than one signifies direct covariation while a ratio less than one represents a negative relationship. The following example illustrates the usefulness of conditional odds.

A crosstabulation of race and support for a hypothetical candidate is depicted in Figure 4-2. The odds that an individual would support this candidate is 1900/1500. The odds of black individuals supporting Candidate A is 400/900 or .44 while the conditional odds of white voters supporting him is 1500/600 or 2.5. This means that the odds of whites supporting the candidate are approximately 5.7 times higher than that of blacks indicating there is a positive relationship between support and race. Accordingly, knowledge of an individual's race is useful in predicting political support.

Though the odds ratio is useful in determining relationships, it is based on the multiplicative model depicted in equation 1.

(1) $X_{ij} = \eta \tau_i^v \tau_j^m$

where

X_{ij} is the expected cell frequency;

η is the geometric mean of the number of cases in each cell

FIGURE 6-2.

Crosstabulation of Race and Support for Candidate A

Support	Race: Black	Race: White	
Yes	400	1500	$f_1 = 1900$
No	900	600	$f_2 = 1500$
	f.2 = 1300	f.2 = 2100	

τ_i^V is the effect which factor V has on cell frequency; and

τ_j^m is a function of product of two conditional odds.

Since multiplicative models are very difficult to manipulate, a logarithmic transformation is taken to transform the equation into a more manageable additive function (Knoke and Burke, 1980).

(2) $\ln X_{ij} = \ln(n) + \ln(\tau_i^V) + \ln(\tau_j^m)$

By letting $U = \ln(n)$ we get

(3) $\ln X_{ij} = U + U_{1i} + U_{2j}$

Since $\ln e = U$, we can restate equation 3 as

(4) $\ln X_{ij} = \ln e + \ln e^{U_{1i}} + \ln e^{U_{2j}}$

Logit analysis assesses the effects of independent variables upon the dependent variable by examining the exponents of equation (4) which are analagous to regression coefficients. The basic principles of logit can be easily demonstrated with the cumulative logistic function, the distribution upon which it is based (Pindyck and Rubinfeld,1981)

$$(5) \qquad P_i = \frac{1}{1 + e^{-(\alpha + \beta X_i)}}$$

where

P is the probability that an individual will make a certain choice, given X .

This equation can be simplified in the following steps:

6) $(1 + e^{-(\alpha + \beta X_i)}) P_i = 1$

7) $(1 + e^{-(\alpha + \beta X_i)}) = 1/P_i$

8) $e^{-(\alpha + \beta X_i)} = 1/P_i - 1$

9) $e^{-(\alpha + \beta X_i)} = (1 - P_i)/P_i$

10) $$e^{-(\alpha+\beta X_i)} = P_i/(1-P_i)$$

By taking the natural logarithm of both sides of equation (10) we obtain

11) $$\alpha + \beta X_i = \ln\left(\frac{1}{1-P_i}\right)$$

This is the logit model. The dependent variable is the logarithm of the odds that a particular choice will be made. Unlike a probability function, log odds ratios are not constrained between zero and one but can occur anywhere on the positive real line.

Logit analysis attempts to explain variations in the dependent variable by estimating the parameters of the logit function. A model that explains all effects of the dependent variable is referred to as saturated. In this model, all variance is accounted for because a separate parameter is calculated for each possible combination of variables. While everything is explained, the function would be too large to effectively interpret. On the other hand, nonsaturated models do not totally explain all variance but are small enough to easily interpret. These models use a hierarchical rule to indicate the highest order effect parameters to be included. Bio Medical Computer Programs (1979), the statistical package used in this study, considers an interaction for possible entry into the function only if all lower-order interactions and main effects have already been entered into the model.

The best fitting logit model can be estimated with a forward or backward step-wise procedure. A backward process starts with a saturated model and then eliminates superfluous terms. This may be very time consuming since

the saturated model could be very large. A forward step-wise procedure takes the opposite approach by first estimating a constant and then entering terms one at a time until no significant improvement can be made on the explanatory ability of the model. Knoke and Burke (1980) recommend the use of a forward procedure because it is more parsimonious.

The fit of each model developed in the step-wise procedure is determined by calculating the decrease in the chi-squared statistic. While the focus upon the decrease may appear to be contrary to the strategy utilized in the chi-square test, there is actually no conflict. This is because the basic objectives are different. In the traditional chi-square test, independence of the variables is being determined by testing the null hypothesis that no association exits among the variables. This hypothesis can only be rejected by finding a high chi-square statistic. In contrast, logit analysis attempts to explain the basic underlying relationship by estimating an additive function. A good model would classify observations in a manner similar to that found in the observed groupings. If the relationship between expected and observed classifications is close, the chi-square would then be low. This step-wise procedure continues until there is no further significant decrease in the chi-square statistic.

Maximum Likelihood Estimation. The analysis described relates to the general logit model consisting of categorical

independent variables with a large enough sample size to provide members for all possible combinations of variables. For studies with continuous as well as categorical independent variables and/or small samples, modifications are made to this basic procedure. Specifically, this is done by estimating the model with maximum likelihood estimation techniques (Pindyck and Rubinfeld, 1981). This method is appropriate because a unique maximum always exists for a logit model. Moreover, it overcomes the necessity of grouping variables by assigning a distinct probability to each individual observation. Since data does not need to be grouped, continuous variables can be used.

To accomplish this, information is provided for the particular decision(Yi) made for each observation. In order to find a pattern for these observations, maximum likelihood methods estimate the parameters α and β. This process is started by constructing a maximum-likelihood function. If N1 cases are held to be leases and N2 cases sales, the likelihood function would have the following form (Pindyck and Rubinfeld, 1981):

12) L=Prob (Y_1, Y_2) where

Y1 represents a transaction classified as a lease and

Y2 represents a transaction classified as a sale. Maximum likelihood techniques assume that observations are independent so that $P(Y_1 \wedge Y_2)$ is equal to $P(Y_1)\ P(Y_2)$. This allows (12) to be restated as

13) L=Prob (Y_1)*Prob (Y_2)

Since the probability that a transaction is a lease is equal to one minus the probability that a transaction is a sale, equation (13) can be reduced to

14) $L=P_1(1-P_1)$

Because logarithms are easier to manipulate, a logarithmic transformation is taken of equation (14).

15) $\log L=\log P_1+\log (1-P_1)$

Estimations of α and β can be calculated by differentiating (13) with respect to α and β.

SUMMARY

Statistical methods have been very successful in identifying crucial factors in complicated tax situations. One of these techniques, discriminant analysis, has been used to analyze cases whose decisions are binary in nature. Nevertheless, it has two assumptions that must be met: the variables must follow a multinormal distribution and the dispersion matrices should be equal. Recent research has shown that discriminant analysis' results are very sensitive to their violation. Since both are not met by the data in this study, discriminant analysis was not used. However, another statistical procedure, logit analysis, can analyze binary decisions without the need of these assumptions. As a result, it was used to examine lease litigation. The next chapter presents the results of this analysis.

CHAPTER V

EMPIRICAL FINDINGS

The purpose of this chapter is to discuss the independent variables used in this study and report the results of the analysis of lease versus sale litigation. Each research question discussed in Chapter I is examined in detail. In interpreting these findings, it must be remembered that they are tentative in nature since the small sample size prevented definitive conclusions from being made.

THE DATA

Data incorporated in this study consisted of lease versus sale cases tried in the Tax Court and district courts. These cases were identified through a LEXIS search supplemented with manuel research techniques. The other forum of original jurisdiction, the Court of Claims, had not heard any cases relevant to this study. The period this litigation covered was from April 13, 1928, to December 31, 1981. Appeals court decisions were not directly analyzed but were used to supplement data gathered from the original decision. For an overview of these cases, see Appendix I.

INDEPENDENT VARIABLES

The Treasury regulations and Internal Revenue Code of 1954 provided little assistance in determining the variables to be used in this analysis. Code Section 162(a)(3) simply states that rental deductions will be denied if lessees receive an equity interest in property. Because it provides no further clarification, relevant tax articles, administrative rulings, and judicial decisions were reviewed to identify variables crucial in the distinction between leases and sales.

Initially, all factors mentioned by the Service or tax commentators were considered for use in this analysis. These variables are depicted in Figure 5-1. However, several had to be modified or eliminated because of limitations imposed by the data. That is, only factors mentioned by the judges could be used since the data source consisted of judicial opinions. Naturally, some variables were not listed in all judicial decisions. If judges consistently failed to mention a particular variable, or revealed it in only a few cases, it was omitted. For example, the minimum profit and investment requirements of Rev. Proc. 75-12 were excluded. These variables relate only to leveraged lease agreements, few of which have been litigated. Accordingly, their inclusion was not appropriate in analyzing the litigation. To reduce the number of excluded variables, it was assumed that variables not discussed in the opinion were not present in the case. This seemed realistic because failure to consider relevant data

FIGURE 5-1

Variables Originally Considered to be Included in the Analysis

Variable	Coding	
	Continuous	Dichotomous
1. Existence of Specific reference to interest		X
2. Whether leased property was specifically designed for lessee.		X
3. Comparison of lease term and expected useful life.	X	
4. Comparison of original and residual values.	X	
5. Comparison of lessee improvements to option price.	X	
6. Comparison of payments under renewal option with original rental charges.	X	
7. Comparison of monthly rental payments to fair rental value.	X	
8. Comparision of option price to expected fair market value.	X	
9. Comparison of lease payments to payments under hypothetical sale.	X	
10. Rental charges fluctuate.		X
11. Lessor's at risk investment.	X	
12. Existence of nontax profit for lessor.		X
13. Whether lessor bears risks of ownership.		X

can cause a reversal of the decision in a higher court. This assumption was operationalized for dichotomous variables by coding them one if they were present in the opinion and zero if they were absent or not mentioned. Since no such assumption could be made for continuous variables, some of them had to be modified. These changes are described in the discussion of factors used in this examination.

Variables Used

Variable 1. Existence of a specific reference to interest in the lease contract.

Unless other factors indicate otherwise, courts will generally treat lease transactions containing references to interest as sales.

Variable 2. Whether the leased property was designed specifically for the lessee.

The Service considers leases of property not expected to be useful to the lessor at the end of the lease term as evidence of an original intent to sell (Rev. Proc. 78-30). This lack of utility could exist if property was manufactured to meet unique needs of the lessee, making it very difficult to find other parties willing to lease the property after the initial lease term. As a result, the lessor could obtain a profit only by leasing it back to the original lessee.

Variable 3. The lease term is equal to the expected useful life.

If a lessee acquired use of property for substantially less than its useful life, the transaction will generally be treated as a lease unless different factors point otherwise. However, a purchase may be implied if the lease term is approximates the entire life of the asset. Rev. Proc. 75-12 states that the remaining useful life must be the greater of one year or 20% of the original useful life. While the Service's position is not binding upon the courts, there appears to be some consensus that the shorter the expected useful life after the initial lease term, the greater the probability the lease will be reclassified as a sale (Schwanbeck,1968).

Unfortunately, most opinions do not reveal the property's useful life. Since there was no way of estimating it in this study, this variable was dichotomized to measure whether or not the rental period (including extensions) was equal to the expected life.

Variable 4. Improvements were made by lessee.

Though property in a lease generally reverts to the lessor at the end of the rental period, lessees often improve assets they are renting. This may indicate they intended to purchase the property. For example, in Oesterreich (226 F.2d 798), the lessee constructed a building costing $300,000 on land he was renting. The building would revert with the land to the lessor at the expiration of the lease if a $10 option to purchase was not exercised. The Ninth Circuit Court of Appeals considered

the small option price relative to the amount of improvements as one factor indicating a sale was intended. In this study, a ratio made of these two numbers could have had severe measurement problems. That is, the ratio of improvements to option price would have been undefined if the option price was zero, as in an automatic transfer of title. Conversely, the reciprocal would be undefined when no improvements were made. Due to these problems, this variable did not compare the amount of improvements with the option price but simply measured whether the lessee made improvements.

Variable 5. Comparison of payments under renewal option with original rental charges.

Some transactions may be regarded as sales even if lessee cannot receive title to the property. One such circumstance exists when the lessee has the privilege of renewing the lease for an additional period at a nominal rental rate. This arrangement entitles him to enjoy the benefits of ownership while only incurring a relatively small charge. The Service recognized this in Rev. Rul. 57-371 (1955-2 CB 19) by considering a lease of a sprinkler system to be a sale because rental payments for the renewal period were only one-twentieth of the original periodic payment. Accordingly, this variable consisted of the ratio of the original and renewal rates. If no mention of a renewal option was made, it was assumed that the lessor would renew at the original rate.

Variable 6. Comparison of purchase option to the property's expected fair market value.

As noted earlier, the mere presence of an option to purchase does not determine original intent. However, if the option is nominal in relation to the value of the property, Rev. Rul. 55-540 specifies that the transaction would be presumed to be a conditional sale "in the absence of compelling factors indicating a different intent." Since the option price is usually specified at the time of contract, intent can be determined by comparing the option price to the asset's expected value. This valuation amount should be considered in the light of facts and circumstances existing at the creation of the contract, not when the option is later exercised (Slabotsky, 1978). Consequently, this variable was the ratio of the option price to the expected fair market value. This amount was stated by judges if it was different from the original cost.

Variable 7. Percentage of rental payments that can be applied to purchase price.

The Service generally regards a lease as a sale when total rental payments plus the option approximate the total amount the lessee would have paid in if the asset had been purchased (Rev. Rul. 55-540). This position recognizes that an interest element may not be explicitly mentioned in the contract but hidden in the "rental" charges. In this situation, the lessee often pays the same amount he would have if he had directly purchased the property. Hypothetical

sales payments contain an interest element in addition to installments of the purchase price. Since relevant rates of interest are seldom revealed in judicial opinions, this amount cannot be directly measured. However, in these circumstances, the lessee can usually reduce the future purchase price with rental payments previously made (Schwanbeck, 1961). Thus, the percentage of rental payments the lessee can apply toward the purchase price will be used as a surrogate to measure this factor.

Variable 8. Fluctuation of rental payments.

The volatility of the rental schedule will be measured with a dichotomized variable. A zero will be assigned if the rents are constant and a one will be assigned for variable payments.

Variable 9. The lessor incurs the costs of ownership.

In most direct leases the lessor pays for the taxes, insurance and other costs associated with ownership. Transferal of these costs to the lessee may indicate an intention to sell.

Multicollinearity

There was some multicollinearity among a few of the variables originally considered for analysis. For example, the presence of a bargain option always was accompanied by above market rental charges. Also, assets in leases whose term equaled their useful life always had a neglegible residual value. The presence of multicollinearity among variables biases coefficients of the logit function which

impairs determination of relative importance. Moreover, Pinches (1980) determined that correlation among independent variables may also have a substantial impact upon the classification results. Unfortunately, no test exists in logit to determine the impact multicollinearity might have. To reduce this problem, a variable was excluded if it was highly correlated with another.

Logit Model

The variables used are depicted in Figure 5-2. Incorporating these factors in the logit function discussed in Chapter IV yielded the following function:

$$\ln\left(\frac{Pi}{1-P_i}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9$$

where

X1 is the existence of a specific reference to interest,

X2 is whether the leased property was specifically designed for the lessee,

X3 is whether the lease term is equal to expected useful life,

X4 is whether improvements were made by lessee,

X5 is a comparison of payments under a renewal option with original rental charges,

X6 is a comparison of option price to expected value,

X7 is the percentage of rental payments that can be applied to purchase price,

X8 is whether rental payments are constant, and

X9 is whether the lessee bears the costs of ownership.

FIGURE 5-7
Independent Variables to be Included in Analysis

Variable	Coding	
	Continuous	Dichotomous
1. Existence of specific reference to interest.		x
2. Design of propert to meet unique needs of lessee.		x
3. Lease term is equal to expected life.		x
4. Improvements were made by lessee.		x
5. Comparison of payments under a renewal option with original rental charges.	x	
6. Comparison of option to expected value	x	
7. Percent of rental payments that can be applied to purchase price.	x	
8. Rental payments are even.		x
9. Lessor incurs costs of ownership.		x

The next section presents the analysis of this function.

RESEARCH QUESTION 1

Analysis of Stability

Before a model explaining litigated decisions was constructed, the stability of the data was tested in order to determine whether the function analyzed might have resulted from chance and thus could not have been replicated. The need for a determination of stability has been recognized by researchers using other statistical techniques. Crask and Perreault (1977) suggested a method to evaluate the stability of coefficients developed in discriminant analysis. Specifically, a sample can be divided into several subgroups with discriminant functions derived from all groups but one. After each subgroup has been systematically withheld, the coefficients and significant variables derived for each function can be compared and contrasted. Only after this has been done, Crask and Perreault argue, could the model's general validity be evaluated.

Since discriminant analysis and logit analysis are similar, the method just described should also apply to logit. In this study, ten separate hold out samples were withdrawn from the analysis. The resulting logit functions are depicted in Figure 5-3

In each of these functions, variable X6 (ratio of option price to expected value) was significant. Moreover,

FIGURE 5-3

RESULTS OF TEST FOR STABILITY

Sample	Constant	X1	X5	X6	X7	x9
1	.814	.913	0	-.0392	.739	.0161
2	2.030	0	0	-.0353	.663	0
3	2.760	0	0	-.0406	0	0
4	1.180	.899	0	-.0394	0	.015
5	2.740	0	0	-.0382	0	0
6	2.310	0	0	-.0348	0	0
7	2.750	0	0	-.0388	0	0
8	2.400	0	0	-.0428	.738	0
9	2.270	0	-.0247	-.0330	0	0
10	3.990	0	0	-.0371	1.21	0

its coefficient stayed relatively constant. In contrast, there appears to be no pattern to the admission of other variables into the functions. This implies that their inclusion may have been based on chance or were very dependent upon their particular analysis sample. As such, they cannot be replicated. This violates a critical requisite of empirical research (Abdel-Khalik and Ajinka, 1980), causing the general validity of these models to be low. Consequently, the unstable variables were not analyzed and only X6 was included in the analysis. In this manner, internal validity should have been maximized.

Logit Model

The logit model developed from using X6 had the

following form:

$$5\text{-}1)\ \ln\left(\frac{P_i}{1-P_i}\right)=2.26-.0332X6$$

The negative coefficient signifies that an increase in X6 decreases the probability that the transaction will be classified as a sale. This is logical, since higher values of X6 occur when option prices approach fair market values. As indicated earlier, approximation of an option price to expected value is a strong indication that a lease was intended. Consequently, high values of X6 should, in accordance with theory, generate lower probabilities of a sale.

In this study, .5 was used as the cut off probability point in the classification of the cases as sales or leases. Cases with probabilities of less than .5 were assigned lease treatment while those with probabilities exceeding .5 were treated as sales. At this cut off probability, the critical value of the independent variable was calculated to be 68.07. This means that transactions with values less than 68.07 were classified as sales while cases containing values exceeding this amount were predicted to be leases. The critical value was calculated by substituting .5 into equation 5-1, as demonstrated in the following steps:

$$5\text{-}2)\quad \ln\left(\frac{.5}{1-.5}\right)=2.26-.0332X6$$

$$5\text{-}3)\quad \ln(1)=2.26-.0332X6$$

$$5\text{-}4)\quad 0=2.26-.0332X6$$

$$5\text{-}5)\quad .0332X6=2.26$$

$$5\text{-}6)\quad X6=68.07$$

This signifies that the judiciary regards options of less than 68.07% of expected values as conferring an equity interest to the lessee in the cases analyzed.

Figure 5-4 depicts the results of the stepwise process that developed the function. Before the independent variable was entered into the model, the χ^2 statistic was significant at the .003 level. This means that predictions based on a function consisting only of a constant were significantly different from observed classifications. After X6 was entered, the significance level of the χ^2 statistic decreased to .491. As a result, a null hypothesis stating that there is no difference between observed and expected frequencies could not be rejected.

Goodness of Fit

Unlike regression analysis, logit does not compute an R statistic to directly measure the amount of variability explained. Instead, it measures the difference between explained and observed frequencies with the likelihood ratio (L^2) depicted in equation 5-7. This statistic follows a chi-square distribution with the degrees of freedom equaling the number of parameters assumed to have no effect on the expected cell frequencies (Knoke and Burke, 1980, p. 30).

5-7) $$L^2 = 2\Sigma f_{ij} \ln (f_{ij}/F_{ij})$$

where,

F_{ij} is the expected cell frequency, and

f_{ij} is the observed cell frequency.

When the observed frequencies differ greatly from the

FIGURE 5-4
Summary of Stepwise Results

Step No.	Term Entered	DF	Log Likelihood	Improvement χ^2	Improvement p	Goodness of Fit χ^2	Goodness of Fit p
0			-50.859			47.180	.003
1	X6	1	-38.516	24.687	.000	22.494	.491

expected ones, likelihood ratios increase in magnitude. In contrast, models whose expected frequencies closely match the observed ones will have low L^2s. Accordingly, the lower the L statistic, the better the fit of the model.

The likelihood statistic for a model treating all independent variables insignificant (known as the baseline model) can be used to evaluate improvements in fit from more complex models. Since the baseline L^2 indicates total variance the dependent variable exhibits, it is very large. As independent variables are introduced, the model's predictions become more accurate, causing the L statistic to decrease. If the proportion of baseline variance explained by the alternative model (L^2 alternative) is high, the alternative may be judged to provide a satisfactory fit (Knoke and Burke, 1981), as shown in equation 5-8.

$$5\text{-}8)\quad R^2 \text{ analog} = \frac{L^2 \text{ baseline} - L^2 \text{ alternative}}{L^2 \text{ baseline}}$$

If the amount is low, the alternative model has not explained much more variance than the baseline model.

According to Figure 2, the baseline likelihood ratio is -50.859. The model with X6 is -38.516. By taking the difference and dividing by the baseline amount we get 24.3%. This implies that approximately one-fourth of the variance in the analyzed judicial decisions was explained by this variable.

Predictive Ability. The model's predictive ability was much higher than the 24.3% of the variance explained would lead one to believe. Though this can be demonstrated by the

classifications of the cases used to develop the model, it is generally accepted that an overly optimistic prediction results when observations used to construct the model are classified by that same function (e.g., Frank, Massy and Morrison, 1979). This is because the model incorporates unique characteristics of the sample, thereby facilitating its correct classification.

One possible way to eliminate this bias is to randomly withdraw a small percentage of the cases from the sample before the logit model is calculated. Then the model is constructed from the remaining cases. The ability to classify the excluded cases is an indication of the accuracy of the logit model. Since observations in the hold out sample were not used to construct this model, the accuracy of the classification should not be inherently biased. In this study, the hold out sample was 10% of the cases, allowing the logit function to be developed from a relatively large sample of over 70 cases. To classify the cases a probability was calculated using the cumulative logistic function:

$$5\text{-}10) \quad P_i = \frac{1}{1 + e^{-(\alpha + \beta X_i)}}$$

Appendix II depicts the probabilities for each case in both analysis and validation samples. Assuming equal costs of misclassification, the cut off probability chosen was that which misclassified the fewest cases. This was .5. Limitations associated with the assumption of equal misclassification costs are discussed in Chapter VI.

Table 5-5 presents the predictive ability of the logit function in the sample used to construct it. The table illustrates that the model correctly classified 81.3% of the cases. This indicates that the relationship of option price to expected value can predict the vast majority of lease versus sale decisions. Since this prediction is probably optimistic, the function was applied to the seven cases withheld from the model's calculation. Figure 5-6 portrays the classification accuracy for the validation sample. As can be seen, 100% of those cases were correctly classified.

Despite the high predictive ability, thirteen cases were still misclassified. This suggests that in certain circumstances, factors other that the relationship of option price to expected value are crucial in judicial decisions. To identify these conditions, each misclassified case was analyzed. The next section presents the results of this analysis.

Analysis of Misclassified Cases

Benton. Since the independent variable in this analysis was the ratio of an option price to expected value, it is not surprising that the Tax Court's decision was misclassified. As discussed in Chapter 2, the Tax Court in Benton based its verdict upon a comparison of the option

FIGURE 5-5
Classification Accuracy for Analysis Sample

Actual Group	Number of Cases	Predicted Group Membership	
		Sale	Lease
Sale	41	34	7
Lease	33	6	21
Percent of Cases Correctly Classified: 81.3%			

FIGURE 5-6
Classification Accuracy of Validation Sample

Actual Group	Number of Cases	Predicted Group Sales	
		Sale	Lease
Sale	5	5	0
Lease	2	0	2
Percent of Cases Correctly Classified: 100%			

price to original value. The Fifth Circuit (197 F.2d 745), felt this comparison gave an unfair advantage to the government and compared the option to expected value. Finding the option price to be a reasonable estimate of the asset's value, it reversed the Tax Court's decision.

Converse. In Converse (43 AFTR 1308), Hawley Pulp and Paper Company permitted Converse to log timber on its property, provided Converse used his own equipment. As compensation for his services, Converse was to receive 75 cents for every M feet of logs he sold. Hawley had an option to purchase Converse's equipment for its original value less any amount paid to Converse for its depreciation. Since no payments for depreciation were made, the option payment was equal to the original value. Though payment of fair market value is generally an indication of an intention to lease, the District Court of Oregon considered the option to be "in truth and fact" an agreement to purchase the equipment. Accordingly, it held that Converse had made a sale to Hawley.

Foellinger. In Foellinger (29 AFTR 1416), Oscar Foellinger sold real estate to J. Earl Shaw for $9,000. Because the transaction was structured as a contract to purchase, Shea could not receive title until all payments were made. Until that time, the contract stipulated that the relationship between the parties was one of landlord and tenant. If Shea defaulted, all payments made by him were to be treated as

rent.

In November 1935, Shea defaulted. Helene Foellinger, executor of Oscar Foellinger's estate, ignored the provision requiring rental treatment and considered the transaction to be a sale. This was done in order to take advantage of the long term capital gains deduction. She supported her position with the contention that the agreement was in essence a sale, since Shea was to automatically receive title after he had made all required payments. Nonetheless, the District Court of Indiana believed that the contract's explicit requirement for rental treatment could not be ignored. Consequently, it ruled that the transaction was a lease.

Martin. In Martin (44 TC 731), the taxpayer created a corporation to assist him in acquiring a piece of real estate. This was accomplished by having the corporation purchase the property and then lease it to him. The taxpayer could purchase the property by exercising an option to purchase which became effective six months after the commencement of the lease. If the option was exercised, "lease payments" were to automatically become "installment payements." This was easily done since the purchase price equaled total rental payments. After the option was exercised, the closely held corporation was liquidated.

Invoking the substance over form doctrine, the Tax Court held that the initial agreement was a contract to sell. The only rationale they could find for structuring the

transaction as a lease was to enable the lessor to have a six month holding period, qualifying it for a long term capital gain. Since the sole reason a lease form was chosen was to minimize taxes, the court concluded that the parties' original intention was to sell.

Meiselman. The Tax Court restructured in Meiselman (1961 TCM 90) a transaction originally treated as a sale to be a lease. In this case, the taxpayer contracted to sell seven theaters he had owned and operated to Stelling-Gosset Theaters. The property the theaters were located on was not included in the sale but was conveyed on a lease basis. Persuant to this transfer, Meiselman agreed to insure the theaters and replace or restore any damage caused by fire. He did this despite the fact that ownership had been transferred to Stellings-Gosset. Additionally, Meiselman could repurchase the equipment at the end of the term for one-hundred dollars. The Tax Court felt these condiitons prevented Meiselman from transferring his entire equity interest and treated the transfer of equipment as a lease.

The Fifth Circuit Court of Appeals (9 AFTR 2d 1053) disagreed with the Tax Court's analysis. They placed great weight upon the fact that the parties had originally made an oral agreement to sell the theaters before the contract was drafted. Meiselman had testified that he decided to reduce his business activities because of his poor health. The Tax Court had countered that he did not intend to get out of the theater business but was trying to raise money to pay over

$125,000 in civil liabilities. Meiselman supported his position by demonstrating in detail that he had ample resources available to pay these liabilities. Since this testimony was not disputed by the government, the Fifth Circuit decided that his primary motive was not to raise funds. Furthermore, it found no evidence suggesting that the equipment had been sold with an ownership interest retaind by Meiselman and concluded that the Tax Court was incorrect in its interpretation of the covenants of the contract. For example, the court decided that Meiselman insured the theaters because rental payments on the land were based on the income generated by the theaters. Thus, he was very affected by whether or not the transferee had sufficient funds to keep the theater in operation because his rental payments depended upon it. The commitment to insure did not indicate any retained equity interest.

With respect to the option to purchase, there was undisputed evidence that this provision was made to assure the transferee that he would not bear the expense of removing the equipment at the expiration of the lease on the land. This was a concern because the equipment expected to be of little value when the lease expired. Evidence indicated that the consideration paid under the contract exceeded the economic value of the equipment, especially since the equipment would have no substantial value at the termination of the lease. Thus, the court ruled that Meiselman did not retain any ownership interest in the

equipment and had instead intended to sell his entire interest to Stellings-Gosset Theaters, Inc.

Midwest Metal Stamp.

Midwest Metal Stamping Company (1965 TC Memo 65,279) installed a sprinkler system in a building it rented. The contract stipulated that Midwest would lease the system and pay $4,000 as rent for six years with the option to renew at the end of the sixth year. Though the contract contained a renewal option, the manufacturer, St. Louis Automatic Sprinkler, could not reposses the system , even if Midwest failed to pay any further rent.

During the trial, the president of St. Louis Automatic Sprinkler Co. testified that he had always considered the transaction to be a sale since payments made by Midwest during the first six years equaled the system's purchase price. It was only structured as a lease at the suggestion of Midwest. In view of these facts, the Tax Court concluded that Midwest had all of the benefits of ownership and treated the transaction as a sale.

Pitney-Bowes Postage Meter. In Pitney-Bowes Postage Meter (150 F.2d 332), the taxpayer leased postage meters in order to avoid an excise tax imposed upon their sale. The lease contracts had the economic effect of sales because the lessor was prevented from cancelling the leases as long as any rent was paid. This enabled lessees to use postage meters for their entire useful lives. Since the agreements

were in substance sales and the lease form was simply a device to avoid the excise tax on sales, the court denied the rental deduction and imposed the excise tax.

Oesterreich. While analyzing the facts in Oesterreich (1953 TC Memo 53,085), the Tax Court was under the impression that the lease contract was ambiguous in its description of the responsibilities of the lessor and lessee. Accordingly, it did not analyze its provisions to determine intent but focused upon the manner in which the lessor and lessee treated the transaction. Since both parties had recorded the agreement as a lease, the Tax Court ruled it was such, despite the fact that the lessee could purchase over two million dollars of real estate for only $10 at the end of the lease term.

The Ninth Circuit Court of Appeals (226 F.2d 798) totally rejected this argument. To them, the agreement was not confusing, so outside evidence was not needed to explain it. Furthermore, they ruled that accounting treatment is not determinative of original intent. Instead, intent should be ascertained through the provisions of the lease contract. Since the lessee in this case would acquire property for a nominal sum, he was receiving an equity interest with each payment. Accordingly, this transaction was reclassified as a sale.

Reade Manufacturing Company

In 1963, Reade Manufacturing Company (1973 TC Memo

73,259) attempted to sell its herbicide division, Read Railroad Inc., to Borax. Borax was unwilling to purchase the company immediately because it had little experience in that area of business. Instead, it offered to lease the division and decide whether or not to purchase it at a later date. Reade reluctantly agreed, and the transfer was structured as a lease with an option to purchase. Though Reade had acquiesced to this treatment, it later unsuccessfully endeavered to induce Borax to change the transaction's form to a sale. Borax consistently refused to do so.

The contract provided for Borax to pay rent totaling 60% of the purchase price. If the business was profitable, it could acquire it by paying the remaining 40%, which was $350,000. Nevertheless, at the end of the term, Borax allowed the option to expire. Even so, the Service still considered this agreement to be a sale since Borax could have purchased the division for only 40% of its value.

Departing from its own economic test, the Tax Court went beyond the economic factors in its determination of intent. Though it agreed with the Service that Borax's failure to exercise the option was irrelevant, it still considered the original intent was to lease. A strong indicator of this intent was Reade's attempt to have Borax change the form of the transaction with Borax's refusal. From this, the court inferred that both parties considered the transaction to be a sale. Furthermore, the option,

though only 40% of the value, was viewed as significant in magnitude. The court believed that these factors overruled the presumption of a sale caused by the small relationship of option price to expected value.

Starr. Like Midwest Metal, Starr (30 TC 856), involved a lease of a sprinkler system. Once again, total rental payments were equal to those that would have been made under an installment sale. Moreover, the "lessor" had originally treated the transaction as a sale. Evidence showed that payments after the first five years were actually service charges for the inspection of the system. In light of these facts, the Tax Court concluded that the only reason the transaction was structured as a lease was so Starr could deduct the payments as rent. Since this was not adequate justification, the transaction was held to be a sale.

J. Strickland & Company. Strickland & Company (14 AFTR 2d 5025), a cosmetics firm, purchased raw materials and equipment from Newbro. In addition to the items purchased, Strickland was granted a license to market products owned by Newbro. Strickland was also given the option to purchase the trademarks for $20,000, an amount only 27.1% of the trademarks total value.

Until the exercise of the option, Strickland deducted payments as ordinary and necessary business expenses. Nonetheless, the Commissioner considered the transaction a sale and required capitalization of the payments. During

the first trial, the District Court (14 AFTR 2d 5025) placed heavy emphasis upon Strickland's oral testimony that it did not want to purchase the business but only obtain a license to manufacture and sell the cosmetics. Consequently, the court ruled that a sale was not originally intended.

The Sixth Circuit Court of Appeals (16 AFTR 2d 5998) found that the District Court's decision was "clearly erroneous." The court noted that letters written by attorneys of the two companies emphasized the tax advantage of a licensing agreement over a direct sale. Additionally, royalties paid for use of the trademarks seemed to exceed reasonable amounts. An additional indication of an intent to sell was the provision requiring Strickland to incur large advertising and promotion expenses, costs usually associated with ownership.

Tomlinson. Unlike most of the other cases analyzed in this study, Tomlinson (6 AFTR 2d 5304) was decided by a jury. In this case, the taxpayer had an option to purchase land he rented for $115,000 which was to be reduced for rent paid. Since this was $50,000 at the time of exercise, Tomlinson paid $65,000 to acquire title to land originally worth $115,000. In his instructions to the jury, the judge stated that Tomlinson must prove two items before he could have a judgement in his favor: first that the rental payments were necessary for the continued use of the property; and second, that they did not transfer an equity interest to the lessee. The jury's decision for the taxpayer implies that these

conditions were satisfied. Unfortunately, the basis for their opinion was not reported, preventing the determination of factors that influenced their decision.

Western Contracting. The Eighth Circuit Court of Appeals reversed the Tax Court's decision (TC Memo 1958-77) in Western Contracting Corporation. In this case, the taxpayer leased 123 peices of heavy equipment, purchasing 93 of them at the end of the lease term. Though none of these leases had an option to purchase clause, the Tax Court held that they were sales because lessees could reduce the purchase prices by the rentals previously paid. The court felt that this demonstrated an implied provision for an option to purchase. However, the government failed to produce any evidence, written or oral, that side agreements had been made granting the lessees options to purchase. Moreover, the Eighth Circuit determined that the end payments made by the lessee represented the fair market value of the equipment at that time. Consequently, it decided that the leases were bona fide.

Summary of Analysis of Misclassified Cases. Figures 5-7and 5-8 summarize the characteristics of the cases just discussed. Though the logit model containing only the ratio of option to value explained a large percent of the lease litigation, there are still factors that must be taken into consideration in structuring lease transactions. As can be seen in Figure 5-7 the judiciary appears to frown upon

FIGURE 5-7
Sale Decisions Predicted to be Leases

Case / Characteristics	Reversed	Nominal Renewal	Option Approximate to Expected Value	Designed to Minimize Taxes	Option Agreement Was Actually Contract to Sell
1. Benton	x		x		
2. Converse					x
3. Martin				x	x
4. Midwest Metal		x		x	
5. Pitney Bowes		x		x	
6. Starr		x		x	
7. Western Contracting	x		x		

FIGURE 5-8
Lease Decisions Predicted to be Sales

Case / Characteristics	Reversed	Option Seemed Significant	Used Intent Test	Business Reason	Bound by Original Contract
1. Foellinger					x
2. Meiselman	x				
3. Reade		x	x	x	
4. Strickland	x		x		
5. Tomlinson		x			
6. Oesterreich	x		x		

transactions designed as leases simply to obtain a tax advantage. In these circumstances, the transaction will probably be reclassified as a sale even if the ratio of option price to expected value exceeds the critical value determined in this study. Similarly, business reasons for lease agreements can justify lease treatment even if the options are relatively low, as in Reade Manufacturing Company. Further implications of these results are discussed in Chapter VI.

RESEARCH QUESTION 2

Two approaches were taken to ascertain whether the Tax and District Courts were significantly different in their decision processes. In the first method, the accuracy of the model developed in Research Question for Tax Court cases was contrasted with its predictive ability for cases tried before the district courts, as depicted in Figures 5-9 and 5-10.

Though the accuracy was somewhat higher in the Tax Court, this probably results from the fact that there were fewer cases in the district courts. Accordingly, further analysis was necessary before any conclusions could be made.

To gain further insight into possible judicial conflict, Tax Court misclassifications were compared with those made by district courts. As depicted in Figures 5-11 and 5-12, two of the seven sales cases predicted to be leases were tried in the district courts. Each had

FIGURE 5-9
Classification Accuracy of Model for Tax Court Cases

Actual Group	Number of Cases	Predicted Group Membership	
		Sale	Lease
Sale	40	35	5
Lease	23	3	20
Percent of Cases Correctly Classified: 87.3%			

FIGURE 5-10
Classification Accuracy of Model for District Court Cases

Actual Group	Number of Cases	Predicted Group Sales	
		Sale	Lease
Sale	6	4	2
Lease	12	3	9
Percent of Cases Correctly Classified: 77.8%			

FIGURE 5-11

SALE DECISIONS PREDICTED TO BE LEASES

Tax Court Cases	Reversed	Nominal Renewal	Disguised Purchase
Berton	Yes	No	No
Martin	No	No	Yes
Midwest Metal	No	Yes	No
Starr	No	Yes	No
Weston Contracting	Yes	No	No
District Court Cases			
Converse	No	No	Yes
Pitney Bowes	No	Yes	No

FIGURE 5-12
Lease Decisions Predicted to be Sales

	Reversed	Option Deemed Significant	Parties Bound by Contract
Tax Court			
Meiselman	Yes	No	No
Reade	No	Yes	No
Oestereich	Yes	Yes	Yes
District Court			
Foellinger	No	No	Yes
Strickland	Yes	No	No
Tomlinson	No	Yes	No

characteristics similar to Tax Court misclassifications. Specifically, the contract in Pitney-Bowes , tried by a district court, contained a nominal renewewal clause, as did leases in two Tax Court cases, Starr and Midwest Metal. In both judicial forums, the nominal renewal option was considered evidence of an intent to sell. The Tax Court and district courts also treated similarly contracts in Converse and Martin where the option was in essence a contract to purchase. As a result, the district courts' decisions do not appear to depart from the cases tried by the Tax Court.

This is also true with lease decisions predicted to be sales. Of the three cases tried in the district courts, one, Strickland, was reversed on appeal. In a second case, Tomlinson, the court considered an option of 57% to be significant, which is lower than the 68.07% cutoff point determined by the model. However, the Tax Court also had a case that did not follow the model' cut off point. In Reade, an option of 40% was viewed as substantial. Thus, the district court's decision cannot be viewed as a departure from the Tax Court's decisions.

In the third district court misclassification, Foellinger, the taxpayer was denied the right to restructure a transaction to a sale. The court did not analyze the agreement's economic essence but compelled the parties to abide by the original structure. The Tax Court was faced with a similar situation in Estate of Holzwarth (1964 TCM

304) where a taxpayer attempted to change a lease to a sale. Though the attempt was unsuccessful, the court did automatically force the parties to use the original form. Instead it based its verdict on the elements contained in the contract. This seems in line with Bitker and Heinhoff's (1979) conclusion that most forums will permit taxpayers to restructure their transactions in order to better represent economic reality. The District Court of Indiana appears to be in the minority in its refusal to do so.

To further determine whether any discord existed, a model was developed based only on Tax Court decisions. If separate decision rules were in use, the Tax Court's model would not be a good predictor of district court cases. To aid in the identification of a Tax Court model, the stability of the variables was tested. The results of this test are reported in Figure 5-13.

As was the case for the data in Research Question 1, only variable X6 demonstrated the requisite stability. Consequently, the model developed was based upon this variable.

Logit Model.

The logit model based on Tax Cases had the following form:

5-11) $\ln\left(\frac{Pi}{1-Pi}\right)=2.92-.0415X6$

Based upon this function and a cutoff probability of .5, the critical value of X6 was 70.36. This is so close to the 68.07 determined in Research Question 1 that the

FIGURE 5-13

RESULTS OF TEST FOR STABILITY

Sample	Constant	X1	X5	X6	X7	x9
1	2.430	0	0	-.0448	.979	0
2	3.980	0	0	-.0531	0	0
3	2.470	0	0	-.0360	0	0
4	2.470	0	0	-.0502	1.400	0
5	2.660	0	0	-.0436	.984	0
6	3.830	0	0	-.0520	0	0
7	2.870	0	0	-.0398	0	0
8	2.860	0	0	-.0388	0	0
9	3.220	0	0	-.0523	0	.0143
10	2.550	0	0	-.0415	.914	0

classification of cases were the same. Since this model is not significantly different from the previous model, it was not separately analyzed.

RESEARCH QUESTION 3

Research Question 1 determined that leases whose option prices exceeded 68.07% of expected value have a higer probability of being classified as leases than sales. Since this figure was based on cases covering the entire period of controversy, taxpayers may not be able to rely upon it if judicial emphasis had changed over the years. To determine whether instability had occurred, the cases were divided into three separate time periods. The two dates used to separate

the cases were 1955 and 1964. The first date was important because the Service issued Rev. Rul. 55-540, delineating the factors it considered evidence of a sale. The second was significant due to the issuance of APB Opinion No. 5. Though accounting treatment does not control a transaction's tax consequences, the judiciary may have been affected by these rules. Moreover, this was the first pronouncement by the accounting profession setting mandatory guidelines as to the proper accounting of leases. The requirements of this

Figure 5-14

Comparison of Models for Time Periods

Time Period	Function	Critical Value of X6
Before 1955	1.17-.0194X6	87.63
1955-1965	3.52-.0494X6	71.26
After 1965	4.04-.0605X6	66.78

opinion were discussed in Chapter III.

The separate models developed for each of the time periods are depicted in Figure 5-14, with their corresponding critical values for X6. As can be seen, the values decreased in magnitude for each consecutive period. Specifically, it was 87.63 in the first period, 71.26 in the second, and 66.68 in the third. This reduction over time may imply that the judiciary became more lenient in its evaluation of variable X6. However, it may have resulted

FIGURE 5-15

CASES MISCLASSIFIED BY AT LEAST ONE OF THE TIME PERIOD MODELS

Case \ Model	A	B	C
Beaudry	Yes	No	No
Benton	Yes	Yes	Yes
Beus	No	No	Yes
Converse	Yes	Yes	Yes
Foellinger	Yes	Yes	Yes
Gordon	Yes	No	No
Holawarth	No	No	Yes
Meiselman	Yes	Yes	Yes
Oesterreich	Yes	Yes	Yes
Pitney Bowes	Yes	Yes	Yes
Reade	Yes	Yes	Yes
Smith, Charles (a)	Yes	No	No
Smith, Charles (b)	Yes	No	No
Smith, N. B.	No	Yes	Yes
Strickland	Yes	Yes	Yes
Tomlinson	Yes	Yes	Yes
Western Contracting	Yes	Yes	Yes

simply from the unique characteristics of the samples. Consequently, further analysis was necessary. To determine whether the identified decision rules had a different impact upon the classification process, the litigation was classified with each model. The classifications for each case are depicted in Appendix II. Figure 5-15 shows that seventeen cases were misclassified by at least one of the functions,but only six of these received different treatment. Since the models generated conflicting predictions in only 7.4% of the population of lease versus sale litigation, differences in the models may not be significant.

RESEARCH QUESTION 4

To determine whether the Service's guidelines in Rev. Proc. 75-12 and 75-28 were consistent with judicial decisions, each case was classified using the Service's requirements.-1- The resulting classifications were then compared and contrasted with the original decision, as depicted in Figure 5-16.

-1- One of the Service's guidelines treats transactions as sales if the rental period exceeds 80% of the asset's useful life. However, most opinions did not reveal expected life and generally mention it only if it equaled the rental period. Since there was no way to estimate this amount, transactions were coded as sales if their rental period (including extensions) was equal to the expected useful life.

FIGURE 5-16

COMPARISON OF ADMINISTRATIVE AND JUDICIAL CLASSIFICATIONS

Guidelines Applied	Group Membership Sale	Lease
Administrative	66 (56.5)	15 (24.5)
Judicial	47 (56.5)	34 (24.5)

Percent Agreed: 67.1%

If there was no relationship between the Service's and courts' positions, the classifications would not be homogeneous. To determine the amount of homogeneity, expected frequencies were calculated for each cell, as shown in the parentheses in Figure 5-16. An expected frequency is the amount one would find if the populations were homogeneous with respect to the variable of interest (Daniel, 1978). These can be calculated for each cell with the formula in equation 5-1.

5-12) $E_{ij} = n_{i.} n_{.j} / n$

where

E_{ij} is the expected frequency for the cell in row i and column n,

$n_{i.}$ is the total number of observations in row i,

$n_{.j}$ is the total number of observations in column j, and

n is the total number of observations.

To determine whether the expected frequencies were significantly different from observed, a χ^2 test was used. This statistic has the following form:

5-13) $$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \left[\frac{(O_{ij} - E_{ij})^2}{E_{ij}} \right]$$

where:

Oij is the observed frequency in each cell,

c is the number of columns, and

r is the number of rows.

The χ^2 statistic for the relationship in Figure 5-15 is 10.56, with one degree of freedom. This is significant at the .001 level, signifying that judicial and administrative classifications were not homogeneous. In other words, the Service's guidelines produced classifications significantly different from judicial decisions.

To understand how they differed, each case in which the Service and judiciary disagreed was analyzed, as portrayed in Figure 5-17. As can be seen, thirteen of the nineteen cases has had fixed options that exceeded 68.07% of expected value. The Service would regard these transactions as sales while they received lease treatment from the courts. This suggests that the Service's treatment of all transactions with fixed options as sales is far more stringent than the judiciary's requirements. Basically, the judiciary will permit fixed options as long as they approximate expected value. Four other misclassifications were also incorrectly predicted by the logit model developed in Research Question 1. As was discussed earlier in this chapter, each of these decisions was based on unique characteristics indicating intent. The remaining case in Figure 5-17 received sale treatment because its rent fluctuated beyond the Service's safe-harbor amounts. Presumably, the judiciary did not

Figure 5-17
Cases Misclassified by Services Guidelines

Case	Characteristics: Specific Option Equal To 100% of Expected Value	Option Greater Than 68.07% of Value	Option Less Than 68 %	Rent Fluctuation Exceeded Safe-Harbor Amount
1. Arkansas Bank				x
2. Beaudry		x		
3. Cal-Maine	x	x		
4. Daniel	x	x		
5. Fairmont	x	x		
6. Foellinger				
7. Gilken	x	x		
8. Gordon		x		
9. Holzwarth		x		
10. Kearney & Trecker	x			
11. Meiselman*				
12. Oesterreich*				
13. Reade			x	
14. Smith, Charles			x	
15. Smith, Charles			x	
16. Stunder		x		
17. Tomlinson		x		
18. Van Etten		x		
19. WBSR		x		

*reversed on appeal

Figure 5-17, Con.
Cases Misclassified by Services Guidelines

11/

Case	Characteristics: Term Is 100% of Life	Intent Test Used	Misclassified by Logit Model
1. Arkansas Bank			
2. Beaudry			
3. Cal-Maine			
4. Daniel			
5. Fairmont			
6. Foellinger			x
7. Gilken			
8. Gordon			
9. Holzwarth			
10. Kearney & Trecker			
11. Meiselman*	x	x	x
12. Oesterreich*		x	x
13. Reade		x	x
14. Smith, Charles			
15. Smith, Charles			
16. Stunder			
17. Tomlinson			
18. Van Etten			
19. WSBR			

consider that to be an important factor in that case. Since no cases after 1975 had rent that exceeded the permissable fluctuation, no conclusion could be made as to this requirements impact upon the judiciary.

RESEARCH QUESTION 5

This question assesses the similarity of accounting profession's lease guidelines with those developed by the judiciary. To do this, the requirements of FASB No. 13 were used to classify each decision. As discussed in Chapter I, FASB 13 requires capital lease treatment if any of the following conditions are present:

A. The leasee will automatically become owner at the end of the term.

B. The lease contains a bargain purchase clause.

C. The lease term is 75% or more of the useful life.

D. The present value of the minimum rental payments is greater than or equal to the property's original fair market value less any investment tax credit retained by the lessor.

Several of these factors had to be operationalized in order to facilitate their analysis. For example, FASB 13 does not contain any guidelines specifying when an option is to be considered a bargain. Instead, the facts of each transaction are to be considered. To incorporate this ambiguous factor into this study, an option was treated as a bargain if it was below 68.07% of the expected value. This

Figure 5-18

Comparison of Accounting and Judicial Classification
Using a cut off point of 68.07%

	Sale	Lease	Total
Accounting Treatment	48(49)	32(33)	81
Judicial Treatment	47(49)	34(33)	81
Total	96	66	162

$\chi^2 = .16$

Percent Accurate = 91.4%

Figure 5-19
Comparison of Accounting and Judicial Classifications
Using a cutoff point of 50%

	Sale	Lease
Accounting Treatment	38(42.50)	43(38.50)
Judicial Treatment	47(42.50)	34(38.50)

$\chi^2 = 2.00$
Percent Accurate: 81.0

Figure 5-20
Comparison of Accounting and Judicial Classifications
Using a cutoff point of 25%

	Sale	Lease
Accounting Treatment	33(40)	48(41)
Judicial Treatment	37(40)	34(41)

$\chi^2 = 4.84$
Percent Accurate: 78

was the amount calculated in research question one. To determine the impact other amounts would have upon the results, other classifications were made based on 25% and 50%. With respect to the fourth requirement, an interest rate of 10% was used to calculate the present value of the rental payments. Changing this rate to five or fifteen percent had no impact upon the classification process.

Table 5-18 contrasts the judiciary's and FASB's classifications, using 68.07 as the point determining a bargain purchase. Expected frequencies are shown in parentheses. For this relationship, the χ^2 statistic is .16 which is well below 3.841, the amount required to reject the null hypothesis of homogeneity at the .05 level of significance. This signifies that the classifications are extremely close. In fact, 91.4% of the cases were correctly classified. Predictions resulting from 50 and 25 percent are shown in Figures 5-19 and 5-20, respectively. Differences are not statistically different for the first table but are for the second table, implying that the accounting rules are such good predictors of judicial decisions that their predictions are not greatly affected by fluctuations in option prices.

SUMMARY

The findings presented in this chapter indicate that the most important factor considered by the judiciary in distinguishing between sales and leases is the relationship between option prices and expected market values. This

variable alone explained 81.3% of the cases in the analysis sample and 100% of the validation sample. No difference was detected between the Tax Court and District Courts and the model appeared relatively stable over time. The Service's position on leases was found to be significantly different from the judiciary's decisions while the accounting profession's accurately predicted 91.4%. Implications of these findings are discussed in the next chapter.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The primary objective of this study was to identify factors that could explain judicial decisions differentiating between sales and leases. An additional concern was the degree of compatability among guidelines issued by the Service and accounting profession with those developed by the judiciary. As the following discussion illustrates, each chapter of this dissertation contributed toward the fulfillment of these objectives. The purpose of this chapter is to summarize these conclusions, synthesize them, and discuss implications for future research.

Summary of Previous Chapters

1) Identification of authoritative guidelines for distinguishing between sales and leases.

A review of Internal Revenue Code Sections and Administrative Rulings is presented in Chapter II. This examination was essential in identifying factors the judiciary and Service use in classifying lease transactions. This chapter also traced the evolution of judicial interpretation of Congressional intent, with particular emphasis placed on differences in application.

2) Identification of contributions from prior lease studies.

Previous lease studies were an additional source that helped identify important factors. These articles, though qualitative in nature, provided great insight into the interplay between the Service and judiciary. Chapter III examines past analyses by discussing their similarities, contributions, and deficiencies.

3) Examination of prior empirical tax studies

To determine the appropriate methodology to be used, prior empirical tax studies are examined in Chapter IV. The weaknesses and limitations associated with popular statistical techniques, particularly discriminant analysis, are discussed. Since discriminant analysis has two critical assumptions not met by this project's data, it was found not to be appropriate for this study.

4) Discussion of logit analysis.

A more robust statistical technique, logit analysis, was used to analyze the lease litigation. Chapter IV discusses the theory and application of this statistical tool.

5) Application of logit to lease litigation.

Chapter V presents the analysis results of eighty-one actual lease transactions. The findings indicate that one factor, the relationship between option price and

expected value could explain over 80% of the decisions. No substantial differences of application were detected over time or between the Tax Court and District Courts.

6) Analysis of guidelines developed by the FASB and IRS. Chapter V also reports the comparison of guidelines issued by the Service and FASB with and those developed by the judiciary. A chi-square test revealed that the Service's requirements were significantly different from judicial decisions. However, no difference was detected between the FASB's requirements and the decisions.

CONCLUSIONS

Despite the individual nature of lease cases, one factor, the relationship of option price to expected value, was found to be a highly accurate predictor of original courts' decisions. Moreover, interpretation of this factor's impact on decisions revealed that the probability of a sale would fall below .5 if the option exceed 68.07% of expected value. In other words, courts generally did not reclassify lease transactions unless the relationship dropped below that amount. They do not appear to require an option price to equal the anticipated value. Even though a lease agreement permits a lessee to purchase property for less than its fair market value, this does not automatically confirm upon him the forbidden equity interest. Instead, as observed by Silk (1964), the judiciary tolerates a small

difference between option price and market value. Based on this study's calculations, this tolerated difference is approximately one-third.

As discussed in Chapter III, Silk suggested that this judicial restraint may reflect a subconscience desire to aid taxpayers who are not overly agressive in obtaining the tax advantages of leases. Nevertheless, this judicial attitude vanishes when taxpayers are overtly seeking large tax benefits from leases. An analysis of thirteen cases misclassified by the logit function revealed that the judiciary frowns on transactions structured as leases only for tax reasons. In these circumstances, other factors are determinative of original intent, even if the option price was technically equivalent to expected value. Factors that can indicate this include lease term equaling expected life, option for lessee to renew at a nominal amount, payments approximating sales price, no business reason for lease, or avoidance of other taxes.

Congress recently emphasized the importance of business motive in its passage of TEFRA. Specifically, for leases after 1983 there must be a business, as well as tax reason for the lease. Yet this act permits lease treatment for contracts containing options of only 10% of original value. This should give finance leases a competitive advantage over nonfinance leases since their option would have to be at least 68.07% of expected value. Though this is not the same as 68.07% of original value, it is still probably higher

than 10% of original cost.

As the above discussion indicates, taxpayers must be sure that other factors do not indicate an intent to sell. Utilization of factors other than relationship of option to value may indicate that the entire judiciary uses the more subjective intent test, as suggested by Schwanbeck. Specifically, the Tax Court, the developer of the economic test, has analyzed in several cases other criteria in its determination of original intent. For example, in Reade, the court did not consider a 40% option to be too low because other actions of the parties indicated that they considered it to be a lease. Even so, taxpayers must remember that they have the burden of proof when noneconomic factors are considered. Because relevant indicators of intent would change with each case, taxpayers would be prevented from relying upon judicial prescedence. Since they generally would not know what factors the court would consider important, this would be a very high-risk route to follow.

While other variables were often considered, no other judicial forum used the Seventh Circuits liberal interpretation of Sec. 168, applied in Breece Veneer. As was discussed in Chapter II, the court felt that this section implied that the lessee did not have an equity interest until he exercised his option to purchase. This is because before that time, monthly payments were necessary to continue using the property. Accordingly, the court

believed he could not have received any ownership interest. Since this view has not received general acceptance outside the Seventh Circuit, taxpayers would be on very shakey ground in basing their case upon this interpretation.

Silk and Schwanbeck both observed differences in application by the Service and judiciary. Silk argued that this difference was the result of differing views concerning the relationship between option price and expected value. He believed that the Service prohibited any divergence, no matter how small, between option price and expected value while the judiciary tolerates a small variance. By classifying the lease litigation with the Service's requirements, this study determined that the Service's guidelines were significantly different from actual judicial decisions. And the majority of the differences were related to option prices. Because the judiciary is more lenient than the Service, taxpayers can and do successfully challenge administrative reclassifications. Nonetheless, in so doing, they must be prepared to demonstrate that they did not intend to have a sale. Accordingly, factors apart from option price must not indicate otherwise.

EXTERNAL AND INTERNAL VALIDITY

Naturally, in order for the conclusions just discussed to be warranted, the evidence generated by this study should be valid. In a research design context, validity addresses the basic question: Are we measuring what we think we're measuring?" (Kerlinger, p. 457). There are two general

dimensions that need to be considered: external and internal validity. Campbell and Stanley (1963) have given the following explanation of this dichotomy:

> Internal validity is the basic minimum without which any experiment is uninterpretable: Did in fact the experimental treatments make a difference in this specific experimental instance. External validity asks the question of generalizability: To what populations, settings, treatment variables, and measurement variables can this effect be generalized.

Since these are critical attributes for any research project, each shall be analyzed with respect to the characteristics of this study.

Internal Validity

In order for the results to be internally valid, they should explain what actually occurred in the data analyzed and not simply be the result of chance. In other words, the identified independent variable, the relationship of option price and expected value, should have an impact upon judicial decisions. An indication that it does was its consistent inclusion in the logit function, despite the use of different hold out samples. As was described in Chapter V, ten functions were calculated from ten different groups of cases. Each time, this variable was significant, with approximately the same coefficient. No other variable displayed any consistency. Possibly, this is because many were surrogates for factors that could not be directly measured. Several variables originally considered for analysis were not consistently revealed in the judicial opinions. Consequently, modifications in coding or

measurement of substitute variables were made in an attempt to obtain the same information, as depicted in Figure 6-1. If the originally desired factors could have been obtained, more variables might have been included in the function. However, since none of them were, a descriptive examination was made of the misclassified cases to supplement the empirical findings and identify factors that were important in addition to the statistically significant variable.

Misclassification Costs. One of the major findings of this study was the high predictive ability the relationship of option price to expected value has on judicial decisions. In determining this accuracy, a cut off probability of .5 was used to classify the transactions. Cases with calculated probabilities less than this were coded as leases while those receiving more were classified as sales. If .5 is not the proper point, these conclusions may not be valid. Determination of the appropriate cut point is not arbitrary but is the one that has the smallest costs of misclassification. This is done by minimizing the cost function depicted in Equation 6-1.

$$6\text{-}1 \quad \text{Loss} = B_1 E_1 + B_2 E_2$$

where

E_1 is the number of sales cases predicted to be leases,

E_2 is the number of lease cases predicted to be sales, and

B_i are the appropriate weights.

FIGURE 6-1

Surrogate Variables

Variables Uses	Unmeasured Factors
1. Lease is equal to expected useful life.	1a. Comparison of lease term with useful life.
	1b. Comparison of original and residual values.
2. Improvements were made by lessee.	2. Comparison of improvements to option price.
3. Percent of rental payments that could be applied to purchase price.	3. Comparison of hypothetical sales price to lessee's total payments.

If misclassification costs are approximately equal, as assumed in this study, Equation 6-1 would be restated as follows,

6-2 $Loss=E_1+E_2$

In other words, under this assumption the cut off point would simply be the probability that misclassified the fewest cases. Nonetheless, if costs associated with one type of error greatly exceeded those for the other, the optimum probability would be the one that minimized total misclassification costs (Hair, et. al., 1979, p.98). If misclassification costs are not equal, taxpayers cannot automatically use .5 in classifying their transactions. Accordingly, a discussion of these costs is warranted.

One type of error that could occur is the prediction of a sale when the actual decision was a lease. A taxpayer following the model would decide not to challenge the Service's reclassifications, believing he would have lost in court. In so doing, he saves any court costs he would have incurred had he litigated but loses the deduction the court would have permitted.

Alternatively, the model could predict a lease when the ruling would be a sale. In this circumstance, the taxpayer, thinking he will win, contests the Service's reclassification, incurring court costs and tying up valuable time in the process. Despite his efforts, the verdict is against him and he is denied the additional deduction. Yet since the deduction would have been

prohibited had he not contested the Service's reclassification, the actual costs of this error are the expenses of litigation. The costs associated with each type of error are compared in Figure 6-2 and summarized in Equations 6-3 and 6-4:

6-3 $CE_1=T-C$

where

CE_1 is the cost of predicting a sale when it is a lease,

T is the additional tax liability, and

C represents the court costs.

The costs associated with predicting a lease when the decision would be a sale are depicted in Equation 6-4.

6-4 $CE_2=C$

where

CE_2 denotes the cost of predicting a lease when it is a sale.

Treatment of these costs as equal yields the following relationship:

6-5 $T-C=C$

This situation can exist only when the tax liability is twice as large as the expenses of litigation, as demonstrated with the following equation:

6-6 $T=2C$

Accordingly, use of .5 is appropriate when expected costs are approximately half of the claimed deficiency. With the high legal costs of today's society, this may be reasonable in

FIGURE 6-2

Costs of Misclassification

Sale Predicted--Lease Decision

Loses deduction

Saves court costs

Lease Predicted--Sale Decision

Pays court costs

many situations. However, if it is not, estimates of the weights in Equation 6-1 need to be made to determine the correct cut off probability. This is illustrated with the following example.

Assume the disputed tax is eleven times greater than expected court costs as illustrated in Equation 6-7:

6-7 T=11

As a result, 6-5 would be restated as:

6-8 11C-C=C, which is simplified to

6-8 10C=C

In this situation, the costs associated with not litigating when the transaction would be deemed a lease are ten times as large as those of an unsuccessful challenge. Thus, Equation 6-1 would be

6-10 $Loss=10E_1-1E_2$

Using this function, the loss associated with each potential cut off point as illustrated in Figure 6-3. As can be seen, .808 would be the point that minimizes the costs of misclassification. Accordingly, taxpayers can easily adjust the cutoff point to conform to the relationships in their particular cases.

EXTERNAL VALIDITY

As discussed earlier, external validity is concerned with the amount of reality that has been captured by the model and its applicability to observations not examined. To a large extent, this depends upon the representativeness

FIGURE 6-3

MISCLASSIFICATION COSTS

Cutpoint	Incorrect Predictions			Loss	Loss
	Success	Fail	Total	E1=E2	E1=5E2
.258	7	14	21	21	147
.275	7	13	20	20	137
.292	7	11	18	18	117
.308	8	11	19	19	118
.325	8	11	19	19	118
.342	8	10	18	18	108
.358	8	10	18	18	108
.375	8	18	18	18	108
.392	8	10	18	18	108
.408	8	8	16	16	88
.425	7	8	15	15	87
.442	7	8	15	15	87
.458	8	6	14	14	68
.475	8	6	14	14	68
.492	8	5	13	13	58
.508	9	5	14	14	59
.525	9	5	14	14	59
.542	9	5	14	14	59
.558	9	5	14	14	59
.575	12	5	17	17	62
.592	14	5	19	19	64
.608	15	4	19	19	55
.625	15	4	19	19	55
.642	15	4	19	19	55
.658	18	3	21	21	48
.675	18	3	21	21	48
.692	19	3	21	21	49
.708	19	3	21	21	49
.725	19	3	21	21	49
.742	20	3	23	23	50
.758	20	3	23	23	50
.775	21	3	24	24	51
.792	21	3	24	24	51
.808	21	2	23	23	41
.825	21	2	23	23	41
.842	21	2	23	23	41
.858	21	2	23	23	41
.875	24	2	26	26	44
.892	25	2	27	27	45
.908	42	0	42	42	41

of the analysis sample. If cases analyzed had similar characteristics to all lease transactions, the identified model should be highly generalizable. However, if they were different, generalizability may be limited. Because only litigated lease agreements were examined, nonlitigated transactions were omitted. If those excluded differed in some manner from litigated cases, the identified model may not accurately predict their outcome. This could be a serious problem because one potential contribution of this study is to aid taxpayers in their decision of whether or not to litigate. Presumably, in this situation, taxpayers carefully examine their transactions before they decide to contest a reclassification by the Service. Some factors may be important in this decision if the existence of those variables with particular values automatically determined that the court would agree with the Service. Accordingly, taxpayers would not be willing to challenge the Service in those circumstances, implying that litigated cases would not have that value for those variables.

Most commentators agree that an automatic transfer of title is a strong indication that a sale has taken place. As a result, one would expect few leases containing that provision to be litigated. Nevertheless, Figure 6-4 reveals that twenty-two of the eighty-one lease agreements analyzed had that very provision. This is very surprising since the above discussion would have led one to believe that taxpayers would not have contested those reclassifications.

FIGURE 6-4

FREQUENCY DISTRIBUTION OF VARIABLE X6

VALUE	NUMBER OF OBSERVATIONS
0	22
6.9	1
11.2	1
12.9	1
13.3	1
20.3	1
27.1	1
31.4	1
37.5	1
45.4	1
48.5	1
50.0	4
56.5	2
57.1	1
59.4	1
59.7	1
60.0	1
67.7	1
70.0	1
75.0	3
80.0	1
84.8	1
89.6	1
93.3	1
95.2	2
97.4	1
100.0	26

The fact that they did may indicate that litigated and nonlitigated cases are not as different as one might have thought.

Finally, as stressed in Chapter V, these findings are tentative and should not be viewed as definitive conclusions. The small sample size prevented this. Accordingly, the critical value for the relationship of option price to value of 68.07 should be interpreted as an indication of judicial philosophy and not as a magic number that judges use to classify transactions as either sales or leases.

RECOMMENDATIONS FOR FUTURE STUDY

This study raised many interesting questions that could be pursued in future studies. Potential subjects for analysis include:

1) A study determine the impact Rev. Proc. 75-12 had upon the judicial process. Unfortunately, there were not sufficient cases after 1975 to accomplish this in the present project.

2) An examination to determine the effect exercise of purchase options might have on judges' decisions. Though exercise signifies nothing of original intent, it may bias judicial interpretations of other factors.

3) An investigation of the consensus and disagreement of individual judges. To do this, models predicting single judge's decisions could be compared and contrasted.

4) A determination of similarity of litigated and

nonlitigated cases. As indicated earlier, the study's findings may not be generalizable to nonlitigated cases if they have different characteristics from those that were examined. A possible way to accomplish this goal would be to compare transactions in the Service's private letter rulings with those that were litigated.

5) A major finding of this study was that the judiciary has been more lenient in its examination of lease transactions than has the Service, which, as Berlin (1975) observed, may increase the costs and uncertainties associated with leases. Further studies could contrast the costs of leases under the courts' and Service's guidelines to determine whether any difference exists. Evidence of discord could stimulate public analysis of the administrative position, possibly with the effect of increasing the certainty and uniformity of application between the executive and judicial branches of government.

This study attempted to aid taxpayers and policy makers by demonstrating that the judiciary does not require option prices to equal expected values. Though a cut off value of 68.07 was found in this study to explain the vast majority of lease decisions, the sample size was too small to conclude that this ratio can automatically predict judicial distinctions between sales and leases. Accordingly, uncertainty still exists. In contrast, Congress provided some degree of assurance for corporate lessors by creating finance leases. Instead of having to analyze confusing and

conflicting judicial and adminsistrative rulings on options, parties to a finance lease can have an option as low as ten percent of the asset's original cost without fear that their transaction will be reclassified. Since nonfinance lessors and lessees will not have this advantage. Congress should prevent this unequal treatment by creating provisions for nonfinance leases. In this manner, certainty of application will exist for all leases, without regard to the business form of the lessor.

APPENDIX I

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
1. Abramson	Lease	0	0	0	0	100	100	1	0	0
2. Ak. Bank & Trust	Lease	0	0	0	1	28	100	0	0	0
3. Beaudry	Lease	0	0	0	0	100	85	1	0	0
4. Benton	Sale	0	0	0	0	100	100	1	0	0
5. Beus	Sale	0	0	0	1	100	68	1	0	100
6. Bowen	Sale	1	0	0	0	100	0	1	0	100
7. Breece Veneer	Sale	0	0	0	1	100	13	1	0	0
8. Brown Paper Mill	Lease	0	0	0	0	100	100	0	0	0
9. Cal-Maine Foods	Lease	0	0	0	0	13	100	1	0	0
10. Calbon	Sale	0	0	0	0	100	0	1	0	0
11. Challenger	Sale	0	0	1	1	2	13	0	0	0
12. Chicago Stoker	Sale	0	0	0	0	100	57	0	1	100

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
13. Citizens National	Sale	0	0	0	1	100	0	1	1	100
14. Consolidated Rock	Lease	0	0	0	0	100	100	1	1	0
15. Converse	Sale	0	0	0	0	100	100	0	0	0
16. Cubic	Lease	0	0	0	0	100	100	1	1	0
17. Daniel	Lease	0	0	0	1	116	100	1	0	0
18. Dawson	Sale	1	0	1	0	100	0	1	1	100
19. East Coast Equip.	Sale	1	0	0	0	100	0	1	0	100
20. Eaton, Est. of	Sale	1	0	0	0	100	60	1	0	100
21. Fairmount Park	Lease	0	0	0	1	100	100	1	1	0
22. Finney	Sale	1	0	1	1	100	0	1	0	100

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
23. Foellinger	Lease	1	0	1	0	100	0	1	0	100
24. Frenzel	Sale	0	1	0	1	100	20	1	0	0
25. Gilken	Lease	0	0	0	0	100	97	1	0	100
26. Gordon	Lease	1	0	0	1	100	80	1	0	100
27. Gem	Lease	0	0	0	1	0	100	0	0	0
28.H Haggard	Sale	0	0	0	0	100	50	1	0	0
29. Harrah	Sale	0	1	0	0	100	57	1	1	100
30. Haverstick	Lease	0	0	0	0	329	100	1	1	0
31. Helser Machine	Sale	1	0	0	0	100	0	1	0	100
32. Holeproof Hosiery	Sale	0	0	0	0	100	11	1	1	100

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
33. Holzwarth	Lease	0	0	0	0	100	70	1	0	0
34. Home News	Sale	0	0	0	0	100	0	1	0	100
35. Hill	Sale	0	0	0	0	100	50	1	0	0
36. Irby	Sale	1	0	0	0	100	0	1	0	100
37. Jefferson Gas	Sale	0	0	0	1	100	0	1	0	100
38. Johnson	Sale	1	0	1	0	100	0	1	0	100
39. Judson Mills	Sale	1	0	0	0	67	0	1	0	100
40. Kearney	Lease	0	0	0	0	100	100	0	0	0
41. Kitchin	Lease	0	0	0	0	100	100	1	0	100
42. Lemon	Sale	0	0	0	0	100	50	1	0	100
43. Lensing	Sale	0	0	0	0	100	57	1	0	100

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
44. Lester	Lease	0	0	0	0	100	100	1	0	100
45. Lockhart	Lease	0	0	0	0	100	100	1	0	0
46. Lodzieski	Sale	0	0	0	1	100	38	1	0	100
47. LTV	Lease	0	0	0	0	100	100	0	0	0
48. M & W Gear	Sale	0	0	0	1	100	49	1	0	0
49. Martin	Sale	0	0	0	0	100	93	1	0	100
50. McClintock	Lease	0	0	0	0	100	100	1	1	0
51. Meiselman	Lease	1	0	1	1	100	100	1	1	100
52. Midwest Metal	Sale	0	1	1	1	100	100	1	0	0
53. Mt. Mansfield	Sale	1	0	1	1	8	0	0	0	100
54. New England Tank	Lease	1	0	1	0	100	100	1	1	0

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
55. Northwest Acceptance	Lease	0	0	0	0	100	100	1	0	0 0
56. Oestereich	Lease	0	0	0	1	100	0	0	0	0 0
57. Pitney-Bowes	Sale	0	0	1	0	100	100	1	1	0
58. Reade Manufacturing	Lease	0	0	0	0	100	50	1	0	0 0
59. Robinson	Sale	0	0	0	0	100	45	1	0	0
60. Rochester	Sale	0	0	0	0	100	0	1	0	0
61. Rotorite	Sale	0	0	0	0	100	60	0	0	100
62. San Diego Transit	Lease	0	0	0	0	100	100	1	0	0
63. Smith, Alexander	Sale	0	0	0	1	100	0	1	0	100
64. Smith, Charles	Lease	0	0	0	0	100	75	1	1	0
65. Smith, Charles	Lease	0	0	0	0	100	75	1	1	0

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
66. Smith, Charles	Sale	0	0	0	0	100	7	1	1	0
67. Smith, Norman	Sale	0	0	0	1	100	60	1	0	40
68. Smith, Norman	Lease	0	0	0	1	100	75	1	0	25
69. Starr	Sale	0	1	1	0	3	100	1	0	0
70. Strickland	Lease	0	0	0	0	100	27	0	0	0
71. Stunden	Lease	0	0	0	1	100	90	1	0	100
72. Swigart	Sale	1	0	0	1	100	0	1	0	100
73. Taft	Sale	0	0	0	1	100	0	1	0	100
74. Tomlinson	Lease	0	0	0	1	100	57	1	0	100
75. Universal Drilling	Lease	0	0	0	0	100	100	1	1	0
76. Van Etten	Lease	0	0	0	0	100	95	1	1	50

APPENDIX I-CONTINUED

DATA EMPLOYED IN LOGIT MODEL

Lease Observations / Variables	Decision	1. Reference to equity.	2. Limited Use.	3. Improved by Lessee.	4. Term equals asset's expected life.	5. Comparison of renewal rate with original charge.	6. Option divided by expected value.	7. Rental payments were even.	8. Lessor has obligations of ownership.	9. Percent of rental payments that can be applied to purchase price.
77. Van Valkenburgh	Sale	1	0	0	0	100	0	1	0	100
78. WBSR	Lease	0	0	0	0	100	95	1	0	100
79. Watson	Sale	1	0	0	0	100	0	1	0	100
80. Wallace	Sale	0	0	0	0	100	31	1	0	100
81. Western Contracting	Sale	0	0	0	0	100	100	1	0	100

APPENDIX II

PREDICTED PROBABILITIES OF SALE

	CASE	MAIN MODEL	MODEL FOR FIRST PERIOD	MODEL FOR SECOND PERIOD	MODEL FOR THIRD PERIOD
1.	ABRAHAMSON	.2573095	.316479	.1946616	.118157
2.	ARK. BANK	.2573095	.316479	.1946616	.118157
3.	BEAUDRY	.3646217	.383405	.3386939	.251543
4.	BENTON	.2573095	.316479	.1946616	.118157
5.	BEUS	.5030900	.464216	.5437925	.4860411
6.	BOWEN	.9055096	.763145	.9712515	.9827068
7.	B. VENEER	.8603788	.713405	.9459858	.9621431
8.	BROWN PAPER	.2573095	.316479	.1946616	.118157
9.	CAL-MAINE	.2573095	.316479	.1946616	.118157
10.	CALBON	.9055096	.763145	.9712515	.9827068
11.	CHALLENGER	.8619665	.714989	.9469866	.9630148
12.	C. STOKER	.5900761	.515560	.6680237	.6423205
13.	CITIZES' NAT.	.9055096	.763145	.9712515	.9827068
14.	CONSOL. ROCK	.2573095	.316479	.1946616	.118157
15.	CONVERSE	.2573095	.316479	.1946616	.118157
16.	CUBIC	.2573095	.316479	.1946616	.118157
17.	DANIEL	.2573095	.316479	.1946616	.118157
18.	DAWSON	.9055096	.763145	.9712515	.9827068
19.	EAST COAST	.9055096	.763145	.9712515	.9827068
20.	EATON	.5714868	.504410	.6423641	.6097592

APPENDIX II

PREDICTED PROBABILITIES OF SALE

CASE	MAIN MODEL	MODEL FOR FIRST PERIOD	MODEL FOR SECOND PERIOD	MODEL FOR THIRD PERIOD
21. FMT PARK	.2573095	.316479	.1946616	.118157
22. FINNEY	.9055096	.763145	.9712515	.9827068
23. FOELLINGER	.9055096	.763145	.9712515	.9827068
24. FRENZEL	.8314586	.686111	.9263549	.9442756
25. GILKEN	.2741476	.327490	.2155889	.1355562
26. GORDON	.4022738	.405645	.3936489	.3100255
27. GEM	.9055096	.316479	.9712515	.9827068
28. HAGGARD	.6456563	.549834	.7407749	.7339975
29. HARRAH	.5900761	.515560	.680237	.6423205
30. HAVERSTICK	.2573095	.316479	.1946616	.118157
31. Helser Mach.	.9055096	.763145	.9712515	.9827068
32. Holeproof	.8685456	.721662	.9510478	.9665086
33. Holzwarth	.4840055	.453138	.515495	.4514039
34. Home News	.9055096	.763145	.9712515	.9827068
35. Hill	.6456563	.549834	.7407749	.7339975
36. Irby	.9055096	.763145	.9712515	.9827068
37. Jefferson Gas	.9055096	.763145	.9712515	.9827068
38. Johnson	.9055096	.763145	.9712515	.9827068
39. Judson Mills	.9055096	.763145	.9712515	.9827068
40. Kearney	.2573095	.316479	.1946616	.118157
41. Kitchin	.2573095	.316479	.1946616	.118157

APPENDIX II

PREDICTED PROBABILITIES OF SALE

CASE	MAIN MODEL	MODEL FOR FIRST PERIOD	MODEL FOR SECOND PERIOD	MODEL FOR THIRD PERIOD
42. Lemon	.6456563	.549834	.7407749	.7339975
43. Lensing	.5948857	.518467	.6745638	.6506165
44. Lester	.2573095	.316479	.1946616	.118157
45. Lockhart	.2573095	.316479	.1946616	.118157
46. Lodzeiski	.7339975	.608855	.8412422	.8546131
47. LTV	.2573095	.316479	.1946616	.118157
48. M&W Gear	.6569654	.557026	.7547484	.7513359
49. Martin	.3020489	.345242	.2518029	.1673327
50. McClintock	.2573095	.316479	.1946616	.118157
51. Meiselman	.9055096	.763145	.9712515	.9827068
52. Midwest Metal	.2573095	.316479	.1946616	.118157
53. Mt. Mansfield	.9055096	.763145	.9712515	.9827068
54. New Eng. Tank	.2573095	.316479	.1946616	.118157
55. Northwest Acc.	.6835209	.316479	.118157	
56. Oesterreich	.9055096	.763145	.9712515	.9827068
57. Pitney-Bowes	.2573095	.316479	.1946616	.118157
58. Reade Mfg.	.6456563	.549834	.7407749	.7339975
59. Robinson	.6797711	.571810	.7819796	.7847052
60. Rochester	.9055096	.763145	.9712515	.9827068
61. Rotorite	.569046	.502955	.6389524	.6054318
62. San Diego Tran.	.2573095	.316479	.1946616	.118157

APPENDIX II

PREDICTED PROBABILITIES OF SALE

CASE	MAIN MODEL	MODEL FOR FIRST PERIOD	MODEL FOR SECOND PERIOD	MODEL FOR THIRD PERIOD
63. Smith, A	.9055096	.763145	.9712515	.9827068
64. Smith, C	.4427521	.429228	.4538815	.3781284
65. Smith, C	.4427521	.429228	.4538815	.3781284
66. Smith, C	.8840054	.738105	.9600417	.9739806
67. Smith, N	.5666018	.501500	.6355265	.6010879
68. Smith, N	.4427521	.429228	.4538815	.3781284
69. Starr	.2573095	.316479	.1946616	.118157
70. Strickland	.7958052	.655716	.898554	.9168616
71. Stunden	.3285567	.361643	.2877699	.2008805
72. Swigart	.9055096	.763145	.9712515	.9827068
73. Taft	.9055096	.763145	.9712515	.9827068
74. Tomlinson	.5948857	.518467	.6745638	.6506165
75. Uni. Drill	.2573095	.316479	.1946616	.118157
76. Valkenburgh	.9055096	.763145	.9712515	.9827068
77. Van Etten	.288919	.336958	.2345348	.1519227
78. WBSR	.288919	.336958	.2345348	.1519227
79. Watson	.9055096	.763145	.9712515	.9827068
80. Wallace	.7716268	.636647	.8774865	.8947589
81. Western Cont.	.2573095	.316479	.1946616	.118157

APPENDEX III

CLASSIFICATION OF CASES USING FASB AND IRS GUIDELINES

CASE	FASB	IRS
Abrahamson	Lease	Lease
Ak. Bank and Trust	Sale	Sale
Beaudry	Sale	Sale
Benton	Lease	Sale
Beus	Sale	Sale
Bowen	Sale	Sale
Breece Veneer	Sale	Sale
Brown Paper Mill	Lease	Lease
Cal-Maine Foods	Lease	Sale
Calbon	Sale	Sale
Challenger	Sale	Sale
Chicago Stoke	Sale	Sale
Citizens National	Sale	Sale
Consolidated Rock	Lease	Lease
Converse	Sale	Lease
Cubic	Lease	Lease
Daniel	Lease	Sale
Dawson	Sale	Sale
East Coast Equipment	Sale	Sale
Estate of Eaton	Sale	Sale

APPENDEX III

CLASSIFICATION OF CASES USING FASB AND IRS GUIDELINES

CASE	FASB	IRS
Fairmont Park	Lease	Sale
Finney	Sale	Sale
Foellinger	Sale	Sale
Frenzel	Sale	Sale
Gilken	Sale	Sale
Gordon	Sale	Sale
Gem	Lease	Sale
Gross	Sale	Sale
Haggard	Sale	Sale
Harrah	Sale	Sale
Haverstick	Lease	Lease
Helser Machine	Sale	Sale
Holeproof Hosiery	Sale	Sale
Holzwarth	Sale	Sale
Home News	Sale	Sale
Hill	Sale	Sale
Irby	Sale	Sale
Jefferson Gas	Sale	Sale
Johnson	Sale	Sale
Judson Mills	Sale	Sale
Kearney	Sale	Sale
Kitchin	Sale	Sale

APPENDEX III

CLASSIFICATION OF CASES USING FASB AND IRS GUIDELINES

CASE	FASB	IRS
Lemon	Sale	Sale
Lensing	Sale	Sale
Lester	Sale	Sale
Lockhart	Sale	Sale
Lodzieski	Sale	Sale
LTV	Lease	Lease
M&W Gear	Sale	Sale
Martin	Sale	Sale
McClintock	Lease	Lease
Meiselman	Sale	Sale
Midwest Metal	Sale	Sale
Mt. Mansfield	Sale	Sale
New England Tank	Sale	Sale
Northwest Acceptance	Lease	Lease
Oestereich	Sale	Sale
Pitney-Bowes	Sale	Sale
Reade Manufacturing	Sale	Sale
Robinson vs. Elliot	Sale	Sale
Rochester	Sale	Sale
Rotorite	Sale	Sale
San Diego Transis	Lease	Lease
Smith, Alexander	Sale	Sale
Smith, Charles	Sale	Sale

APPENDEX III

CLASSIFICATION OF CASES USING FASB AND IRS GUIDELINES

CASE	FASB	IRS
Smith, Charles	Sale	Sale
Smith, Charles	Sale	Sale
Smith, Norman	Sale	Sale
Smith, Norman	Sale	Sale
Starr	Sale	Sale
Strickland	Sale	Sale
Stunden	Sale	Sale
Swigart	Sale	Sale
Taft	Sale	Sale
Tomlinson	Sale	Sale
Universal Drilling	Lease	Lease
Valkenburgh	Sale	Sale
Van Etten	Lease	Lease
WBSR	Sale	Sale
Watson	Sale	Sale
Wallace	Sale	Sale
Western Contracting	Lease	Lease

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