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Equipment Leasing: Analysis of Industry Practices Emphasizing Lessors' Risks and Returns

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Equipment Leasing: Analysis of Industry Practices Emphasizing Lessors' Risks and Returns

Abstract

The purpose of this thesis is to examine the leasing industry from the lessor's perspective and the factors that contribute to its growth. An analysis of the industry is performed to evaluate trends and practices. Aspects such as the role of the FASB & IRS as governing bodies, propensities to lease based on a lessee's industry, size, years in operation and geographical location, and risks based on equipment type and lessee's capital equipment requirements are discussed. To determine a lessor's activities in relation to leasing equipment, a business process of leasing is developed. In relation to the business process of leasing, an Excel model of the lease vs. purchase analysis from the lessee's point of view is conducted to evaluate their lease vs. purchase recommendation. Lastly, evaluation of a lessee's primary reasons to lease is performed to determine their preferences.

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ANALYSIS OF INDUSTRY PRACTICES
EMPHASIZING LESSORS' RISKS AND RETURNS

by

Ravi Vijay Beedkar

Honors in Accounting and Finance

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Table of Contents

Acknowledgements.....	i
List of graphs.....	ii
List of figures.....	iv
List of tables.....	v
Abstract.....	1
Introduction.....	2
Section 1: Fundamentals of Leasing	
1.1. Finance and accounting concepts.....	3
1.2. Benefits of leasing.....	16
1.3. Factors considered by firms when leasing equipment.....	18
Section 2: Industry Analysis	
2.1. Macro contributions of the leasing industry to the economy.....	19
2.2. Trends in leasing activity.....	22
2.3. Financial trend analysis.....	28
Section 3: Business Process of Leasing.....	46
Section 4: Lease vs. Purchase Analysis	
4.1. Description of the model, inputs and spreadsheets.....	59
4.2. Process flows of calculations in the spreadsheets	62
4.3. Excel Spreadsheets.....	65
Conclusion.....	70
Works Cited.....	71
Appendix (Graphs and Formulas).....	75

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Abstract

The purpose of this thesis is to examine the leasing industry from the lessor's perspective and the factors that contribute to its growth. An analysis of the industry is performed to evaluate trends and practices. Aspects such as the role of the FASB & IRS as governing bodies, propensities to lease based on a lessee's industry, size, years in operation and geographical location, and risks based on equipment type and lessee's capital equipment requirements are discussed. To determine a lessor's activities in relation to leasing equipment, a business process of leasing is developed. In relation to the business process of leasing, an Excel model of the lease vs. purchase analysis from the lessee's point of view is conducted to evaluate their lease vs. purchase recommendation. Lastly, evaluation of a lessee's primary reasons to lease is performed to determine their preferences.

Introduction

In today's fast paced business environment, successful equipment acquisition is imperative for long term growth and development. A plethora of equipment acquisition options are available to firms today. One such option is leasing and is perceived to be one of the fastest avenues for equipment acquisition. Like the development of traditional bank financing, the leasing industry has also experienced tremendous growth.

This thesis is structured into four sections as follows:

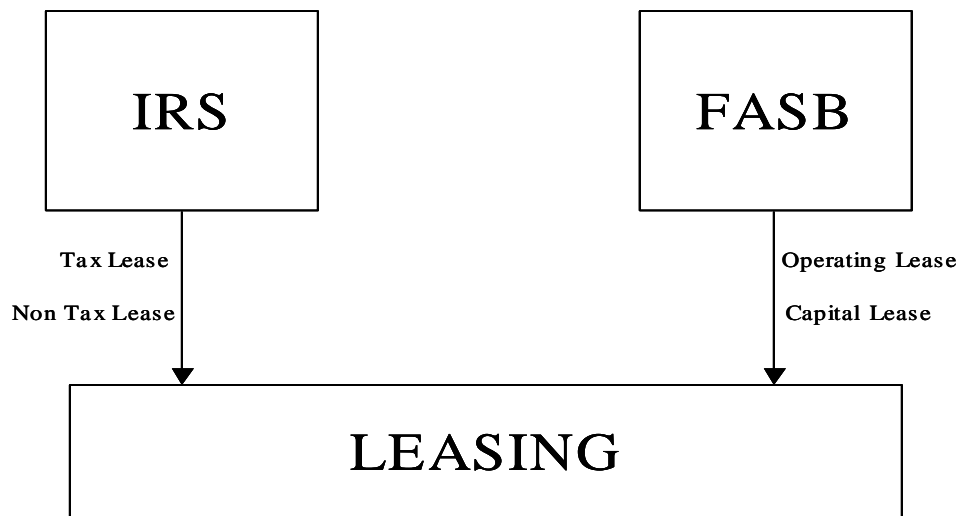
1. **Fundamentals of leasing:** This section elaborates on the fundamentals of lease transactions. The purpose of this segment is to acquaint the reader with the finance/accounting concepts as they relate to leasing.
2. **Industry analysis:** This section presents a historic trend analysis of the leasing industry. The purpose of this segment is to offer insight on factors that determine leasing practices of lessees and lessors. These factors aid in determining risks involved in the leasing industry.
3. **Business process of leasing:** This section pertains to a lessor's process steps in relation to leasing equipment. The purpose of this segment is to elaborate on a lessor's activities in the leasing industry.
4. **Lease vs. purchase analysis:** This section contains an Excel model of the lease vs. purchase analysis. The purpose of this section is to demonstrate a lessee's evaluation process of the lease vs. purchase decision.

Section one: Fundamentals of leasing

1.1 Finance & Accounting Concepts

A lease, in its general sense, is a contract between two parties - lessor (owner) and lessee (party that uses the lessor's asset) where the lessee receives the contractual right to use the lessor's asset for a stated period of time and under stated conditions (Belkaoui 1). This contract, however, is formulated based upon the literature issued by the regulatory bodies that govern the accounting of leasing - the Financial Accounting Standards Board (FASB) and Internal Revenue Service (IRS). Figure one shows the classifications prescribed by the two bodies:

Figure 1 – Regulatory Bodies



For financial reporting, FASB dictates how lessees should report lease transactions. SFAS No. 13, *Accounting for Leases*, provides literature for two types of lease classifications for both the lessor and lessee. They are known as an operating lease and a capital lease. An operating lease is defined as a lease that does not transfer all the risks and ownership benefits to the lessee and a capital lease is defined as a lease that transfers

all the risks and ownership benefits to the lessee. From the lessee's point of view, if a lease meets any of the four criteria mentioned below, the lease should be classified as a capital lease.

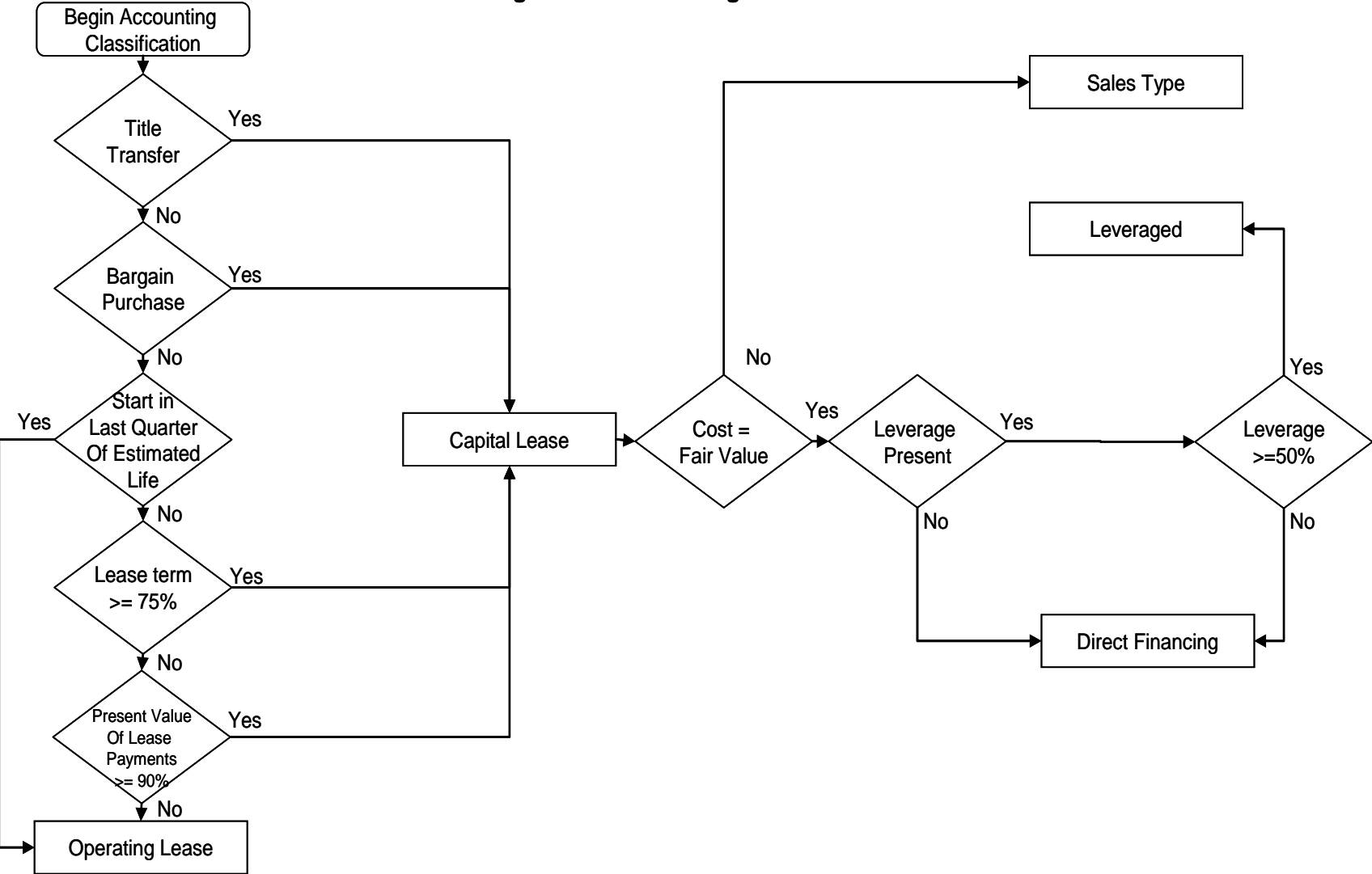
- a. The lease transfers ownership of the lease equipment to the lessee by the end of the term.
- b. The lease contains a bargain purchase option.
- c. The lease term is equal of 75% or more of the remaining estimated economic life of the leased equipment at the lease inception.
- d. The present value of the minimum lease payments at the inception of the lease is at least 90% of the market value of the leased equipment (SFAS No.13 8).

A lease that does not meet the above criteria should be classified as an operating lease. From a lessor's point of view, if a lease meets any of the four criteria mentioned above and both of the two additional criteria mentioned below, the lease should be classified as a capital lease.

- a. Collectibility of the minimum lease payments is reasonable assured.
- b. No important uncertainties surround the amount of unreimbursable costs yet to be incurred by the lessor under the lease (SFAS No.13 9).

If the lease is classified as a capital lease, it can be further sub-classified as a direct financing lease or a sales type lease. Figure 2 shows the criteria for capital lease classification and sub classification.

Figure 2 – Accounting Classification



(Source: Holmgren 11)

From the FASB standpoint and from a lessor's perspective, figure 2 shows required criteria in order to categorize different types of a capital lease (i.e. direct financing or sales type). Among the FASB's four criteria for a capital lease, if the lease term begins in the last quarter of the equipment's useful life, the lease must be treated as an operating lease. Further classification of a capital lease as a sales type or a direct financing depends upon the cost of the equipment and the presence of leverage. If the cost of the equipment is not equal to the fair value of the equipment, the lessor must check for the presence of leverage before classifying it as a direct financing lease. Absence of leverage or leverage less than 50% enables the lessor in sub classifying the capital lease as a direct financing lease. On the other hand, if the leverage is greater than 50%, the lessor should sub classify the capital lease as a leveraged lease. (Additional details on leveraged leasing are presented in section three).

As far as the IRS is involved in leasing, the classifications prescribed by the IRS fit into the FASB's scheme of reporting leases in that a tax lease is similar to an operating lease and a non-tax lease is similar to a capital lease (Nevitt et. al 5). In leasing literature, a tax oriented lease is also referred to as a true lease. From the IRS's perspective, a lease is classified as a tax-oriented lease based on the following seven guidelines.

- a. At the inception of the lease, the fair market value of the leased property projected for the end of the lease term equals or exceeds 20% of the original cost of the leased property (excluding front-end fees, inflation, and any cost to the lessor for removal).

- b. At the inception of the lease, the leased property is projected to retain the end of the initial term a useful life that (a) exceeds 20% of the original estimated useful life of the equipment and (b) is at least one year.
- c. Options to purchase the leased equipment below fair market value are not allowed.
- d. The lessee cannot make any investment in the equipment, nor make any loans, or provide guarantees, to the lessor.
- e. The lease must generate an economic profit without considering the tax benefits.
- f. The lessor does not have a right to cause the lessee to purchase the leased property at a fixed price.
- g. At all times during the lease term, the lessor has a minimum unconditional at risk investment equal to at least 20% of the cost of the leased property” (Nevitt et. al 77).

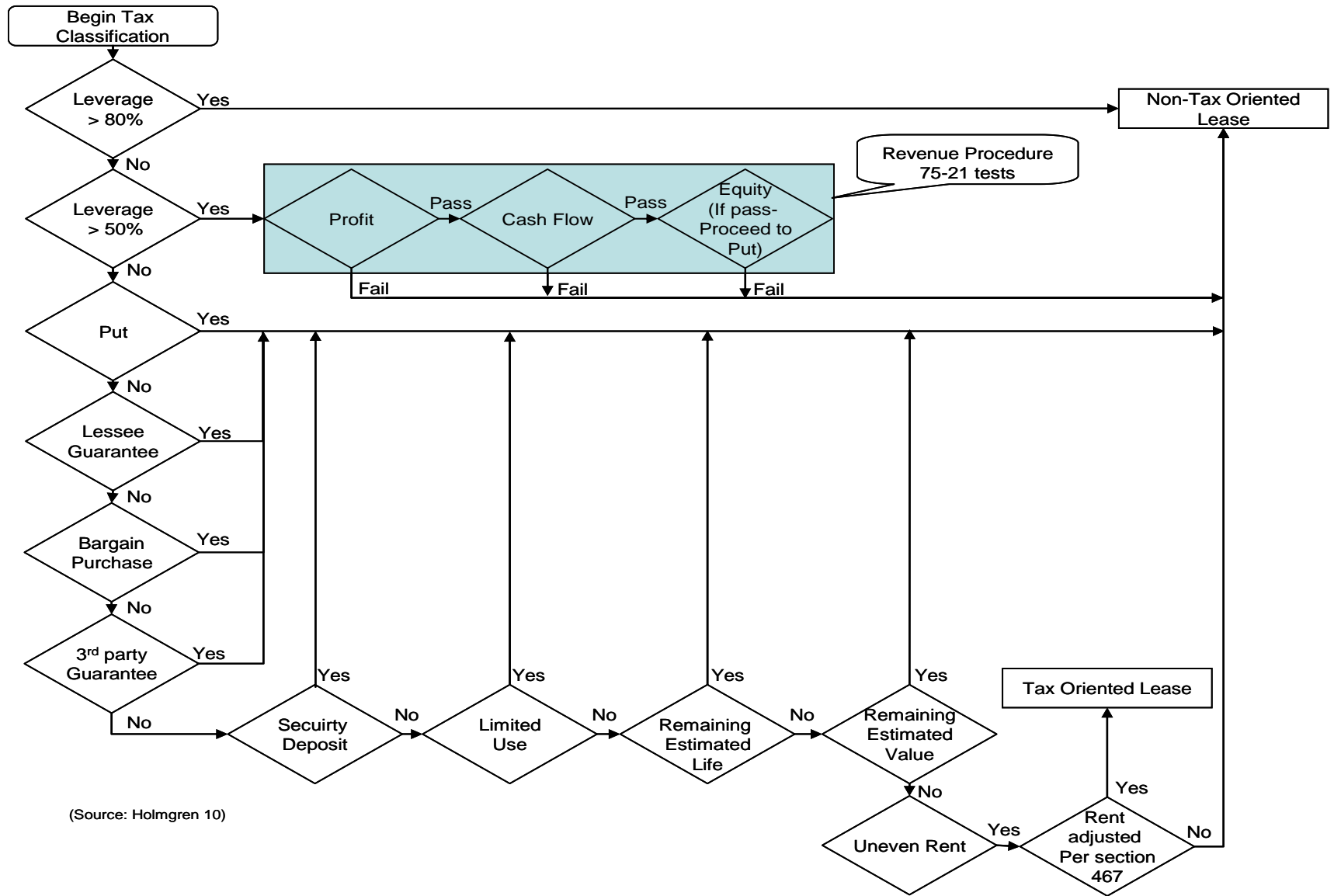
On the other hand, a lease is classified as a non tax oriented lease based on the following six guidelines:

- a. Portions of the periodic payments are specifically applicable to an equity interest in the leased asset to be acquired by the lessee.
- b. The title of the equipment will be acquired by the lessee upon making all lease payments as included in the lease contract.
- c. The lease payments as included in the lease contract exceed the current fair rental value.
- d. Options to purchase the equipment below fair market value at the end of the lease terms are allowed.

- e. Some portion of the periodic payment is specifically designated as interest or is otherwise recognizable as the equivalent of interest (Nevitt et.al 79).

The process of tax classification of a lease is shown in figure 3.

Figure 3: Tax Classification



(Source: Holmgren 10)

From figure 3, the process of classifying a lease contract as a tax lease or a non tax lease begins with a check for the presence of leverage. If the leverage is greater than 80%, then the lease contract is immediately assumed as a non tax lease (Holmgren 11). If the leverage is less than 50%, then tests pertaining to Revenue Procedure 75-21 (profit, cash flow, and equity) can be optionally applied. In regards to the profit test, the transaction is analyzed if it produces a profit. Adding the total amount of lease receivables and estimated residual value produces revenues and subtracting principal, interest payments, and applicable fees from the revenues produces a profit (if positive) and a loss (if negative). If a loss occurs, the lease is classified as a non tax lease. In regards to the cash flow test, it is performed to check whether the total amount of lease receivables less debt service is reasonable. This reasonability is tested if the above computation (i.e. total amount of lease receivables less debt service) is approximately 2% of the equity per year (Holmgren 11). If total amount of lease receivables less debt service is greater than 2% of the equity per year, the transaction fails this test and the lease should be classified as a non tax oriented lease. The equity test pertains to checking for the timing of the cash inflows. This test is performed by “adding the equity to prorated amount of profit at each point in the lease and comparing that to the cumulative profit to that point” where in the “prorating is usually proportional to the percentage of the lease term (Holmgren 11)”. Cash inflows that are high in the beginning of the lease term fail the equity test, which results in the lease being classified as a non tax oriented lease. It is imperative to take note that if the lease contract fails any of the Revenue Procedure 75-21 tests (i.e. profit, cash flow, and equity), the lease should be classified as a non tax oriented lease.

However, if the lease transaction passes all of the Revenue Procedure 75-21 tests, the lease contract is subject to further tests before it can be classified as a tax oriented lease. These further tests pertain to checking for a put option, lessee residual guarantee, a bargain purchase option, 3rd party guarantee, a security deposit, and limited use property. As with the Revenue Procedure 75-21 tests, if any of the above options are present in the lease contract, the lease is classified as a non tax oriented lease. In regards to the limited use property, if “reasonable interpretation indicates that” the use of the equipment is “limited to [a] particular lessee, application, or facility”, then the lessor is said to possess significant interest in “continuing the economic relationship with the lessee (Holmgren 12)”. In view of this continuing relationship, the lease contract should be classified as a non tax oriented lease. Tests that pertain to ‘remaining estimated life’ and ‘remaining estimated value’ apply to re-leased equipment. If either of the ‘remaining estimated life’ and ‘remaining estimated value’ are less than 10% of the respective comparisons, the lease transaction should be categorized as a non tax oriented lease. Finally, the uneven rent test is performed to measure the intent of both the parties in relation to taking advantage of tax benefits. Uneven lease receivables in a lease term automatically categorize a lease contract as a non-tax oriented lease. However, the IRS allows adjusting the lease receivables under Section 467 of the IRS code (Holmgren10). If the adjustments are made as prescribed, the lease can be classified as a tax oriented lease. If no adjustments are made, then the lease contract is classified as a non tax oriented lease.

The guidelines prescribed by the FASB and IRS are extensive. The purpose of the leasing literature is to differentiate between the two lease types. These differences are presented in table 1.

Table 1 - Operating and Capital Lease Differences		
	Operating Lease	Capital Lease
1	Not amortized completely	Amortized completely
2	Relatively short term and cancelable	Relatively long term and non-cancelable
3	Lessor retains the ownership of the asset and claims depreciation	Lessee records the leased equipment as an asset on the balance sheet and claims depreciation
4	Lessee deducts the entire lease payments as an expense	Lessee recognizes period payments as part interest and part reduction of principle
5	Lessee must return leased equipment to the lessor at the end of the lease term	Lessee may have an option to purchase the leased equipment at the end of the lease term below fair market value

Table 1- Source: Nevitt et. al 5

In an operating lease, the lease is not amortized completely as lease payments under term are not adequate to recover the entire cost of the equipment for the lessor (Ross et. al 594). In a capital lease, the lease payments are amortized completely as the lessor recovers the cost of the equipment through lease receivables each time the lessee makes annual lease payments, any executory costs, and interest on lease receivables (Kieso et. al 1102). In terms of advantages, an operating lease has certain advantages over a capital lease. One of the major advantages of engaging in an operating lease is the option to cancel the lease before it expires. Such an option is not available in a capital lease. However, a capital lease may provide an option for purchasing the leased equipment below fair market value.

From a lessee's perspective, the guidelines prescribed by the FASB and the tax rules prescribed by the IRS differently impact a lessee's financial statements and

financial ratios. Assuming the lessee does not borrow to make lease payments, the effects of operating and capital leases on financial ratios is presented in table 2.

Table 2 - Financial Ratio Implications by Lease Classification		
Ratio	Effect of Operating Lease	Effect of Capitalized Lease
Return on Equity (ROE)	1. Net income lowered by after-tax lease expense	Net income lowered by after tax interest expense and depreciation
	2. Book value of equity is unaffected	Book value of equity is unaffected
Return on Capital (ROC)	1. Decreases EBIT through lease expense	Decreases EBIT through depreciation
	2. ROC is higher	ROC is lower
Interest Coverage	1. EBIT(1-t) decreases	EBIT(1-t) decreases
	2. Interest Exp unaffected	Interest Exp increases
	3. Coverage ratio generally higher	Coverage Ratio generally lower
Debt Ratio	1. Debt is unaffected	Debt increases (to account for capitalized leases)
	2. Debt Ratio is lower	Debt Ratio is higher

Table 2 – Source: Damodaran 9

The authoritative literature of the FASB and IRS affect the entire leasing industry. Given that each firm operates in a different tax bracket, leasing transfers the tax benefits/savings from one party to another. The transfer of the tax benefits occurs if the lease is classified as an operating lease and a tax oriented lease. A tax oriented lease is similar to an operating lease wherein the lessor retains the title of the leased equipment and passes on the tax shields (i.e. from depreciation and interest) to the lessee through lower lease payments (Ross et. al 607). However, it is not at a lessor's discretion to provide a tax oriented or a non tax oriented lease. Instead, offering tax oriented and non tax oriented lease depends on the dynamics of the leasing industry.

The leasing industry is divided into four segments- micro, small, middle, and large. The micro-ticket segment pertains to transaction sizes from \$0 -\$25,000, small ticket segment pertains to transactions sizes from \$25,000 to \$250,000, middle ticket segment pertains to transaction sizes from \$250,000 to \$5 million, and the large ticket segment pertains to transaction sizes of over \$5 million (Financial Institutions

Consulting, Inc., (FIC), 2004 State of the Industry report 12). The non-tax oriented leases occur in the micro and small ticket segments and the tax-oriented leases occur in upper range of the middle ticket segment and in the large ticket segment (Nevitt et al. 8).

Table 3 presents the components of cash flows that occur with leasing and purchasing equipment. For a lease transaction to occur, three conditions must be satisfied. First, the lessor must experience a positive net present value. Second, the lessee must also experience a positive net present value. Third, the net present value of purchasing should be lower than that of leasing for the lessee (Smith et.al 897). The components of cash flows in table 3 represent an operating lease transaction. In other words, the lessee cannot claim any tax shield from depreciation. Since a true lease/operating lease transfers the tax benefits to the lessee, analysis of the lease payments is required to observe the manner in which a lessor is compensated. In a competitive market, a lessor would prefer to be compensated for the opportunity cost of capital plus the loss in value of equipment through depreciation (Graham et. al 134). In this case, a lessee's lease payment can be expressed as $L_t = [E(r) + E(d)] A_t$, where $E(r)$ is the expected rate of return on capital, $E(d)$ is the expected rate of economic depreciation, and A_t is the cost of the equipment at time t (Graham et. al 135).

Table 3: Components of Cash Flows from Leasing and Purchasing				
Nontax Cash Flows				
		Equipment Purchased	Equipment Leased	
	Description of Cash Flow	Buyer	Lessor	Lessee
1	Initial Investment	INV	INV	
2	Lease Payments		LEA	LEA
3	Residual Value	RES	RES	
4	Maintenance Expenses	MAIN	MAIN	MAIN
5	Cash Flow from Equipment's Operations	CFLOW		CFLOW
6	Other Costs	COSTS	COSTS	COSTS
Tax related Cash Flows				
7	Depreciation Tax Shield generated by Equipment	DEP	DEP	
8	Tax Implications of Lease Payments			LEA
9	Tax on Capital Gains from Disposal of Equipment	GAIN	GAIN	
10	Tax Shield from Maintenance	MAIN	MAIN	MAIN
11	Tax on Cash Flow From Operations	CFLOW		CFLOW
12	Tax Shield from Interest	DEBT	DEBT	DEBT
Red = inflows, Black = Outflows				

Table 3- Source: Smith et. al 897

Another accounting concept that largely affects the leasing industry is the Alternative Minimum Tax (AMT). This type of tax limits a firm's ability to reduce their current tax liability by claiming excess depreciation. The AMT tax rate is set at 20% and firms must pay the higher of the computed regular tax or AMT liabilities. In order to compare the tax liability under the AMT tax system, the firm first calculates a Tentative Minimum Tax (TMT), which is equal to 20% times Alternative Minimum Taxable Income (AMTI). If the TMT is greater than the tax liability computed using the firm's tax rate, the firm must pay the excess amount computed under the AMT system. On the other hand, if the TMT is smaller than the regular tax liability, then AMT is disregarded. The steps involved in computing the AMT is shown table four.

Table 4: Alternative Minimum Tax		
1		Regular Taxable Income
2	Add	AMT Tax Preferences
3	Add/Subtract	AMT Adjustments
4	Equals	Tentative AMTI
5	Subtract	AMT Net operating losses
6	Equals	AMTI
7	Subtract	AMT Exemption
8	Subtract	20% AMT Rate
9	Subtract	AMT Foreign tax credit
10	Equals	TMT
11	Subtract	Regular tax liability
12	Equals	AMT

Table 4- Source: Contino 142-143

The AMT affects both the lessor and the lessee. Lessors must determine how the potential AMT liability will affect their economic return. Any impacts in their economic return will necessitate a lessor to alter the lease receivable amounts or pricing. From a lessee's perspective, purchasing equipment can have greater AMT consequences than leasing. If the depreciation rate is lower than for tax purposes and write off period is longer than for tax purposes, purchasing equipment will increase the potential AMT (Contino 142-143). In this case, leasing may be attractive for captive intensive firms that face the AMT.

1.2 Benefits of leasing:

In comparison to using bank loans for purchasing equipment, leasing offers 100% financing in terms of the equipment value whereas most banks offer approximately 80% financing of the asset's purchase price. This feature is attractive when the lease payments are fixed and the lessee knows, with certainty, the cash outflow of the last lease payment. In contrast to this, using a bank loan involves borrowing at variable interest rates where increases in the interest rates will increase the cost of borrowing. Unless the lessee is in a

higher tax bracket, the after tax cost of debt is going to be high. Also, leases do not require a down payment at the beginning of the lease but do require the first and last payment of the lease where as bank loans always require a down payment. Making no down payments in leases frees up working capital, which can be used for other business requirements. Also, leases do not contain protective covenants or impose restrictions on management from incurring debt obligations (Nevitt et.al 9).

Leasing also provides financial flexibility. Unlike debt, which requires timely payments to avoid high interest rates and potential bankruptcy problems, lease payments can be structured to the lessee's advantage. Taking the operating cycle and the cash cycle of the lessee into consideration, lease payments can be correlated with the timings of the cash inflows and outflows. Such a benefit is highly advantageous to the lessee in that the lessee gets an opportunity to preserve working capital during the beginning points of the operating cycle. In addition, contractual flexibility can be realized if the lease is classified as an operating lease where the lease can be extended or canceled as necessary (Nevitt et.al 12).

Leasing is also an avenue to minimize obsolescence risk. This is one of the major benefits that stem from leasing equipment. Certain equipment types are rapidly outdated or become obsolete before their useful life (i.e. hi-tech equipment and computer software). In such situations, leasing is the best avenue to avoid the obsolescence risk. However, it is imperative to ensure that the lease contract does not contain a clause that refers to a guaranteed residual value. In this case, if the lessee agrees to this clause, the lessee would bear the risk of paying for the difference if the lessor does not realize

expected proceeds from selling the leased equipment at the expiration of the lease term (Nevitt et.al 10-11).

1.3 Factors considered by firms when leasing equipment

Graph 1 lists five types of factors considered by a firm when making the decision to lease. Graph 1 suggests small firms (defined as a firm up to 99 employees) consider financial accounting treatment and convenience as two of the major factors while making their leasing decisions. Medium firms (defined as a firm with 100 to 499 employees) consider maintenance of equipment as a major factor when making lease decisions. This factor is also considered by large firms (defined as firm with 500-999). Very large firms (defined as firm with employees in excess of 1000) consider the financial accounting treatment and maintenance issues at a higher percentage when compared to the convenience factor (Global Insight - The Benefits of Leasing: Value and Market Perceptions 14).

The practices of the leasing industry revolve around the criteria set by the FASB and IRS. Interestingly, the application of the above criteria largely depends upon the practices of lessee and lessors in the various ticket segments of the leasing industry. This is presented in section two.

Section two: Industry Analysis

2.1 Macro contributions of the leasing industry to the economy

Based on a study conducted by Global Insight (an economic research firm) called “The Economic Contribution of Equipment Leasing to the U.S Economy: Growth, Investment & Jobs- Update 2005”, the contribution of the leasing industry to the economy stems from the fact that leasing provides access to capital. Since leasing does not require large investments of capital, leasing offers a financing option. Without such an option, the demand for business equipment would greatly decline. Their study indicates that the absence of the leasing industry would permanently reduce the GDP by \$75 billion annually and would permanently reduce annual equipment investment by approximately \$255 billion annually (Global Insight- Economic Contribution 9). Furthermore, the negative impact of reduced equipment investment and reduced demand for equipment would likely affect the entire equipment supply chain as leasing “cuts across goods-producing and services-producing industries in the U.S economy” (Global Insight- Economic Contribution 3). From 1997 to 2004, the existence of the leasing industry produced additional annual real GDP in the range of \$75 billion to \$315 billion. Also, additional equipment investment in this period ranged from \$160 billion to \$240 billion (Global Insight- Economic Contribution 3). With these figures, it is evident that the leasing industry not only facilitates investment in equipment but also acts as a major source for economic growth.

An analysis of the leasing industry provides evidence of the trends, risks, and common practices. The economic growth that occurred in the least decade (i.e. 1994 to 2004) has greatly enlarged the leasing industry. Graph 2 provides evidence of investment

in equipment and leasing activity from 1994 to 2004. From graph 2, the average leasing activity has been approximately 30% of the total investment in equipment. Also, it appears that leasing is directly correlated with equipment investment. However, using the lease penetration rate (defined as the ratio of investment in equipment divided by the leasing volume) as a metric to measure leasing activity shows interesting results. From graph 3, it can be seen that the lease penetration rate from 1994 to 2001 fluctuated despite constant increases in the investment in equipment. From 2002 to 2004, the lease penetration rate further decreased in both the years (i.e. from 2002 to 2003, the lease penetration rate decreased by 9% and further decreased by approximately 5% from 2003 to 2004) even when the investment in equipment increased in both the years. Furthermore, from 1994 to 2004, no specific correlation existed between the trend of the percent growth in the leasing volume and the trend of the percent growth in the investment in equipment in any year. Graph 4 demonstrates that the trend in percent growth significantly fluctuated for both of the variables (i.e. leasing volume and equipment investment). The graph also suggests that the leasing industry does not solely depend upon the fluctuations in equipment investment.

Multiple factors may have caused the fluctuations in the lease penetration rate. Some of them pertain to economic conditions, laws enacted by Congress, Federal Reserve Board's decisions regarding interest rates, and a lessee's financing preferences/decisions. The interesting relationship between leasing activity and investment in equipment that occurred from 2002 to 2003 lies in the fact that the Federal Reserve Board reduced interest rates and Congress enacted the Job Creation and Worker Assistance Act of 2002. According to the 2004 State of the Industry Report authored by

FIC, this act offered a temporary 30% bonus depreciation allowance in the year the equipment was placed in service (13). Both the factors (i.e. lower interest rates and the law passed by Congress) may have complimented each other in increasing the benefits of purchasing equipment rather than leasing it. Another factor that contributed in reducing the lease penetration rate from 2002 to 2003 was due to a decrease in the leasing volume of commercial aircrafts, which is one of the major equipment types leased in the large ticket segment (FIC 2004 State of the Industry Report 13). The further decrease in the lease penetration rate from 2003 to 2004 occurred as Congress passed the Jobs Growth Tax Relief Reconciliation Act (JGTRRA) in 2003, which offered a temporary 50% bonus depreciation allowance in the year the equipment was placed in service (FIC- 2004 State of the Industry Report 16). Tables 5 shows the adjusted MACRS tables as a result of the two laws passed by the Congress in 2002 and in 2003.

Table 5 - Bonus Depreciation						
	5 Year Property			7 Year Property		
	<9/11/01	>9/10/01	>5/5/03	<9/11/01	>9/10/01	>5/5/03
In service	No Bonus	30% Bonus	50% Bonus	No Bonus	30% Bonus	50% Bonus
1	20.00%	44.00%	60.00%	14.29%	40.00%	57.15%
2	32.00%	22.40%	16.00%	24.29%	17.14%	12.25%
3	19.20%	13.44%	9.60%	17.49%	12.24%	8.75%
4	11.15%	8.05%	5.75%	12.49%	8.74%	6.25%
5	11.15%	8.05%	5.75%	8.93%	6.25%	4.47%
6	6.00%	4.06%	2.90%	8.92%	6.24%	4.46%
7				8.93%	6.25%	4.47%
8				4.46%	3.12%	2.23%
Total	100%	100%	100%	100%	100%	100%

Table 5- Source: 2004 Equipment Leasing Association Lease Accounting

Conference 23

Another factor in the decrease of the lease penetration rate in 2003 is that firms financed their purchase of small equipment using the increased cash reserves (FIC- 2004 State of the Industry Report 14). This trend of internally financing equipment aligns with

the Pecking Order theory, which states that firms first choose to use available internal funds as a means for financing their requirements before turning to capital markets. As with the preceding years (i.e. 2002), both the factors (i.e. JGTRRA and increased cash reserves) may have increased the benefits of purchasing equipment in 2003 and in 2004.

2.2. Trends in Leasing Activity

The fluctuations in the lease penetration rate provide insight into the dynamics of the leasing industry. An analysis of the investment in equipment and leasing activity by industry and equipment type will further provide evidence of practices in the leasing industry. Graph 5 shows seven-year average investment in equipment (i.e. from 1997 to 2004) by industry. Based on data of graph 5, investment in equipment by firms in the manufacturing industry has been the highest when compared to the other industries.

Within these industries, leasing activity has been consistently increasing in recent years. Graph 6 shows the leasing of equipment by industry from 1999 to 2005. With the recent growth in the information technology industry (IT), leasing volume in the IT industry has been the highest when compared to the other industries. For the same period, leasing activity in industries such as construction and agriculture have increased with only relatively minor fluctuations and leasing activity in the health care industry has been consistently increasing since 1999.

The leasing volume in any industry largely depends upon lessee's equipment requirements. However, other factors such as the transaction size, equipment type, and lessor's capabilities to offer leases on requested equipment also determine the leasing volume in any industry. Various types of lessors satisfy the new lease volume. Analyzing the involvement of different types of lessors in satisfying or approving leases will expose

their contributions, role and significance in the leasing industry. Given that every lessee has unique needs for various types of equipment, lessors such as banks, captives, and independent leasing companies have developed innovative ways to gain their related market share. These lessor types are defined as follows:

- a. Bank: Lessors that operate under the jurisdiction of the FDIC and/or act as a separate entity within a bank holding company are defined as bank lessors.
- b. Captive: Lessors who are the subsidiaries of manufacturing companies are defined as captive lessors.
- c. Independent: Independent financial services firms that are not subsidiaries of manufacturing companies are defined as independents (FIC- 2003 State of the Industry Report 3)

Graph 7 shows the new lease volume from 1999 to 2003 for each ticket segment. From graph 7, it can be seen that the middle and large ticket segments have been the major drivers of the leasing industry. The average new lease volume in these two segments has been 32.56% and 32.54%, respectively. From 1999 to 2003, the micro ticket segment accounted for an average of 5.09% of the new leasing volume and the middle ticket segment accounted for 29.81% of the new leasing volume. On an annual basis, the new lease volume in the micro segment occurred with minor fluctuations in the period being analyzed. The small ticket segment experienced growth from 1999 to 2002 and declined in 2003. The middle ticket segment experienced two major fluctuations that occurred in 1999 and in 2003. In the middle ticket segment new lease volume declined from 40% in 1999 to 25% in 2000. From 2000 to 2002, minor fluctuations occurred in the middle ticket segment as the percentage of new lease volume in these years were 25%,

28.31%, and 26.91%, respectively. However, in 2003, the new lease volume percentage significantly increased to 47.6% in 2003. The large ticket segment also experienced major fluctuations. The new lease volume grew by 12.5% from 1999 (40%) to 2000 (45%). However it declined by 32.31% in 2001, minutely decreased by 1.41% in 2002, and significantly declined by 42.72% in 2003. Such significant declines in the large ticket segment in 2002 and in 2003 align with the decline in the overall leasing volume that occurred due to laws enacted by the Congress.

Graph 8 shows the percentage of new lease volume by lessor type. The competition between banks and independents has been close in that the average lease volume facilitated by both the lessors has been 37.08% and 37.34%, respectively. Captive lessors have facilitated an average of 25.14% and have consistently satisfied a lower percentage of leases in all years (i.e. from 1999 to 2003) when compared to the other two lessors. From 2000 to 2003, banks have satisfied a higher percentage of leases when compared to the other two lessor types. Captive lessors experienced high volatility in this period as their highest facilitation occurred in 1999 (52%) and their lowest facilitation occurred in 2003 (29.6%).

Given that every lessee has unique capital requirements, the decision to lease equipment is affected by multiple factors. According to Vernon Gerety, a firm's leasing decisions are influenced by their capital requirements, which in turn are influenced by the industry segment and size (3-4). In addition to the industry size and segment, a firm explores various financing options before engaging in a lease transaction. However, the financing options available to the firm might not meet their long-term equipment usage plans. For example, internal financing might be an option for a firm but if internal funds

are scarce, the firm will not be able to completely finance the purchase through internal funds. On the other hand, capital intensive firms have large equipment requirements where external financing might be the only avenue to acquire the equipment. Since a lease is a form of secured financing, firms consider to engage in lease transactions. However, selecting the cheapest form of financing does not fully explain why a firm would lease equipment rather than purchasing it (Gerety 4-5).

Other factors such as the industry the lessee operates in, the size and age of the lessee, and most importantly, the geographical location of the lessee aid in explaining the lease volume that occur in the leasing industry. This can be confirmed by analyzing the Dun & Bradstreet's Lease Propensity Index (LPI) which differs based on ticket segment. Graphs 9, 10, 11 and 12 show the propensity to lease based on above variables. The Lease Propensity Index is a gauge to identify preferences for leasing where higher index values indicate greater preferences for leasing and vice versa (Gerety 5). From data presented in graph 9, the public administration industry in both the small and large ticket segment is 212% and 162% (LPI is indexed) more likely to lease equipment when compared to firms that operate in other industries. The next industry that has a higher preference for leasing is the manufacturing industry, which has an LPI of 268% (168% more likely to lease in comparison to other industries). It is evident that there exists a negative relationship between a ticket segment and the related preference to lease. With this inverse relationship, firms that are more likely to lease in the small ticket segment lease less in the large ticket segment and vice versa. The lowest preference for leasing occur in the service and finance industries where these two industries have an LPI of 32% and 27% in the small ticket segment and have an LPI of 43% and 38% in the large ticket

segment. Other industries such as mining, transportation, and wholesale are also more likely to lease when compared to the construction and agriculture industries (Dun and Bradstreet 12, 55).

In regards to the propensity to lease based on firm size, large firms (i.e. with employees of more than 500) have a greater propensity to lease than smaller firms that have less than 500 employees. Graph 10 provides evidence of this. The LPI values for the small and large ticket market segment for a large firm are 310% and 287%, respectively. Like, the LPI by industry, the LPI by firm size depends of the lease preferences based on ticket segment (Dun and Bradstreet 28, 66)

The LPI by firm age also offers greater insight as to which firms are more likely to lease. Graph 11 indicates that firms in their 10th year of operation are more likely to lease than are firms that have operated less than 10 years. Firms that have operated in the range of 10-24 years have an LPI value of 113% in the small ticket segment and 100% in the large ticket segment. Interestingly, there appears to be no correlation between the firm age and the preference for leasing either in the small or large ticket segments. In other words, the firm's age does not necessarily increase requirements to engage in leasing large ticket items. Interestingly, firms with over 50 years of operation are 132% more likely to lease in the small ticket segment when compared to an 89% likelihood of leasing equipment in the large ticket segment. Start-up firms and firms that have operated less than 10 years are only 29% likely to lease when compared to older firms (Dun and Bradstreet 24, 63). Unlike the LPI by industry and the LPI by firm size, LPI by firm age largely depends on equipment requirements (Gerety 9).

A firm's preferences for leasing are further correlated with the geographical location of the firm (Gerety 7). The graph of LPI by geographical location (graph 12) indicates that firms in the Pacific region are 17% more likely to lease in the small ticket segment than are the firms operating in different regions. In the large ticket segment, firms in the South Atlantic region are 43% more likely to lease equipment when than are firms in other regions. Interestingly, LPI values by geographical location in the small ticket segment are not significantly different in 4 of the 9 regions shown in graph 12 (i.e. LPI values for firms that operate in the Mid-Atlantic region, West North Central region, West South Central region, and East South Central region are similar). In the large ticket segment, 3 of the 9 regions have relatively similar LPI values (i.e. Pacific region (7% more likely to lease), East South Central (4% more likely to lease), and Mountain regions (3% more likely to lease). Firms that operate in the West North Central are 25% less likely to lease and firms that operate in West South Central are 14% less likely to lease equipment. Firms that operate in the Mid-Atlantic region (LPI value: 125%) are 9% more likely to lease than firms that operate in the New England region (LPI value: 116%) (Dun and Bradstreet 19, 60).

The Lease Propensity Index is a valuable tool to profile potential lessors. However, satisfying lease contracts depends on the risk associated with a ticket segment, which depends on the category of equipment leased and a lessor's capability to lease requested equipment. The different types of equipment leased in each ticket segment provides insight into the risks involved with each ticket segment.

The leasing of low-cost equipment (i.e. \$0 to \$250,000) at a high volume occurs in the micro and small ticket segments. Examples of major equipments leased in this

market are computer equipment such as PCs & workstations and office machines such as copiers. The leasing of any equipment with a transaction size of \$250,000 - \$5 million occurs in the middle ticket segment. The leasing of high-cost equipment (greater than \$5 million) with a low volume occurs in the large ticket segment. Examples of major equipment types leased in this ticket segment are aircraft and locomotives (FIC 2004 State of the Industry Report 65, 68, 71, 72).

2.3 Financial Trend Analysis

A five-year (i.e. from 1999 to 2003) trend analysis of delinquency rate of accounts receivables, expense components, pretax yields, cost of funds, and pretax spreads of each lessor type and each ticket segment provides insight into the risks involved with the leasing of equipment. The degree of risk involved in each ticket segment aids in demonstrating the returns. Returns in the leasing of equipment are demonstrated using two financial ratios- return on assets (ROA) and return on equity (ROE).

One of the major operating risks comes from accounts receivable that become delinquent. The risk related to delinquent accounts receivable can be confirmed with the delinquency rate. Graphs 13, 14, 15, and 16 present trends in delinquency of accounts receivable for each ticket segment. The delinquency rate for all ages of receivables is higher for micro ticket segment than for the large ticket segment.

In relation to the delinquency rates, consideration of the bad debt expense in relation to each ticket segment will demonstrate the risk involved in each market segment. Graphs 17, 18, 19, and 20 show the expense components in relation to ticket segments. The higher delinquency rates experienced by the micro ticket segment aligns

with the provisions for bad debt expense in that the average bad debt expense for micro ticket was 21.45 % on an average of the total revenues. However, the average bad debt expense for the large ticket segment was comparatively higher (17%) than small (9%) and middle (9.6%) ticket segments even though the former had lower delinquency rates.

Another metric to gain an understanding of the risk involved in the leasing industry is the percentage of failed and successful contracts. A closer look at the successful and failed contracts by industry, term, and equipment type evidences the risks involved in the leasing business. Table 6 shows successful and failed contracts from 2001:Quarter (Q) 2 to 2004:Q1. Successful contracts are defined as lease contracts without a loss where as failed contracts are defined as lease contracts with a loss of at least \$100 (Murtagh 3).

Table 6 - Percentage of Successful and Failed Contracts							
QUARTER	SUCCESSFUL	FAILED	TOTAL	% FAILED	% GOOD	% DIFFERENCE IN FAILED CONTRACTS (BASE QUARTER 2001:Q1)	% DIFFERENCE IN SUCCESSFUL CONTRACTS (BASE QUARTER 2001:Q1)
2001: Q1	56,854	5,162	62,016	8.30%	91.68%		
2001: Q2	62,917	6,077	68,994	8.80%	91.19%	6.02%	-0.53%
2001: Q3	65,530	6,803	72,333	9.40%	90.59%	13.25%	-1.18%
2002: Q1	68,674	7,713	76,387	10.10%	89.90%	21.69%	-1.93%
2002: Q2	70,523	8,574	79,097	10.80%	89.16%	30.12%	-2.74%
2002: Q3	73,796	9,374	83,170	11.30%	88.73%	36.14%	-3.21%
2002: Q4	76,510	9,876	86,386	11.40%	88.57%	37.35%	-3.39%
2003: Q1	80,266	10,859	91,125	11.90%	88.08%	43.37%	-3.92%
2003: Q2	82,649	11,532	94,181	12.20%	87.76%	46.99%	-4.28%
2003: Q2	88,280	12,317	100,597	12.20%	87.76%	46.99%	-4.28%
2003: Q3	91,185	12,728	103,913	12.20%	87.75%	46.99%	-4.28%
2004: Q1	94,500	13,145	107,645	12.20%	87.79%	46.99%	-4.24%
AVERAGES	75,974	9,513	85,487	10.90%	89.08%		

Table 6- Source: Murtagh 2

From table 6, it is evident that the percentage of failed contracts has constantly increased since 2001:Quarter (Q)1. From 2001: Q1 to 2004:Q1, failed contracts increased by approximately 47% and successful contracts decreased by approximately 5%.

Analysis of successful and failed contracts by industry shows the risk associated with different industry types. Table 7 shows successful and failed contracts by industry and table 8 shows the percentage of failed contracts by industry in descending order.

Table 7: Successful & Failed Contracts by Industry

Industry	Outcome	2001:Q2	2001:Q3	2001:Q4	2002:Q1	2002:Q2	2002:Q3	2002:Q4	2003:Q1	2003:Q2	2003:Q3	2003:Q4	2004:Q1	Averages
Agriculture	Successful	3,890	3,922	4,007	4,073	4,134	4,213	4,291	4,355	4,409	4,479	4,660	4,698	
	Failed	313	329	347	363	380	381	393	411	429	437	473	475	
	Total	4,203	4,251	4,354	4,436	4,514	4,594	4,684	4,766	4,838	4,916	5,133	5,173	
	% Successful	92.55%	92.26%	92.03%	91.82%	91.58%	91.71%	91.61%	91.38%	91.13%	91.11%	90.79%	90.82%	91.57%
Mining	Successful	510	600	633	659	686	723	774	815	839	861	866	884	
	Failed	28	30	35	37	40	45	60	64	75	83	77	80	
	Total	538	630	668	696	726	768	834	879	914	944	943	964	
	% Successful	94.80%	95.24%	94.76%	94.68%	94.49%	94.14%	92.81%	92.72%	91.79%	91.21%	91.83%	91.70%	93.35%
Construction	Successful	6,891	8,347	8,641	9,065	9,281	9,566	9,916	10,206	10,339	10,667	10,971	11,221	
	Failed	640	749	816	893	976	1,028	1,098	1,167	1,262	1,321	1,355	1,383	
	Total	7,531	9,096	9,457	9,958	10,257	10,594	11,014	11,373	11,601	11,988	12,326	12,604	
	% Successful	91.50%	91.77%	91.37%	91.03%	90.48%	90.30%	90.03%	89.74%	89.12%	88.98%	89.01%	89.03%	90.20%
Manufacturing	Successful	9,920	11,299	11,703	12,051	12,383	12,930	13,503	13,968	14,179	14,874	15,161	15,661	
	Failed	990	1,208	1,297	1,440	1,577	1,691	1,887	1,972	2,053	2,207	2,279	2,328	
	Total	10,910	12,507	13,000	13,491	13,960	14,621	15,390	15,940	16,232	17,081	17,440	17,989	
	% Successful	90.93%	90.34%	90.02%	89.33%	88.70%	88.43%	87.74%	87.63%	87.35%	87.08%	86.93%	87.06%	88.46%
Transportation	Successful	8,313	8,981	9,283	9,511	9,451	10,148	10,430	10,624	10,802	11,052	11,416	11,877	
	Failed	744	924	1,065	1,230	1,510	1,763	1,883	2,204	2,353	2,459	2,486	2,535	
	Total	9,057	9,905	10,348	10,741	10,961	11,911	12,313	12,828	13,155	13,511	13,902	14,412	
	% Successful	91.79%	90.67%	89.71%	88.55%	86.22%	85.20%	84.71%	82.82%	82.11%	81.80%	82.12%	82.41%	85.68%
Wholesale Trade	Successful	4,943	5,248	5,391	5,500	5,589	5,736	5,816	6,108	6,292	6,685	7,038	7,305	
	Failed	317	351	404	460	499	546	533	569	590	617	686	714	
	Total	5,260	5,599	5,795	5,960	6,088	6,282	6,349	6,677	6,882	7,302	7,724	8,019	
	% Successful	93.97%	93.73%	93.03%	92.28%	91.80%	91.31%	91.60%	91.48%	91.43%	91.55%	91.12%	91.10%	92.03%
Retail Trade	Successful	2,413	2,615	2,676	3,816	4,135	4,185	4,250	4,472	4,519	4,687	4,799	4,863	
	Failed	233	256	286	305	316	402	427	476	490	511	525	540	
	Total	2,646	2,871	2,962	4,121	4,451	4,587	4,677	4,948	5,009	5,198	5,324	5,403	
	% Successful	91.19%	91.08%	90.34%	92.60%	92.90%	91.24%	90.87%	90.38%	90.22%	90.17%	90.14%	90.01%	90.93%
Finance and Insurance	Successful	4,458	4,799	5,066	5,276	5,438	5,822	6,243	6,602	6,832	7,360	7,775	8,103	
	Failed	354	410	446	474	505	561	533	539	573	608	661	699	
	Total	4,812	5,209	5,512	5,750	5,943	6,383	6,776	7,141	7,405	7,968	8,436	8,802	
	% Successful	92.64%	92.13%	91.91%	91.76%	91.50%	91.21%	92.13%	92.45%	92.26%	92.37%	92.16%	92.06%	92.05%
Services	Successful	13,929	15,361	16,209	16,631	17,182	18,123	18,886	20,460	21,568	23,389	24,162	25,076	
	Failed	1,424	1,682	1,957	2,325	2,533	2,696	2,776	3,086	3,309	3,594	3,706	3,895	
	Total	15,353	17,043	18,166	18,956	19,715	20,819	21,662	23,546	24,877	26,983	27,868	28,971	
	% Successful	90.72%	90.13%	89.23%	87.73%	87.15%	87.05%	87.18%	86.89%	86.70%	86.68%	86.70%	86.56%	87.73%
Public Administration	Successful	1,587	1,745	1,921	2,092	2,244	2,350	2,401	2,656	2,870	4,226	4,337	4,812	
	Failed	119	138	150	186	238	261	286	371	398	480	480	496	
	Total	1,706	1,883	2,071	2,278	2,482	2,611	2,687	3,027	3,268	4,706	4,817	5,308	
	% Successful	93.02%	92.67%	92.76%	91.83%	90.41%	90.00%	89.36%	87.74%	87.82%	89.80%	90.04%	90.66%	90.51%
<i>Source: Murtagh 4</i>														

Table 8 : Percentage of Failed Contracts by Industry (Descending)	
Transportation	14.32%
Services	12.27%
Manufacturing	11.54%
Construction	9.80%
Public Administration	9.49%
Retail	9.07%
Agriculture	8.43%
Wholesale	7.97%
Finance	7.95%
Mining	6.65%

Table 8- Source: Table 7

Lessors catering to the transportation industry experienced highest losses. Also, average losses in three other industries-services (12.27%), manufacturing (11.54%), and construction (9.8%) were higher than the overall average loss experienced by all industries (9.75%). The lowest average loss occurred in the mining industry (6.65%) and average losses in five other industries-public administration, retail, agriculture, wholesale, and finance were lower than the overall average loss experienced by all industries. Graph 21 shows information on the percentage of losses in the quarters being analyzed. The trends in percentage of failed contracts constantly increased for industries such as agriculture, construction, manufacturing, transportation, and services. The public administration and retail trade industries experienced higher fluctuations in the percentage of losses when compared to the fluctuations in the percentage of losses in the mining and finance/insurance industries.

Another indicator of risk is the lease term. Table 9 shows the percent of successful and failed contracts by lease term and table 10 shows the percentage of filed contracts by lease term in descending order.

Lease Term	Outcome	2001:Q2	2001:Q3	2001:Q4	2002:Q1	2002:Q2	2002:Q3	2002:Q4	2003:Q1	2003:Q2	2003:Q3	2003:Q4	2004:Q1	Average
0-12 months	Successful	1,424	1,635	1,691	1,858	1,916	1,986	2,066	2,216	2,332	2,478	2,619	2,727	
	Failed	100	114	142	164	179	190	203	211	233	246	251	262	
	Total	1,524	1,749	1,833	2,022	2,095	2,176	2,269	2,427	2,565	2,724	2,870	2,989	
	% Successful	93.44%	93.48%	92.25%	91.89%	91.46%	91.27%	91.05%	91.31%	90.92%	90.97%	91.25%	91.23%	91.71%
	% Failed	6.56%	6.52%	7.75%	8.11%	8.54%	8.73%	8.95%	8.69%	9.08%	9.03%	8.75%	8.77%	8.29%
13-24 months	Successful	3,322	3,798	3,995	4,394	4,539	4,787	4,917	5,182	5,317	5,526	5,703	5,907	
	Failed	277	323	347	378	409	439	460	490	512	574	606	625	
	Total	3,599	4,121	4,342	4,772	4,948	5,226	5,377	5,672	5,829	6,100	6,309	6,532	
	% Successful	92.30%	92.16%	92.01%	92.08%	91.73%	91.60%	91.45%	91.36%	91.22%	90.59%	90.39%	90.43%	91.44%
	% Failed	7.70%	7.84%	7.99%	7.92%	8.27%	8.40%	8.55%	8.64%	8.78%	9.41%	9.61%	9.57%	8.56%
25-36 months	Successful	17,187	19,062	19,997	20,764	21,402	22,392	23,146	24,380	25,205	26,944	27,890	29,142	
	Failed	1,452	1,682	1,855	2,044	2,249	2,431	2,547	2,814	2,985	3,239	3,332	3,452	
	Total	18,639	20,744	21,852	22,808	23,651	24,823	25,693	27,194	28,190	30,183	31,222	32,594	
	% Successful	92.21%	91.89%	91.51%	91.04%	90.49%	90.21%	90.09%	89.65%	89.41%	89.27%	89.33%	89.41%	90.38%
	% Failed	7.79%	8.11%	8.49%	8.96%	9.51%	9.79%	9.91%	10.35%	10.59%	10.73%	10.67%	10.59%	9.62%
37-48 months	Successful	12,035	13,309	13,868	14,649	15,180	15,931	16,514	17,148	17,693	19,754	20,468	21,155	
	Failed	1,113	1,287	1,452	1,605	1,776	1,957	2,073	2,285	2,394	2,560	2,631	2,736	
	Total	13,148	14,596	15,320	16,254	16,956	17,888	18,587	19,433	20,087	22,314	23,099	23,891	
	% Successful	91.53%	91.18%	90.52%	90.13%	89.53%	89.06%	88.85%	88.24%	88.08%	88.53%	88.61%	88.55%	89.40%
	% Failed	8.47%	8.82%	9.48%	9.87%	10.47%	10.94%	11.15%	11.76%	11.92%	11.47%	11.39%	11.45%	10.60%
49-60 months	Successful	18,275	19,943	20,647	21,353	21,794	22,819	23,747	24,913	25,588	26,629	27,424	28,304	
	Failed	1,711	2,067	2,347	2,771	3,089	3,382	3,534	3,860	4,142	4,328	4,486	4,607	
	Total	19,986	22,010	22,994	24,124	24,883	26,201	27,281	28,773	29,730	30,957	31,910	32,911	
	% Successful	91.44%	90.61%	89.79%	88.51%	87.59%	87.09%	87.05%	86.58%	86.07%	86.02%	85.94%	86.00%	87.72%
	% Failed	8.56%	9.39%	10.21%	11.49%	12.41%	12.91%	12.95%	13.42%	13.93%	13.98%	14.06%	14.00%	12.28%
61+ months	Successful	4,611	5,170	5,332	5,656	5,692	5,881	6,120	6,427	6,514	6,949	7,081	7,265	
	Failed	509	604	660	751	872	975	1,059	1,199	1,266	1,370	1,422	1,463	
	Total	5,120	5,774	5,992	6,407	6,564	6,856	7,179	7,626	7,780	8,319	8,503	8,728	
	% Successful	90.06%	89.54%	88.99%	88.28%	86.72%	85.78%	85.25%	84.28%	83.73%	83.53%	83.28%	83.24%	86.05%
	% Failed	9.94%	10.46%	11.01%	11.72%	13.28%	14.22%	14.75%	15.72%	16.27%	16.47%	16.72%	16.76%	13.95%
<i>Source: Murtagh 4</i>														

Table 10: Percentage of Failed Contracts by Lease Term (Descending)	
61+ months	13.95%
49-60 months	12.28%
37-48 months	10.60%
25-36 months	9.62%
13-24 months	8.56%
0-12 months	8.29%

Table 10- Source: Table 9

As can be seen in table 10, the risk associated with failed contracts is directly correlated with the lease term with the highest percentage of failed contracts (13.95%) occurring when lease term exceeds 60 months. Finally, risk on contracts is also dependent upon equipment type. Table 11 shows the percent of successful and failed contracts by equipment type and table 12 shows the percentage of failed contracts by equipment type in descending order.

Table 11: Percent Successful and Failed Contracts by Equipment Type

Equipment Type	Outcome	2001:Q2	2001:Q3	2001:Q4	2002:Q1	2002:Q2	2002:Q3	2002:Q4	2003:Q1	2003:Q2	2003:Q3	2003:Q4	2004:Q1	Average
Agricultural	Successful	2,704	2,958	3,022	3,075	3,122	3,159	3,206	3,266	3,291	3,330	3,362	3,378	
	Failed	215	234	244	261	277	295	307	321	327	332	337	342	
	Total	2,919	3,192	3,266	3,336	3,399	3,454	3,513	3,587	3,618	3,662	3,699	3,720	
	% Successful	92.63%	92.67%	92.53%	92.18%	91.85%	91.46%	91.26%	91.05%	90.96%	90.93%	90.89%	90.81%	91.60%
	% Failed	7.37%	7.33%	7.47%	7.82%	8.15%	8.54%	8.74%	8.95%	9.04%	9.07%	9.11%	9.19%	8.40%
Aircraft	Successful	98	121	125	146	147	151	188	193	193	194	195	197	
	Failed	8	8	11	12	15	15	16	16	16	16	16	16	
	Total	106	129	136	158	162	166	204	209	209	210	211	213	
	% Successful	92.45%	93.80%	91.91%	92.41%	90.74%	90.96%	92.16%	92.34%	92.34%	92.38%	92.42%	92.49%	92.20%
	% Failed	7.55%	6.20%	8.09%	7.59%	9.26%	9.04%	7.84%	7.66%	7.66%	7.62%	7.58%	7.51%	7.80%
Buses & Motor coaches	Successful	253	286	367	370	358	363	371	346	342	353	371	378	
	Failed	26	27	31	39	57	63	65	109	120	122	146	148	
	Total	279	313	398	409	415	426	436	455	462	475	517	526	
	% Successful	90.68%	91.37%	92.21%	90.46%	86.27%	85.21%	85.09%	76.04%	74.03%	74.32%	71.76%	71.86%	82.44%
	% Failed	9.32%	8.63%	7.79%	9.54%	13.73%	14.79%	14.91%	23.96%	25.97%	25.68%	28.24%	28.14%	17.56%
Construction & Mining	Successful	6,932	7,934	8,187	8,665	8,821	9,012	9,294	9,526	9,600	9,790	9,934	10,129	
	Failed	692	759	822	871	926	951	1,019	1,049	1,121	1,148	1,174	1,242	
	Total	7,624	8,693	9,009	9,536	9,747	9,963	10,313	10,575	10,721	10,938	11,108	11,371	
	% Successful	90.92%	91.27%	90.88%	90.87%	90.50%	90.45%	90.12%	90.08%	89.54%	89.50%	89.43%	89.08%	90.22%
	% Failed	9.08%	8.73%	9.12%	9.13%	9.50%	9.55%	9.88%	9.92%	10.46%	10.50%	10.57%	10.92%	9.78%
Computer	Successful	5,463	6,078	6,314	6,512	6,770	7,250	7,657	8,167	8,609	9,945	10,582	11,213	
	Failed	515	599	666	789	949	1,033	1,078	1,215	1,275	1,377	1,410	1,447	
	Total	5,978	6,677	6,980	7,301	7,719	8,283	8,735	9,382	9,884	11,322	11,992	12,660	
	% Successful	91.39%	91.03%	90.46%	89.19%	87.71%	87.53%	87.66%	87.05%	87.10%	87.84%	88.24%	88.57%	88.65%
	% Failed	8.61%	8.97%	9.54%	10.81%	12.29%	12.47%	12.34%	12.95%	12.90%	12.16%	11.76%	11.43%	11.35%
Copier & fax	Successful	19,900	21,459	22,815	23,691	24,579	25,802	26,785	28,542	29,817	32,065	33,035	34,419	
	Failed	1,772	2,114	2,431	2,849	3,148	3,352	3,586	4,019	4,279	4,529	4,690	4,866	
	Total	21,672	23,573	25,246	26,540	27,727	29,154	30,371	32,561	34,096	36,594	37,725	39,285	
	% Successful	91.82%	91.03%	90.37%	89.27%	88.65%	88.50%	88.19%	87.66%	87.45%	87.62%	87.57%	87.61%	88.81%
	% Failed	8.18%	8.97%	9.63%	10.73%	11.35%	11.50%	11.81%	12.34%	12.55%	12.38%	12.43%	12.39%	11.19%
Forklift	Successful	552	859	900	928	963	1,028	1,167	1,343	1,400	1,413	1,426	1,489	
	Failed	44	60	64	74	86	94	108	110	124	190	191	191	
	Total	596	919	964	1,002	1,049	1,122	1,275	1,453	1,524	1,603	1,617	1,680	
	% Successful	92.62%	93.47%	93.36%	92.61%	91.80%	91.62%	91.53%	92.43%	91.86%	88.15%	88.19%	88.63%	91.36%
	% Failed	7.38%	6.53%	6.64%	7.39%	8.20%	8.38%	8.47%	7.57%	8.14%	11.85%	11.81%	11.37%	8.64%

Table 11 (Continued) : Percent Successful and Failed Contracts by Equipment Type

Equipment Type	Outcome	2001:Q2	2001:Q3	2001:Q4	2002:Q1	2002:Q2	2002:Q3	2002:Q4	2003:Q1	2003:Q2	2003:Q3	2003:Q4	2004:Q1	Average
Logging & Forestry	Successful	104	146	152	161	165	166	174	180	180	183	186	191	
	Failed	5	8	8	9	11	12	15	15	15	16	16	16	
	Total	109	154	160	170	176	178	189	195	195	199	202	207	
	% Successful	95.41%	94.81%	95.00%	94.71%	93.75%	93.26%	92.06%	92.31%	92.31%	91.96%	92.08%	92.27%	93.33%
	% Failed	4.59%	5.19%	5.00%	5.29%	6.25%	6.74%	7.94%	7.69%	7.69%	8.04%	7.92%	7.73%	6.67%
Medium/Light duty truck	Successful	2,456	2,784	2,862	2,920	2,963	3,027	3,099	3,147	3,192	3,242	3,265	3,296	
	Failed	70	88	94	115	133	145	153	172	187	196	200	204	
	Total	2,526	2,872	2,956	3,035	3,096	3,172	3,252	3,319	3,379	3,438	3,465	3,500	
	% Successful	97.23%	96.94%	96.82%	96.21%	95.70%	95.43%	95.30%	94.82%	94.47%	94.30%	94.23%	94.17%	95.47%
	% Failed	2.77%	3.06%	3.18%	3.79%	4.30%	4.57%	4.70%	5.18%	5.53%	5.70%	5.77%	5.83%	4.53%
Medical	Successful	551	586	599	629	634	672	704	758	802	852	859	911	
	Failed	75	76	85	88	91	93	92	99	117	120	130	137	
	Total	626	662	684	717	725	765	796	857	919	972	989	1,048	
	% Successful	88.02%	88.52%	87.57%	87.73%	87.45%	87.84%	88.44%	88.45%	87.27%	87.65%	86.86%	86.93%	87.73%
	% Failed	11.98%	11.48%	12.43%	12.27%	12.55%	12.16%	11.56%	11.55%	12.73%	12.35%	13.14%	13.07%	12.27%
Manufacturing	Successful	3,446	3,895	3,963	4,010	4,055	4,133	4,271	4,400	4,456	4,558	4,681	4,792	
	Failed	489	570	597	650	698	731	785	825	835	844	856	861	
	Total	3,935	4,465	4,560	4,660	4,753	4,864	5,056	5,225	5,291	5,402	5,537	5,653	
	% Successful	87.57%	87.23%	86.91%	86.05%	85.31%	84.97%	84.47%	84.21%	84.22%	84.38%	84.54%	84.77%	85.39%
	% Failed	12.43%	12.77%	13.09%	13.95%	14.69%	15.03%	15.53%	15.79%	15.78%	15.62%	15.46%	15.23%	14.61%
Office Equipment	Successful	1,107	1,163	1,210	1,237	1,281	1,575	1,608	1,721	1,780	2,478	2,630	2,791	
	Failed	89	102	115	132	143	156	174	203	210	293	301	331	
	Total	1,196	1,265	1,325	1,369	1,424	1,731	1,782	1,924	1,990	2,771	2,931	3,122	
	% Successful	92.56%	91.94%	91.32%	90.36%	89.96%	90.99%	90.24%	89.45%	89.45%	89.43%	89.73%	89.40%	90.40%
	% Failed	7.44%	8.06%	8.68%	9.64%	10.04%	9.01%	9.76%	10.55%	10.55%	10.57%	10.27%	10.60%	9.60%
Printing & Photographic	Successful	227	246	247	250	252	259	266	320	342	366	383	407	
	Failed	37	41	43	51	54	55	56	62	69	75	79	80	
	Total	264	287	290	301	306	314	322	382	411	441	462	487	
	% Successful	85.98%	85.71%	85.17%	83.06%	82.35%	82.48%	82.61%	83.77%	83.21%	82.99%	82.90%	83.57%	83.65%
	% Failed	14.02%	14.29%	14.83%	16.94%	17.65%	17.52%	17.39%	16.23%	16.79%	17.01%	17.10%	16.43%	16.35%

Table 11 (Continued) : Percent Successful and Failed Contracts by Equipment Type

Equipment Type	Outcome	2001:Q2	2001:Q3	2001:Q4	2002:Q1	2002:Q2	2002:Q3	2002:Q4	2003:Q1	2003:Q2	2003:Q3	2003:Q4	2004:Q1	Average
Railroad	Successful	20	27	27	29	30	30	33	34	33	29	29	29	
	Failed	3	3	3	3	3	3	1	3	4	10	10	10	
	Total	23	30	30	32	33	33	34	37	37	39	39	39	
	% Successful	86.96%	90.00%	90.00%	90.63%	90.91%	90.91%	97.06%	91.89%	89.19%	74.36%	74.36%	74.36%	86.72%
	% Failed	13.04%	10.00%	10.00%	9.38%	9.09%	9.09%	2.94%	8.11%	10.81%	25.64%	25.64%	25.64%	13.28%
Retail	Successful	1,047	1,274	1,318	2,428	2,662	2,713	2,790	2,940	3,037	3,146	3,282	3,413	
	Failed	112	120	130	140	145	194	173	192	214	239	252	259	
	Total	1,159	1,394	1,448	2,568	2,807	2,907	2,963	3,132	3,251	3,385	3,534	3,672	
	% Successful	90.34%	91.39%	91.02%	94.55%	94.83%	93.33%	94.16%	93.87%	93.42%	92.94%	92.87%	92.95%	92.97%
	% Failed	9.66%	8.61%	8.98%	5.45%	5.17%	6.67%	5.84%	6.13%	6.58%	7.06%	7.13%	7.05%	7.03%
Telecommunica tions	Successful	1,278	1,631	1,705	1,711	1,730	1,753	1,785	1,916	1,951	1,995	2,075	2,117	
	Failed	125	192	216	252	268	298	306	320	331	333	348	355	
	Total	1,403	1,823	1,921	1,963	1,998	2,051	2,091	2,236	2,282	2,328	2,423	2,472	
	% Successful	91.09%	89.47%	88.76%	87.16%	86.59%	85.47%	85.37%	85.69%	85.50%	85.70%	85.64%	85.64%	86.84%
	% Failed	8.91%	10.53%	11.24%	12.84%	13.41%	14.53%	14.63%	14.31%	14.50%	14.30%	14.36%	14.36%	13.16%
Truck	Successful	8,405	8,773	8,916	9,042	9,078	9,791	10,044	10,243	10,322	10,492	10,903	11,233	
	Failed	648	785	930	1,040	1,190	1,405	1,498	1,659	1,796	1,913	1,978	2,022	
	Total	9,053	9,558	9,846	10,082	10,268	11,196	11,542	11,902	12,118	12,405	12,881	13,255	
	% Successful	92.84%	91.79%	90.55%	89.68%	88.41%	87.45%	87.02%	86.06%	85.18%	84.58%	84.64%	84.75%	87.75%
	% Failed	7.16%	8.21%	9.45%	10.32%	11.59%	12.55%	12.98%	13.94%	14.82%	15.42%	15.36%	15.25%	12.25%
Vending & Restaurant	Successful	628	687	727	751	768	738	827	897	934	967	1,019	1,052	
	Failed	32	46	55	62	73	152	99	107	116	131	144	153	
	Total	660	733	782	813	841	890	926	1,004	1,050	1,098	1,163	1,205	
	% Successful	95.15%	93.72%	92.97%	92.37%	91.32%	82.92%	89.31%	89.34%	88.95%	88.07%	87.62%	87.30%	89.92%
	% Failed	4.85%	6.28%	7.03%	7.63%	8.68%	17.08%	10.69%	10.66%	11.05%	11.93%	12.38%	12.70%	10.08%
Waste & Refuse Handling	Successful	424	466	479	491	495	502	511	520	529	537	543	551	
	Failed	13	16	16	19	20	20	18	19	22	22	23	22	
	Total	437	482	495	510	515	522	529	539	551	559	566	573	
	% Successful	97.03%	96.68%	96.77%	96.27%	96.12%	96.17%	96.60%	96.47%	96.01%	96.06%	95.94%	96.16%	96.36%
	% Failed	2.97%	3.32%	3.23%	3.73%	3.88%	3.83%	3.40%	3.53%	3.99%	3.94%	4.06%	3.84%	3.64%
<i>Source: Murtagh 6</i>														

Table 12: Average Percentage Of Failed Contracts By Equipment Type	
Buses & Motor coaches	17.56%
Printing & Photographic	16.35%
Manufacturing	14.61%
Railroad	13.28%
Telecommunications	13.16%
Medical	12.27%
Truck	12.25%
Computer	11.35%
Copier & fax	11.19%
Vending & Restaurant	10.08%
Construction & Mining	9.78%
Office Equipment	9.60%
Forklift	8.64%
Agricultural	8.40%
Aircraft	7.80%
Retail	7.03%
Logging & Forestry	6.67%
Medium/Light duty truck	4.53%
Waste & Refuse Handling	3.64%
Average	10.43%

Table 12- Source: Table 11

From table 12, losses related to nine types of equipment were greater than the overall average. From the nine equipment types, three belonged to the transportation industry. This might indicate that the leasing in the transportation industry is riskier when compared to other industries. The overall average of losses from the above industries was 10.43%. Interestingly, losses in equipment types such as locomotives and trucks were higher than the over all average as the loss from railroads was 13.28% and 12.25% from trucks. Also, losses in equipments such as computers, printers, copiers, and faxes were also high when compared to the overall average. The loss from printers was 16.35% and 11.35% from computers. Losses on lease contracts by equipment type correlate with the risk involved in the ticket segment in which they are leased. Based on delinquency rate of accounts receivable, the small ticket segment experienced the highest delinquency rate.

This correlates with the above average losses that occurred in the IT industry (16.35%) as computer equipment is one of the major equipments that is leased in the micro and small ticket segment (FIC 2004 State of the Industry Report 63). The relationship between the percentages of failed contracts by equipment type and the delinquency rate of accounts receivable also aligns with the risk involved. In the large ticket segment, the average loss from aircrafts in the quarters being analyzed was 7.8%, which is below the overall average of 10.43%.

Trends in delinquency rate of accounts receivable and expense components by ticket segment can be used to gain an understanding of the yields involved in each ticket segment. Graphs 22, 23, 24, and 25 show trends in pretax yields, cost of funds, and pre tax spreads from 1999 to 2003. The average pre tax yields for the micro, small, middle, and large ticket segments has been 12%, 9%, 8%, and 9%, respectively. The pretax yield in the micro ticket segment aligns with the risk involved in the micro ticket market. Interestingly, the average cost of funds for all ticket segments has been 5%. Subtracting the average cost of funds from average pre tax yields produces average pre tax spreads. This equation produces average pre tax of 7% in the micro ticket, 4% in the small ticket, 3% in the middle ticket, and 4 % in the large ticket.

Trends in delinquency rates of accounts receivables, pre tax yields, cost of funds, and pretax spreads by lessor type provides evidence of the degree of risk faced by lessors. The risks experienced by each lessor depend upon the risk involved in each ticket segment. According to the 2002 State of the industry report, captives are most involved in the micro and small ticket segment whereas banks and independents focus on the middle and large ticket segments (Pricewaterhousecoopers 2002 State of the Industry Report 16).

Graphs 26, 27, and 28 provide information regarding the delinquency rate of accounts receivable by lessor type. Captives faced a higher delinquency rate than banks and independents. For captive, the delinquency rate for accounts receivables outstanding for more than 30 days was 4.8%, was 3.05% for banks and was 2.83% for independents. These delinquency rates of each lessor align with the risk involved in the ticket segment.

An analysis of the expense components of each lessor will further demonstrate the degree of risk faced by each lessor. Graphs 29, 30, and 31 shows expense components of each lessor. The bad debt expense of banks fluctuated greatly from 2000 to 2001 as the provision for bad debt was only 1% of the total revenues in 2000 but increased to 8.6% of total revenues in 2001. The average depreciation component from 1999 to 2003 was 6.22%. Their net income has averaged approximately 14.12% in this period. The expense components of captives are interesting. Their depreciation component has averaged approximately 33%. Their Selling, General and Administrative (SG&A) averaged 19.25% in this period and was significantly lower than average SG&A of independents (30.55%) and compared closely to the average SG&A of banks (19.65%). Table 13 indicates the five year averages of expense components in relation to each lessor type.

Table 13: Five Year (1999-2003) Averages of Expense Components as a Percentage of Total Revenues in Ascending Order (Except Net Income)					
Expense Component	Lessor Type	Average	Expense Component	Lessor Type	Average
SG&A			Depreciation		
	Captives	19.25%		Banks	6.22%
	Banks	21.12%		Independents	17.72%
	Independents	32.44%		Captives	32.33%
Interest Expense			Taxes		
	Captives	23.30%		Independents	5.00%
	Independents	27.66%		Captives	5.30%
	Banks	43.68%		Banks	6.38%
Bad Debt Expense			Net Income		
	Captives	5.73%		Captives	14.55%
	Banks	8.34%		Banks	14.12%
	Independents	8.64%		Independents	9.54%

Table 13- Source: 2000,2001,2002,2003, and 2004 State of the Industry Reports

The data presented in the table 13 suggests independents experienced a higher average in bad debt expense than banks and captives. Captive lessors experienced lowest averages in regards to SG&A, interest expense, and bad debt expense. However, it does not imply that captives are more efficient than banks or independents as each lessor specializes in leasing different types of equipment, which have different demands.

In relation to the average pretax yields, cost of funds, and average pre- tax spreads by lessor type, these variables also depend on the ticket segment each lessor operates in. Graphs 32, 33, and 34 show the pretax yields, cost of funds, and pretax spreads by lessor type. Banks experienced the highest pretax spread in 2001 (5.2%) and the lowest in 2003 (3.5%). For captives, their lowest pretax spread occurred in 2000 (3.4%) and their highest pretax spread occurred in 2001 (5.1%). Independents experienced a different trend with their pretax yields, cost of funds, and pretax spread. They experienced a higher pretax spread in 1999 and the lowest in 2001. Since the captives are involved in leasing at a greater percentage than banks and independents, their average pretax yield is higher than that of banks.

Ideally, the pretax yield experienced by captives should also be higher than independents as the risk in the micro ticket segment are relatively high than in other ticket segments. However, changing business environments also impact the pretax yields (FIC 2004 State of the Industry Report 44). Nonetheless, the average pretax yield of captives (9.22%) closely compared to the average pretax yield of independents (9.96%). Banks have had the lowest yields, spreads, and lowest cost of funds as they as they focused more on middle ticket market whereas captives and independent leasing companies focused more on micro to small ticket market segments. In the small ticket

segment, lessors experienced increase in the cost of funds which contributed to lower spreads and lower yields when compared to the micro ticket segment. A similar cost structure was experienced by lessors operating in the middle and large ticket market where increasing costs decreased the lease volume. Interestingly, lessors that satisfied leases in the micro ticket segment did not have any depreciation expense due to most of the leasing being conditional sales type leases.

With expense components, average pretax yields, average cost of funds, and average pretax spread explored by ticket segment and by lessor type, graphs 35, 36, and 37 show Return on Assets (ROA), Return on Equity (ROE), and Earnings Before Interest and Taxes (EBIT) for each lessor type from 1999 to 2003. The three financial statistics closely align with the leasing industry dynamics. With different lessor types catering to different ticket segments, the returns by lessor type correlate with the risk involved in each ticket segment. In terms of ROA, captives experienced the highest average ROA (1.94%) when compared to banks (1.14%) and independents (1.46%). On an annual comparison, captives experienced a higher ROA in all the years within the period except 2000. In this year, the average ROA for independents was 0.10% higher than captives (average ROA for independents was 1.9% and was 1.8% for captives). Comparing ROA of captives to banks, the spread in the ROA between them ranged from 0.50% to 1.10%. The spread in ROA between captives and independents ranged from -0.10% to 1.0%. Interestingly, since captives and banks cater to different ticket segments, the average spread in ROA between the two was 0.80%. The average spread in ROA between captives and independents was not large (0.48%) as both captives and independents compete with each other while catering to the micro, small and middle ticket segments.

Examining ROE, captives experienced the highest average ROE (15.58%) when compared to banks (15.48%) and independents (10.50%). These averages in ROE reflect the performance of the lessor in generating revenues with the financing provided by stockholders. The spread in ROE between banks and captives ranged from -2.70% to 4.2% and the same spread between independents and captives ranged from 0.9% to 12.4%.

Banks experienced the highest EBIT (20.84%) when compared to captives (20.60%) and independents (15.00%). The spread in EBIT between banks and captives ranged from -3.9% to 1.8% and ranged from 2.45 to 9.5% between captives and independents.

From the data presented in graphs 13-37, it can be inferred that the micro and small ticket segments are characterized by high pricing, high spreads, and high delinquency rates where as the middle ticket segment compares closely to the large ticket segment in relation to pricing, spreads, and delinquency rates. Various other factors also effect the operations of lessors that cater to different ticket segments. In order to support the high volume in the small ticket segment, lessors make heavy investments in automation technology in order to automatically pre-approve lease requests (FIC- 2001 State of the Industry Report 49). Since the micro and small ticket segments experience greater delinquency rates, the accounts receivables are closely monitored. Despite monitoring accounts receivables closely, the provisions for bad debt are higher when compared to other ticket segments. Also, lessors that cater to the micro and small ticket segment predominately engage in capitalized leases and do not have the option to depreciate the equipment.

Operations in the middle ticket segment are characterized by immense competition. As a result, lessors that operate in this ticket segment face greatest threats and challenges (FIC 2004 State of the Industry Report 72). Delinquencies in this ticket segment are not as high as the micro and small ticket segments and are not as low as the large ticket segment either. Due to immense competition, this is the least profitable ticket segment.

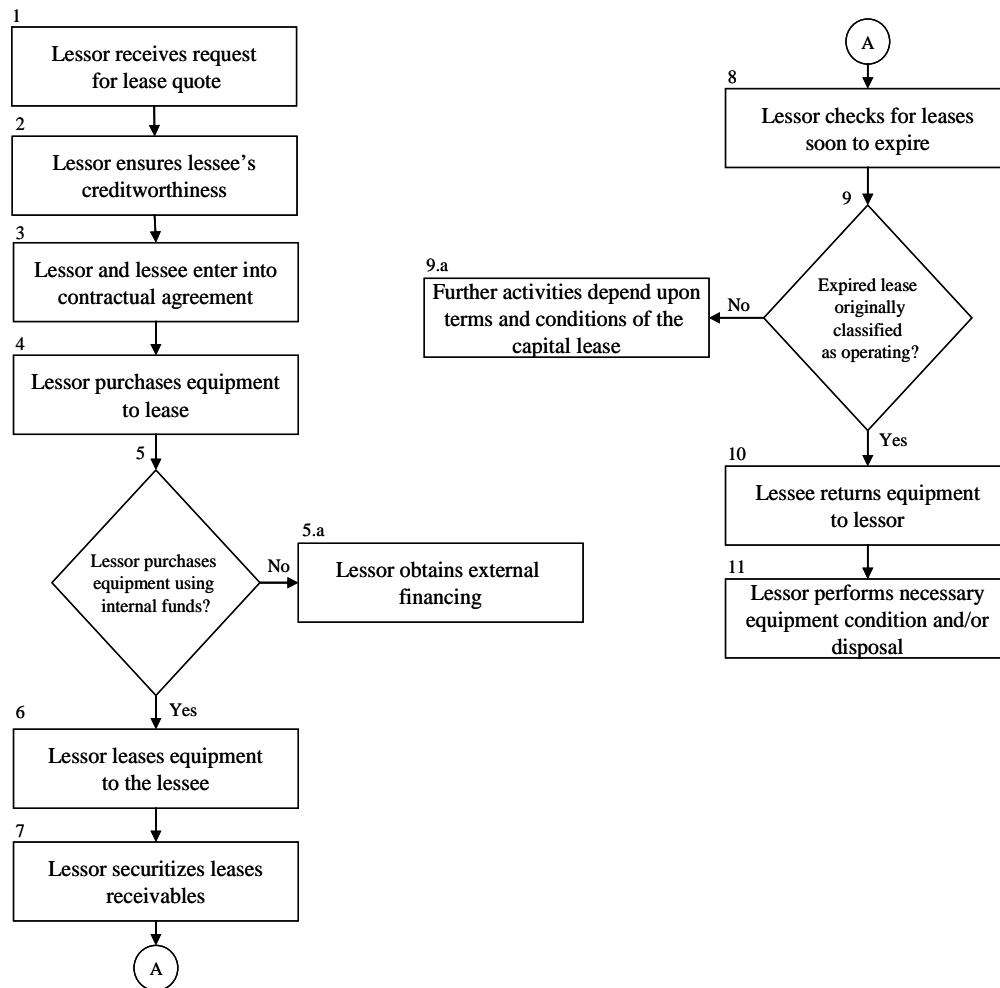
Operations in the large ticket segment are affected by macro variables in the economy. The delinquency rates for accounts receivable for all outstanding periods (i.e. from 31-60 days, 61-90 days, and greater than 90 days) are the lowest when compared to other ticket segments. With the lowest delinquencies of accounts receivable, banks that mainly cater to the large ticket segment experience the lowest bad debt expense when compared to captives and independents. With low bad debt expense, it is the most profitable among the four ticket segments. However, due to nature the of the equipment leased (aircrafts and railroads), there is a high barrier to entry in this ticket segment.

Catering to the needs of the lessee is only possible with an efficient business process of leasing. This is illustrated in the next section

Section three: Business Process of Leasing

Business process of leasing refers to the process steps involved in leasing equipment. Effectively executing every step in the lease process is vital for the lessor to gain additional market share. A comprehensive lease process flow is shown in the figure below.

Figure 4: Business Process of Leasing

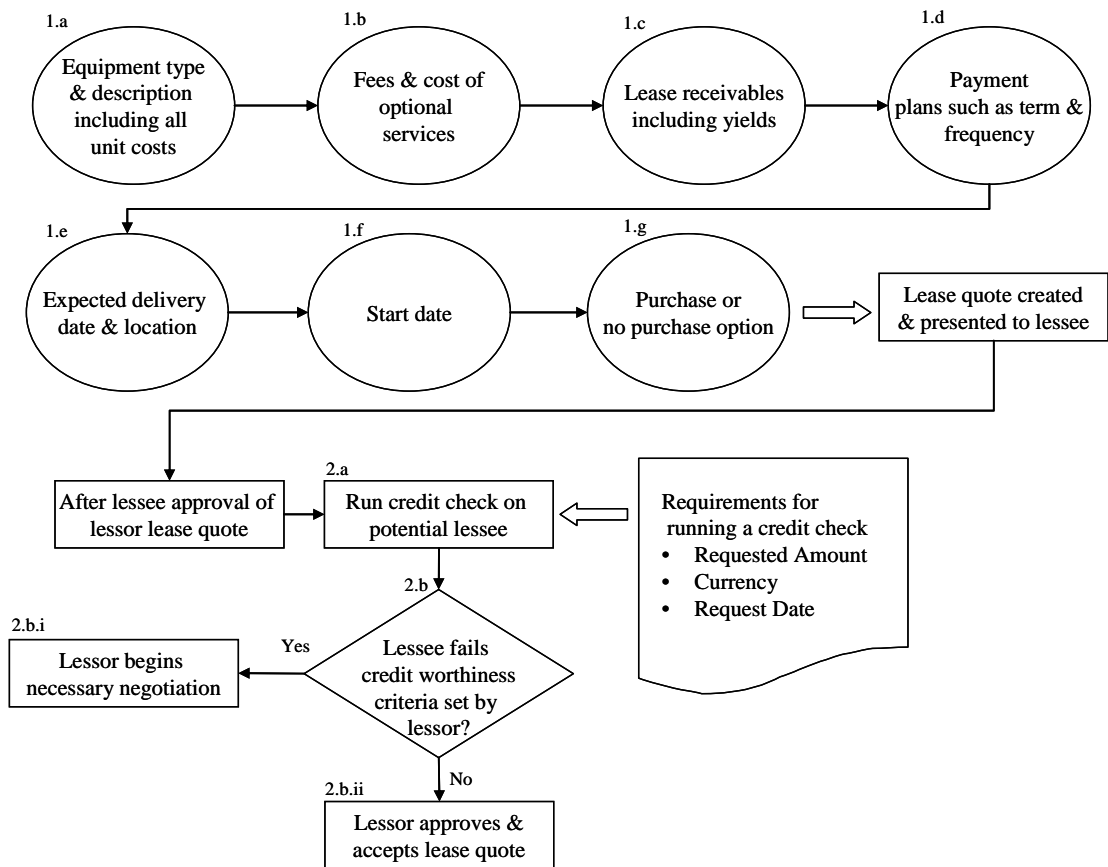


Source: Contino 218

Each of the process steps in figure 4 requires additional process steps. Leasing activity begins when a potential lessee requests a lease quote from a lessor. Upon receipt

of a lease quote request from a lessee, the lessor must ensure that they understand the lessee's requirements to the best extent possible as the outcome of the lease transaction depends to a large extent on the manner in which the customer's requirements are taken into consideration by the lessor. In addition to understanding the customer's requirements, a lessor must have a lease quote process, one that enables the lessor to perform their quote-related activities. The following lease quote process addresses aspects a lessor should consider before issuing a quote.

Figure 5: Lease Sales Quote requirements

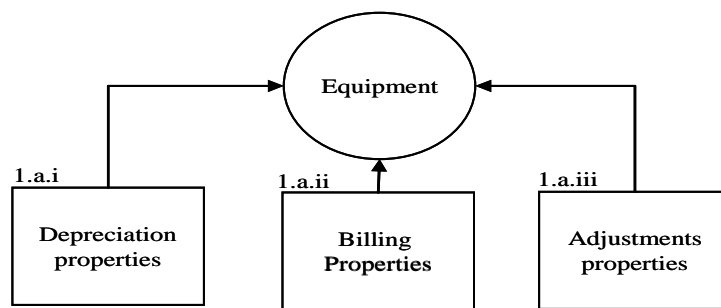


Source: Nevitt et. al 155

From the lease quote process flow, the step pertaining to lease receivables and yields relates to determining the payment a lessee is required to make and to measure

profitability of the proposed payment plans. Factors such as asset's residual value and desired rate of return are necessary factors in determining lease receivables. Also, a decision tree analysis regarding equipment's residual value, interest rates, inflation, and payment terms/frequency aids a lessor in formulating a lease quote/receivable. In addition, equipment properties and lease classification are also required to calculate the amount of lease receivables. Required equipment details are shown in the figure below.

Figure 6: Equipment properties

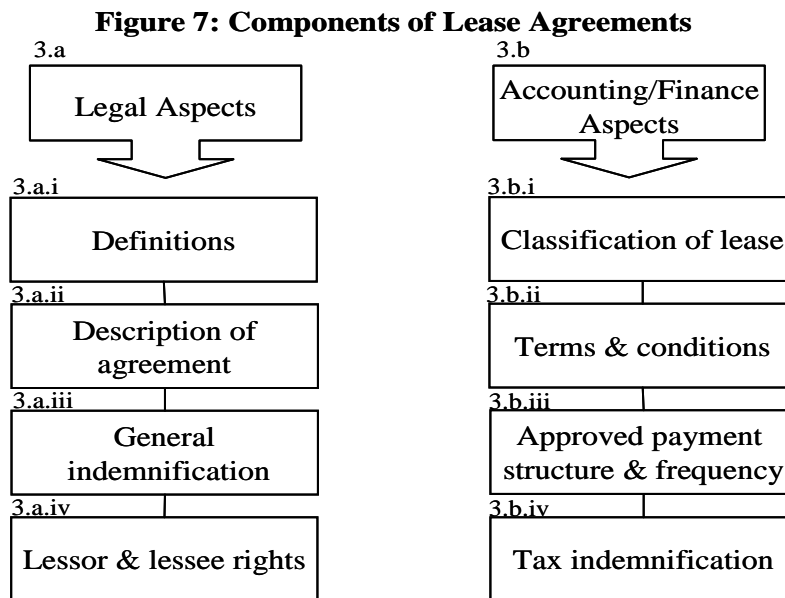


Source: Contino 224

Depreciation properties relate to the depreciation method and useful life of the equipment. Aspects such as MACRS class life, depreciable basis, acquisition year and recovery method, and salvage value are required to calculate the allowable depreciation for the equipment if the lease is classified as an operating lease. If the lease is classified as a master lease agreement, the cost of billing activities for each part of the master agreement should be taken into consideration. Adjustment properties relate to issues where the capital cost of equipment such as reductions in the fair value of the equipment and any trade in amount alters the capital cost of the equipment.

Once a lease quote is submitted to the lessee and the lessee accepts the lease quote, the lessor should proceed with ensuring the creditworthiness of the lessee, which will feed into the contract formulation step. Evaluating creditworthiness of a lessee is

crucial to maximizing profitability in the leasing business. If the lessee fails to pass the minimum creditworthiness criteria set by the lessor, it is at the discretion of the lessor to engage in a particular lease transaction and decide the payoffs based on interest rates and payment terms. Conversely, if the lessee passes the creditworthiness criteria, the lease contract formulation becomes one of the most important steps in the leasing process. Both the lessor and lessee are heavily involved in the contract formulation process, as the clauses of the lease contract will determine the profitability for the lessor and any advantages and disadvantages to be experienced by the lessee. The contract formulation step involves a wide variety of variables pertaining to legal, finance and accounting. The components of lease agreements are shown in figure 7.

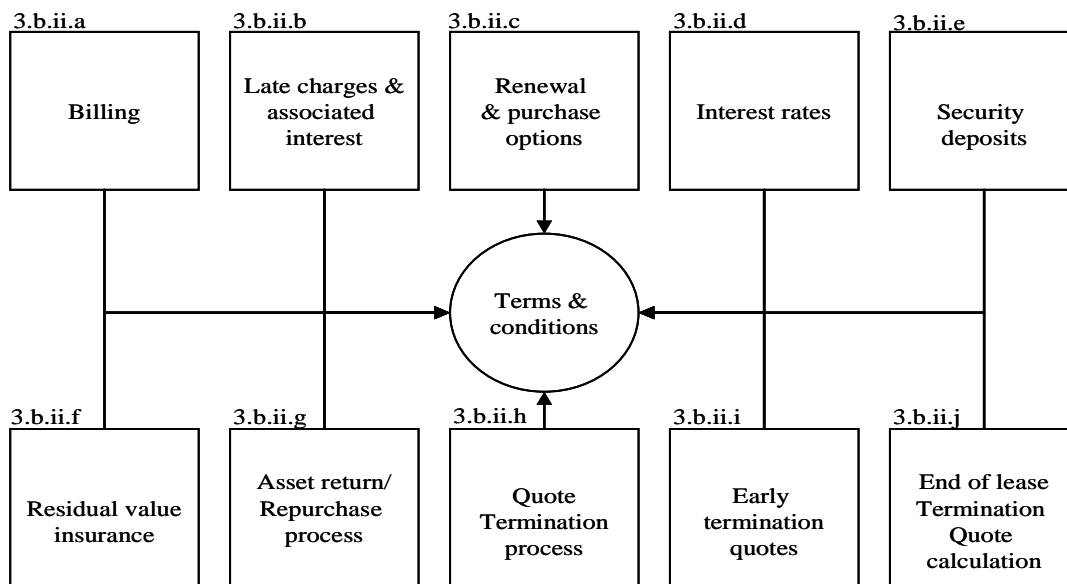


Source: Contino 55

As it relates to the finance and accounting aspects, factors such as payment terms (amount, date, and frequency) and purchase options at the end of the lease terms are the guiding factors in regards to the clauses of the lease, which have different cost

implications. FASB treats capital leases as conditional leases and treats operating leases as off-balance sheet financing. Given that available classification of lease types differently impacts the financial statements of the lessee, the lessor must explicitly state the financial arrangements to reduce ambiguity. Applicable terms and conditions are shown in figure 8.

Figure 8: Terms & Conditions of Accounting/Finance Component



Source: Contino 222

The timing of payments and payment methods are important considerations of the ‘Billing’ aspect. Late charge policies, maximum and minimum amounts of interest to be charged when payments are past due, nature of late interest charges (i.e. fixed or variable), and any applicable grace periods are vital components of the ‘Late charges & associated interest’ aspect. Options to extend the lease term or to allow the lessor to purchase the leased equipment below fair market value are also important components of the lease contract. The ‘Interest rate’ aspect deals with the nature of the interest (i.e. simple interest, for example) and the ranges of interest rates that could be charged to

lessees. Providing the lessee with an opportunity to terminate the lease contract before the expiration date requires additional considerations that should also be included in the lease agreement. Such considerations pertain to applicable penalties and fees such as return fees, termination penalties, and contractual obligation, which is the sum of the unbilled payments plus unpaid fees minus advance payments. If the lessee has a master lease agreement with the lessor, the lease contract can specify any rollover incentives where the terms and conditions of the terminated contract can be rolled over into a new contract (Contino 223-229).

For large ticket transactions, the lease document becomes a primary concern for the lessee. A survey conducted by James Johnson and Barry Marks exposes the importance of the contract formulation step and priority of lessees' concerns in regards to large ticket- transactions (24). Their survey contained a list of 35 questions that relate to factors such as inception, maintenance, flexibility, legal, and financial. Lessees were requested to rate questions pertaining to each of the preceding factors on a scale of one to ten where the range of one to three represented non-negotiable issues, the range of four to seven represented negotiable issues, and the range of eight to ten represented issues that impact the lessee. Table 14 shows the ranks and prioritized rating of each of the factors concerning a lease contract.

Table 14: Lease Contract Issues		
Issue	Prioritized Ranking	Prioritized Rating
Pass-through of manufacturer's warranties to lessee	1	1.42
Lessor responsibility for penalties on late payment of taxes due to lessor negligence	2	2.26
Lessee right to move equipment without lessor's consent	3	2.42
Quiet enjoyment	4	2.53
No lessee default prior to written notice of nonperformance from lessor	5	2.74
Limit lessee commitment—cancelable if equipment not delivered in x days	6	2.84
Self insurance permitted by lessee	7	2.89
Lessee can choose maintenance provider without lessor approval	8	3.05
Lessee right to contest liens, taxes and indemnified claims	9	3.05
Operating lease treatment by lessee for accounting purposes	10	3.11
No interim rent	11	3.26
Early lease termination option	12	3.63
No nonutilization fee (lessee penalty for using less than volume negotiated)	13	3.74
Lease term does not commence until lessor pays manufacturer for equipment	14	3.74
Fair market value determinations to be determined by outside appraisal	15	3.84
No lessee end-of-lease delivery obligations	16	4.16
Lessor permitted to assign its financial rights only	17	4.37
Use lessee lease form with minimal charges or finance lessee legal costs if lessor form used	18	4.47
Lessee's "home court," governing law	19	4.53
Lessee insurance obligation only from lease commencement through last day of lease term	20	4.63
Dispute resolution—arbitration or mediation	21	4.68
Lowest lease rate	22	4.74
No tax loss indemnification for lessor	23	4.79
Lessee maintenance obligation subject to availability of maintena	24	4.79
Minimum late payment penalty by lessee	25	4.84
Right to renew by lessee with lower rental amount	26	5.12
Lessee right to purchase equipment at end of lease term	27	5.37
Upgrade financing made available by incumbent lessor	28	5.37
Lessee right to charge storage for equipment not picked up after lease term	29	5.47
Lessor right to inspect equipment subject to normal business hours and lessee's security policies	30	5.74
Lessee right to sublease without consent	31	5.89
Fixed-price purchase or renewal option	32	6.05
Lessee right to restrict lease assignment to designated financial institutions	33	6.53
Favorable adjustment of lessee's rental rate if increase of tax benefits to lessor	34	6.58
Lessee right to make payment by check	35	7.21
<i>Source: Johnson et. al 24</i>		

From table 14, 42.86% of the issues were rated non-negotiable and 57.14% of the issues were rated negotiable. From the 42.86 % of the non-negotiable issues, 26.67% pertained to inception and maintenance, insurance, and tax factors, 13.33% pertained to flexibility, legal, and finance factors, and 6.67% represented end-of-lease negotiation factor. On the other hand, from the 57.14% of the negotiable factors, 5% represented the inception factor, 15% represented the maintenance, insurance, and tax factors, 10% represented the flexibility factor, 25% represented the legal/end-of-lease factor, and 20% represented the finance factor as being negotiable. Given the fact that the lessees rated over all negotiation factors of large- ticket transactions at 57.14%, additional concerns need to be addressed to improve the business relationship with the lessee.

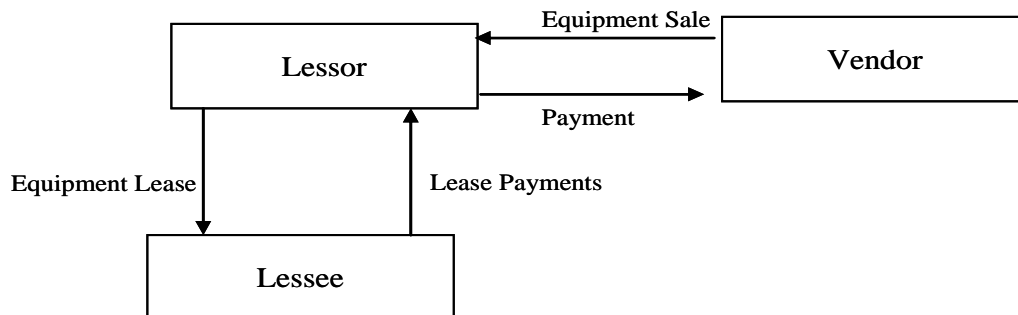
In regards to lease contracts, revisions of lease terms and conditions usually occur. Issues such as the lease term, payment structure, changes to equipment type and related depreciation charges, and addition of assets are some of the variables that come into play before the lease transaction is implemented. To ensure that such a process is executed smoothly, the lessor must recalculate lease receivables and yields where the process goes back to the lease quote process step. The degree of the change in contract will determine the degree of related activities needed to accommodate the changes. In other words, changes that do not have a financial impact on the contract can be solved without going back to the lease quote process step. One such example is that of splitting an equipment line into more equipment lines where the total units of one equipment line are distributed to other lines. In this manner, the equipment units do not change but are re-structured. Another way to split a contract is via splitting an equipment line in to one or more components where the value of the equipment line changes instead of units. In

this case, the lessor must be aware of the percentage of the total original equipment cost for each component (Nevitt et.al 149-161). Such methods aid the lessor from avoiding the recalculation of lease receivables and yields.

From lease contract management point of view, lessors offer master lease agreements where lessee have an opportunity to engage in multiple lease contracts with the standard terms and conditions across all lease contracts. Offering such an option enhances the lessor's profitability as lessors retain their customers. However, there is a cost. Lessors consider risk commensurate return principle in order to add in additional terms and conditions for any specialized equipment type.

Once the lease contract is formulated, agreed upon, and signed by the lessee, the next step for the lessor is to acquire the equipment to lease it to the lessee. The lessor can either solely engage in purchasing the equipment or can engage in what is called leveraged leasing where the lessor finances some percentage of the equipment and seeks a financial institution to finance the remaining percentage. If the lessor chooses to solely purchase the equipment in order to lease, a three-party relationship is created and is shown in figure 9.

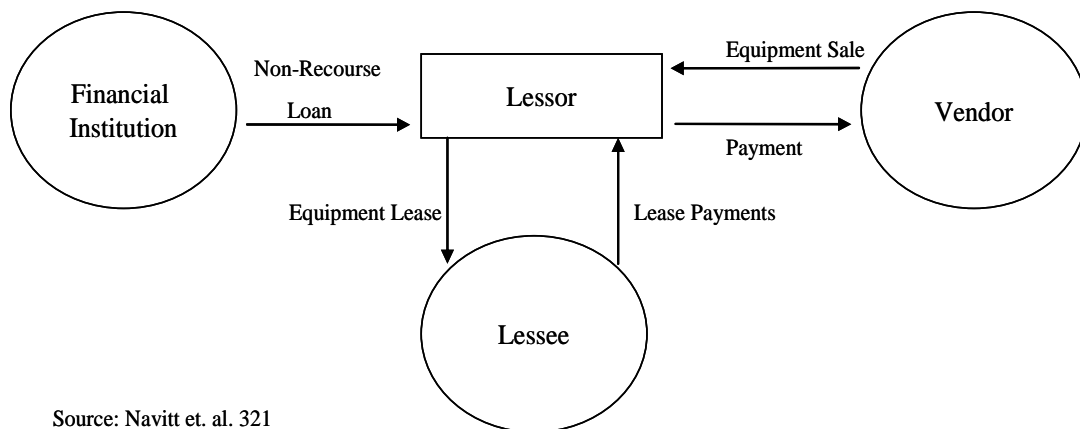
Figure 9: Internally Financing Equipment to be Leased



Source: Nevitt et.al 321

In this relationship (figure 9), the lessor has three ways to manage the cash flows as a result of solely purchasing the equipment in order to lease it to the lessee. One of the ways is via pre-payments to the vendor and is often the primary avenue when the requested equipment by the lessee is customized. The second way is to make payments as the lessor receives invoice(s) from the vendor, and the third way is to pass on some of the operational costs to the lessee and to use the lease receivables for payment of the purchased equipment. However, the relationship in figure 9 is practical for the micro and small market segments where the equipment that is leased is usually related to common office technology such as copy machines, for example. However, lessees in the middle and large ticket market segment have unique equipment requests, which are normally expensive. Thus, the lessor will prefer to engage in a leveraged lease transaction and borrow using non-recourse long-term loan (70 to 80% of the equipment's purchase price) to purchase the equipment in order to lease it to the lessee (Nevitt et. al 321). Four is the minimum number of parties that engage in a simple leverage lease transaction. The figure 10 shows the relationship of all the four parties.

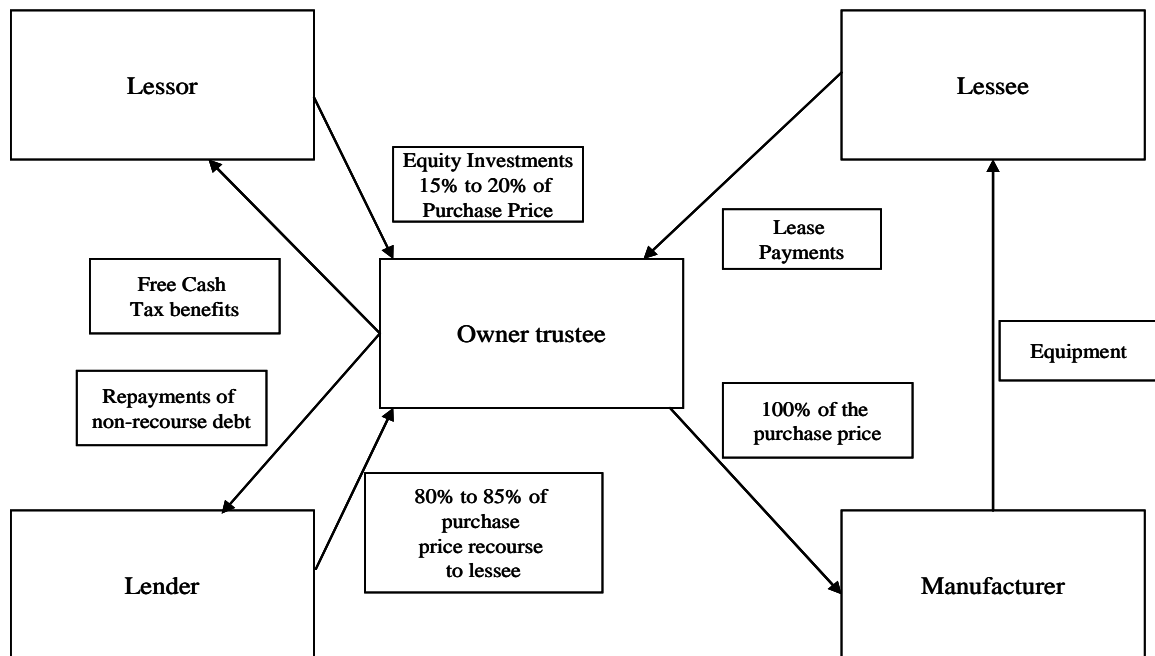
Figure 10: Simple Leveraged Lease Transaction



Source: Navitt et. al. 321

The above relationship (figure 10) creates a basis for a leveraged lease as the lessor seeks to maximize his/her return on investment using leverage. The borrowed loan is usually secured by an assignment of a lease, lease receivables from the lease, and first lien on the equipment to be leased. In order to reduce risk, each party in a leverage lease seeks another party to share the risk. This makes such a lease type complex. Examples of other parties that can join hands in this relationship are a broker, guarantor, and an indenture trustee. Parties such as a broker or a guarantor enter for their share of profits and an indenture trustee is normally appointed to represent the interests of all lenders. Figure 11 shows the complex relationship between all the parties in a leveraged lease transaction.

Figure 11: Complex Leveraged Lease Transaction



Source: Brady et.al 26

Understanding the role of each participant in a leverage lease is imperative for reducing the risk associated with this complex transaction. The lessor in the above

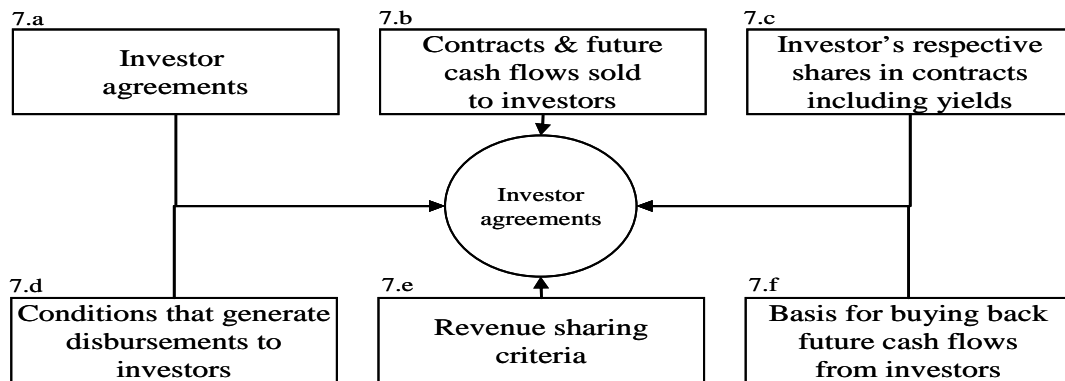
transaction becomes the owner of the equipment by investing only 15% to 20% of their own funds in order to purchase the asset. Since the lessor becomes the owner of the equipment, according to Nevitt et. al, “a leveraged lease is always a true lease” (322). The cost associated with borrowing the rest of the capital on a non-recourse basis depends upon the credit standing of the lessee. The owner/indenture trustee represents the equity participants and the lender or loan participants. From figure 11, it is apparent that the owner/indenture trustee is the central party in the entire leverage lease transaction. In this transaction, the relationship between the lessor and lessee revolves around negotiation of the lease payments and frequency only. The lessor and lessee do not deal with each other for completing any legal paperwork. For the lessor, the leverage in a leveraged lease transaction stems from claiming depreciation benefits even though the lessor has invested only 15% to 20% of the purchase price of the equipment. Also, the lessor in a leveraged lease transaction could be entitled to receive 100% of the residual value as included in the lease. Furthermore, the lessor is only at risk for the amount invested for “purchasing” the equipment.(Nevitt et.al 321-328).

Such benefits offer a tremendous leverage to the lessor in a leveraged lease transaction. In terms of revenues, the lessor receives the lease receivables (through the owner/indenture trustee) net of any payments for repaying debt (also handled by the owner/indenture trustee). Since the lessor is the owner of the equipment, the trustee passes the tax benefits related to ownership to the lessor. However, the owner trustee/indenture trustee normally holds the title of the equipment and the security interest or any mortgage on the property and is therefore responsible for paying 100% of the

purchase price to the manufacturer (Brady et.al 26). This transaction enables the manufacturer to ship the leased equipment to the lessee.

In the recent years, lessors have securitized their lease portfolios to position themselves for future growth. This is the process where the lessor transfers a portion of lease receivables and any additional related collateral to a financial institution where the financial institution issues lease backed notes based on the future cash flows to be realized from lease receivables. Such a process is greatly beneficial to the lessor as well as to the investor. From the lessor’s perspective, securitizing leases provides a new source of capital at a lower cost. Since, the credit quality of the lease portfolio is evaluated when securitizing instead of the credit rating of the lessor, unrated lessors have increased avenues to seek funding. In the same vein, lessors that experience a shortage of cash can perform such a transaction to not only solve the cash shortage problem but also to focus on growth at the same time. In terms of other business concerns, securitizing lease enables lessors to be highly proactive in their business processes related to underwriting and reporting (Nevitt et.al 401). The components that feed into the securitization of lease receivables are shown in figure 12.

Figure 12: Securitization of Lease Receivables



Source: Nevitt et. al 401

In regards to step 8 of figure 4, when a lease classification expires, the lease classification determines a lessor's activities to be further performed. If the lease is classified as an operating lease, the lessee returns the equipment to the lessor, which enables the lessor to perform maintenance on the equipment or to dispose of the equipment, if necessary. If the lease is classified as a capital lease, the lessee may have an option to purchase the equipment below fair market value.

The above business process of leasing elaborates on a lessor's activities to lease equipment. However, a major part of the leasing business occurs through negotiation of the lease payments. In order to better cater to the needs of the lessee, a lease vs. purchase analysis from the lessee's point of view can aid in determining a lessee's decision. Knowledge of the lessee's decision criteria is vital for a lessor to determine the extent of the negotiation process.

Section four Lease vs. Purchase Analysis

4.1. Description of the Model, Inputs and Spreadsheets

A spreadsheet model is created to conduct lease vs. purchase analysis from the lessee’s point of view in order to determine their lease or purchase recommendation. This model represents an operating lease model. In other words, the lease terms and conditions do not meet any of the four criteria prescribed by the FASB in SFAS No. 13.

The model contains four types of inputs. The inputs and their definitions are presented in table 15.

Table 15: Lease vs. Purchase Definitions		
	Term	Definition
EQUIPMENT		
1	Equipment Type	Nature of the equipment
RATES		
2	Tax rate	Corporate tax rate
3	Pretax discount rate	The pre tax borrowing rate
4	After tax discount rate	The after tax borrowing rate
LEASE		
5	Lease Payments	Annual lease payments paid to the lessor
6	Implementation Month	The month in which the lease term begins
7	Operating Costs	Annual operating costs for operating the equipment
8	Onetime Costs	One time negotiable costs such as commission
9	Exit Costs	Costs related to exit out of the lease agreement
PURCHASE		
10	Acquisition Cost	The cost of the equipment
11	Implementation Month	The month of acquiring the equipment
12	Improvement	Costs related to increasing the productivity of the asset
13	Improvement Year	The year in which the improvement to the asset will be made
14	Implementation Month (Improvement)	The month in which the improvement will be made
15	Operating Costs	Annual operating costs for operating the equipment
16	Disposal Costs	Cost related to disposing the asset
17	Sale Price	Market value of the asset
18	Cost of Sale	Costs related to selling the asset
19	Length of Analysis	The time frame for analyzing costs and present value of cash outflows

In regards to the spreadsheets, the model contains four spreadsheets as follows

1. “Model Inputs”: This spreadsheet contains the inputs required to examine their evaluation. The inputs are divided into four segments.
 - a. The first segment requires inputs related to the equipment type.
 - b. The second segment requires inputs related to four types of rates such as tax rate, pretax discount rate, and after tax discount rate.
 - c. The third segment requires inputs related to purchasing the equipment, which are costs such as the acquisition cost, operating costs, any one time costs, and cost of sale.
 - d. The fourth segment requires inputs related to leasing the equipment, which are lease payments, operating costs, any one time costs, and exit costs.

In part c & d of the first spreadsheet, the lease term and the length of analysis for purchasing the equipment must be the same in order to compare the present value of cash outflows.

2. “Depreciation”: This spread sheet calculates the depreciation based on the equipment type. The spreadsheet is divided into two segments:
 - a. Tax depreciation: The spreadsheet calculates depreciation for tax purposes based on MACRS half year convention and 200% double declining balance method.
 - b. Book depreciation: The spreadsheet calculates depreciation for book purposes using the straight-line depreciation method.
3. “PV of CF”: This spreadsheet calculates the present value of cash outflows from leasing and purchasing and also calculates the incremental cash flows from

leasing. Six components are used in order to calculate the present value of cash outflows from purchasing, namely:

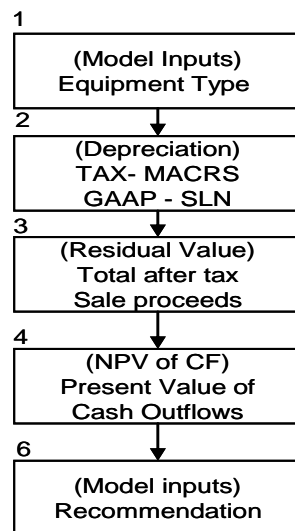
- a. Depreciation (Tax basis): Tax basis depreciation is used as corporations can gain tax benefits by depreciating the asset faster than book purposes. Using tax basis depreciation aids in determining the tax shield to be received by claiming depreciation.
 - b. Operating costs: The operating costs are the sum of the maintenance costs, utilities, and other costs related to the operating equipment
 - c. One time costs: Refer to table 15.
 - d. Disposal costs: Refer to table 15.
 - e. Tax savings: The Tax savings are calculated as the sum of depreciation (tax basis), operating costs, one time costs, and disposal costs multiplied by the tax rate.
 - f. Acquisition Cost: Refer to table 15.
4. “Residual Value”: This spreadsheet calculates the after tax sales proceeds in order to determine the residual credit to be received if the equipment is disposed after its use. The following steps aid in calculating the after tax sale proceeds/residual credit:
- a. Sale Price: Refer to table 15.
 - b. Cost of sale: Refer to table 15. The cost of sale of sale is multiplied by the purchase price to determine net sale proceeds.
 - c. Acquisition Cost: Refer to table 15

- d. Accumulated depreciation. The depreciation expense of previous years is added to the depreciation expense of the current year in order to determine accumulated depreciation. The accumulated depreciation is subtracted from the purchase price to determine net book value.
- e. Capital Gain/ (Loss) on sale: Subtracting net book value from net sale proceeds produces capital gain / (loss) on sale.
- f. Tax (cost)/benefit: Multiplying capital gain/ (loss) on sale with the tax rate gives the tax (cost)/ benefit
- g. Total After Tax Sale Proceeds: Net sale proceeds plus tax (cost)/ benefit produces the total after tax sale proceeds/residual credit.

4.2. Process Flows of Calculations in the Spreadsheets

The process flow of the model in order to determine a lessee’s recommendation is shown below:

Figure 13: Process Flow of the Lease vs. Purchase Model



A detailed process flow for each of the process step is presented below:

Figure 14: Process Flow for Calculating Depreciation

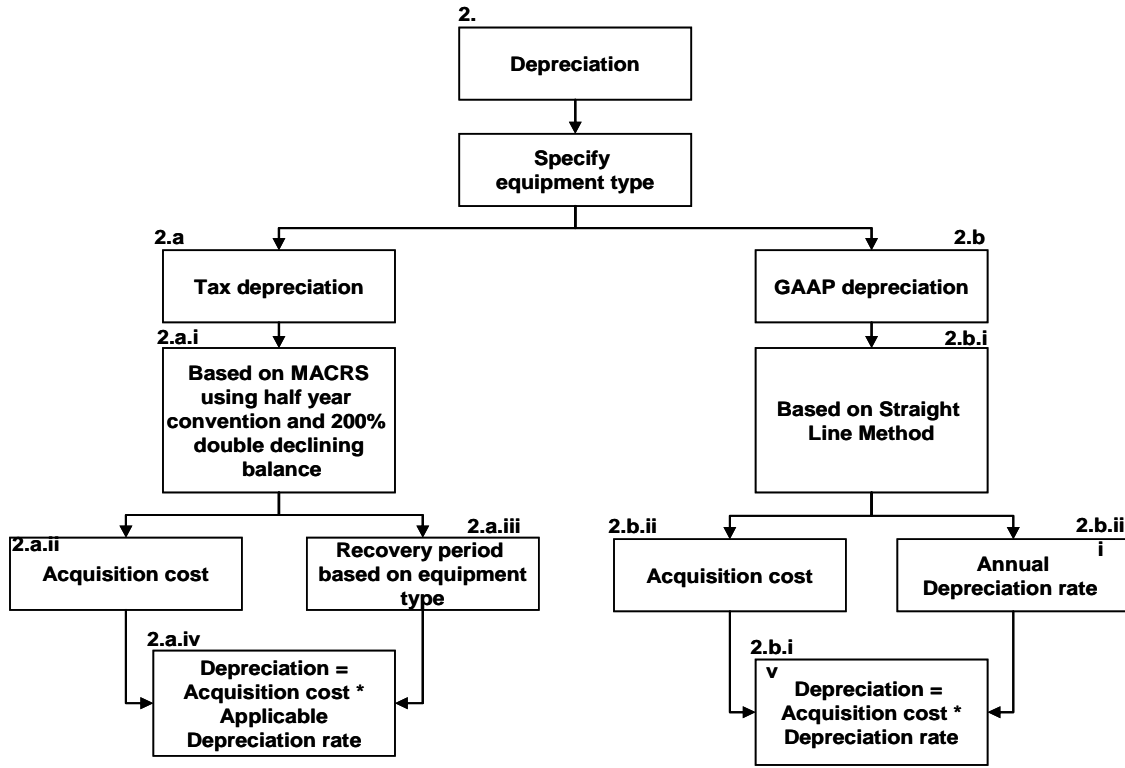


Figure 15: Process Flow for Calculating After Tax Sale Proceeds

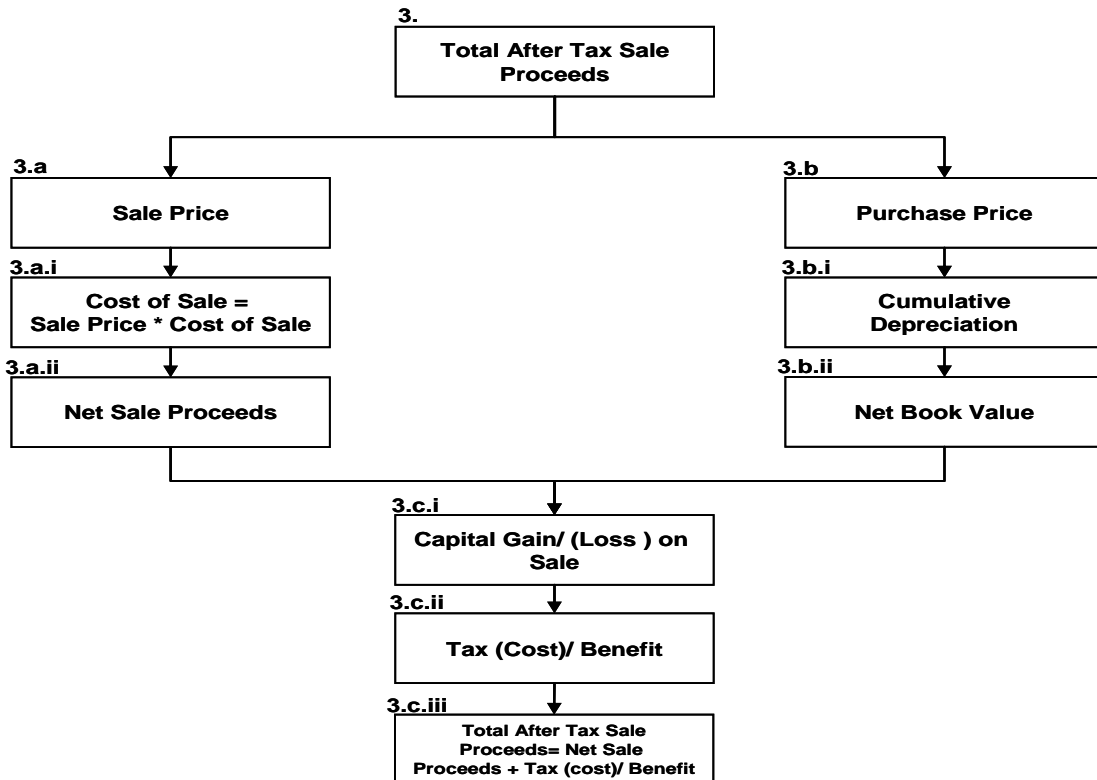
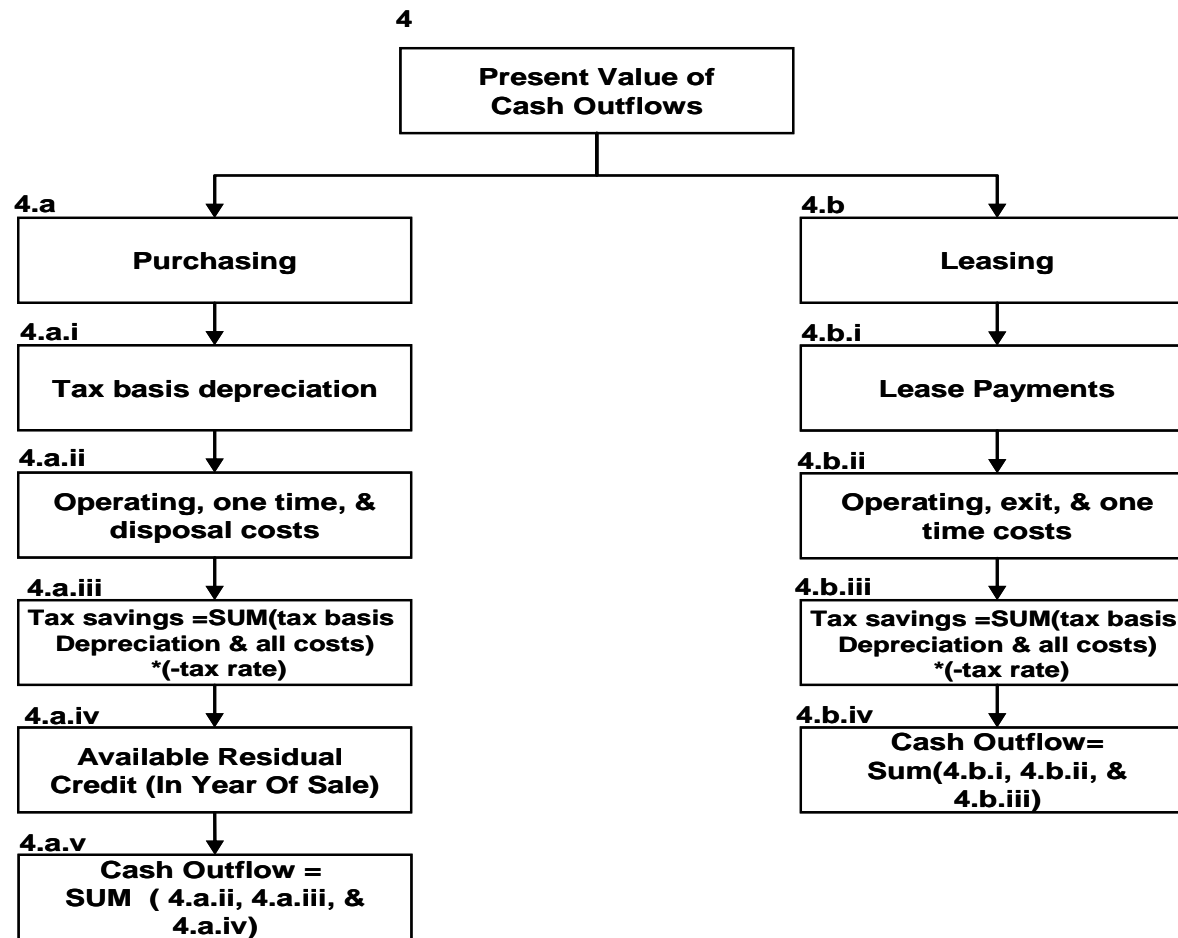


Figure 16: Present Value of Cash Outflows



4.3. Excel Spreadsheets

This subsection pertains to the spreadsheets used in the model. The recommendation is determined based on comparing the present value of cash outflows from purchasing to leasing and the lower of the two is selected as the recommendation.

Lease vs. Purchase Analysis

Equipment Inputs	
Equipment Type	2
Instrumentation Equipment	1
Small Office Equipment	2
Telecommunications Equipment	3
Machinery & Equipment	4
Furniture & Fixtures	5
Large Office Equipment	6
Computer Software	8

Rate Inputs	
Tax Rate	35.0%
Pre-tax Discount Rate	10.0%
After tax Discount Rate	6.5%

Purchase Inputs		
Acquisition Cost		500,000
Implementation Month		1
Improvements		-
Implementation Month (Improvement)		-
Improvement Year		0
Operating Costs:		87,000
Maintenance	52,000	
Utilities	25,000	
Other	10,000	
One Time Costs:		25,000
Relocation	-	
Other	25,000	
Sale Price		15,000
Cost of Sale		5%
Disposal Costs		2,500
Length of Analysis		10

Lease Inputs		
Lease Payments		65,000
Implementation Month		1
Operating Costs:		87,000
Maintenance	52,000	
Utilities	25,000	
Other	10,000	
One Time Costs:		27,000
Lease Commission	2,000	
Other	25,000	
Exit Costs		-
Lease Term		10

Output	
Present Value of Cash Outflows	
Purchase	742,798
Lease	810,259
Recommendation	PURCHASE

Depreciation													
Recovery Period	Depreciation Method	Equipment Type	Acquisition Cost	Years									
				1	2	3	4	5	6	7	8	9	10
Tax Depreciation													
5	DDB	Instrumentation Equipment											
5	DDB	Computer Technology	500,000	100,000	160,000	96,000	57,600	57,600	28,800				
3	DDB	Computer Software											
5	DDB	Machinery & Utility Equipment											
7	DDB	Office Furniture, Fixtures and telecommunication Equipment											
		TOTALS	500,000	100,000	160,000	96,000	57,600	57,600	28,800				
GAAP Depreciation													
15	SL	Small Office Equipment	500,000	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333
15	SL	Computer Software											
15	SL	Instrumentation Equipment											
15	SL	Telecommunication Equipment											
15	SL	Large Computer/Office Equipment											
15	SL	Furniture & Fixtures											
15	SL	Machinery & Equipment											
20	SL	Utility Equipment											
11	SL	Improvements											
		TOTALS	500,000	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333	33,333

Total After Tax Sale Proceeds										
	Years									
	1	2	3	4	5	6	7	8	9	10
Sale Price	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Cost of Sale	750	750	750	750	750	750	750	750	750	750
Net Sale Proceeds	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250
Purchase Price	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Accumulated Depreciation	33,333	66,667	100,000	133,333	166,667	200,000	233,333	266,667	300,000	333,333
Net Book Value	466,667	433,333	400,000	366,667	333,333	300,000	266,667	233,333	200,000	166,667
Capital Gain / (Loss) on Sale	(452,417)	(419,083)	(385,750)	(352,417)	(319,083)	(285,750)	(252,417)	(219,083)	(185,750)	(152,417)
Tax (Cost) / Benefit	158,346	146,679	135,013	123,346	111,679	100,013	88,346	76,679	65,013	53,346
Total After Tax Sale Proceeds	172,596	160,929	149,263	137,596	125,929	114,263	102,596	90,929	79,263	67,596

Present Value of Cash Outflows													
				Years									
				Purchase									
				1	2	3	4	5	6	7	8	9	10
	Depreciation (Tax Basis)			100,000	160,000	96,000	57,600	57,600	28,800				
	Operating Costs			94,250	88,740	90,515	92,325	94,172	96,055	97,976	99,936	101,934	103,973
	One Time Cost			25,000									
	Disposal Costs												
	Tax Savings			(76,738)	(87,059)	(65,280)	(52,474)	(53,120)	(43,699)	(34,292)	(34,977)	(35,677)	(36,391)
	Purchase Price			500,000									
	Residual Credit												
	Total			542,513	1,681	25,235	39,851	41,052	52,356	63,684	64,958	66,257	67,582
	Present Value of Cash Outflow (Purchase)	780,360											
				Lease									
				1	2	3	4	5	6	7	8	9	10
	Lease Payments			65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
	Operating Costs			87,000	88,740	90,515	92,325	94,172	96,055	97,976	99,936	101,934	103,973
	Exit Costs												
	One Time Cost			27,000									
	Tax Savings			(62,650)	(53,809)	(54,430)	(55,064)	(55,710)	(56,369)	(57,042)	(57,727)	(58,427)	(59,141)
	Total			116,350	99,931	101,085	102,261	103,462	104,686	105,934	107,208	108,507	109,832
	Present Value of Cash Outflow (Lease)	810,259											
Incremental Cash Flow from Leasing Cost / (Benefit)				(426,163)	98,250	75,850	62,410	62,410	52,330	42,250	42,250	42,250	42,250

Conclusion

The leasing industry is highly dynamic and requires tremendous segmentation in order to completely cater to the requirements of a lessee. The root cause for such segmentation lies in the fact that not all lessees have similar propensities to lease. In addition to the varying propensities to lease, a lessor must deal with equipment and ticket segment specific risk to maximize returns. Furthermore, external variables such as Acts enacted by Congress and new rules prescribed by the FASB and the IRS dramatically affect the activities in the leasing industry. Minimizing risks and maximizing returns largely depends upon the characteristics of each ticket segment. In relation to minimizing risks, implementing an efficient business process of leasing is extremely important. This should revolve around understanding a lessee's equipment requirements and process steps that promote the approval of a lease contract. Apart from an efficient business process of leasing, a lessor should understand how the payment structure and frequency of payment affects the lessee's decision making process in relation to leasing equipment. As negotiations are crucial to the leasing industry, a lease vs. purchase analysis from the lessee's point of view largely aids a lessor in determining the lessee's decision in regards to leasing equipment. This helps the lessor to pursue or to reject a negotiation process. In view of the considerations made in this thesis, the leasing industry will continue to be affected by a wide variety of external factors wherein returns for a lessor will largely depend upon activities that are geared towards understanding and minimizing risks.

Works Cited

- Belkaoui, Ahmed R. Long -Term Leasing- Accounting, Evaluation, Consequences.
Westport: Quorum Books, 1998.
- Brady Deborah, and Joe Sebik. "Intermediate Lease accounting.". Equipment Leasing Association. Eastern Michigan University. 20 Feb 2006
- Brown, George. "To Lease or not to Lease." CMA Management (1999).73: 19-21.
ABI/INFROM Global. Eastern Michigan Library. 2 Feb 2006
<<http://proquest.umi.com/pqdweb?index=151&did=46414801&srchMode=1&sid=&Fmt=3&clientId=594&RQT=309&VName=PQD>>.
- Contino, Richard M. Handbook of Equipment Leasing: A Deal Makers Guide. 2nd ed.
New York: American Management Association, 1996.
- Damodaran, Aswath. "Dealing with Operating Leases in Valuation." 1 March 2006.
<<http://pages.stern.nyu.edu/~adamodar/pdfiles/papers/oplev.pdf>>.
- Dun & Bradstreet. Propensity to Lease Study, 2001. Equipment Leasing Association.31
Jan 2006
- Dyckman, Thomas R., Charles J. Davis, and Roland E. Dukes. Intermediate Accounting.
5th ed. New York: Irwin McGraw Hill, 2001.
- Equipment Leasing Association. 2004 Lease Accounting Conference. Equipment Leasing
Association. 12 February 2006.
- Financial Institutions Consulting, Inc. State of the Industry Report. New York: Financial
Institutions Consulting, Inc, 2000. 31 January 2006.
<http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID

=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Key
word=state%20of%20the%20industry%20report&SearchOption=Phrase>.

Financial Institutions Consulting, Inc. State of the Industry Report. New York: Financial
Institutions Consulting, Inc, 2001. 31 January 2006.

<[http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Key
word=state%20of%20the%20industry%20report&SearchOption=Phrase](http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Keyword=state%20of%20the%20industry%20report&SearchOption=Phrase)>.

Financial Institutions Consulting, Inc. State of the Industry Report. New York: Financial
Institutions Consulting, Inc, 2003. 31 January 2006.

<[http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Key
word=state%20of%20the%20industry%20report&SearchOption=Phrase](http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Keyword=state%20of%20the%20industry%20report&SearchOption=Phrase)>.

Financial Institutions Consulting, Inc. State of the Industry Report. New York: Financial
Institutions Consulting, Inc, 2004. 31 January 2006.

<<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Gerety, Vernon E. "Understanding the Equipment Leasing Marketplace." Journal of
Equipment Leasing Financing 13. 1 (1995). 2 February 2006.

<<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Global Insight, Advisory Services Group. The Economic Contribution of Equipment
Leasing to the U.S Economy: Growth, Investment & Jobs- Update 2005, 2005. 31
January 2006.

<[http://www.elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&
SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22](http://www.elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22)>

&Keyword=economic%20contribution%20of%20equipment%20leasing&SearchOption=Phrase>.

Global Insight, Advisory Services Group. The Benefits of Leasing - Value and Market Perceptions, 2004.31 Jan 2006.

<http://www.elaonline.com/research/trends.cfm#BoL>>.

Graf, Paul J. "Efficient Negotiating: Avoiding the Speed Bumps." Journal of Equipment Leasing Financing 21. 2 (2003). 5 February 2006.

<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Harwood, Stephen R. "A Systematic Approach to End-of-Lease Negotiations." Journal of Equipment Leasing Financing 14. 1 (1996). 5 February 2006.

<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Holmgren, David B. "Systematizing the Classification of Leases for Taxes and Accounting". Journal of Equipment Lease Financing 15. 2 (1997). 5 february 2006.

<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

John R. Graham; Michael L. Lemmon; James S. Schallheim. "Debt, Leases, Taxes, and the Endogeneity of Corporate Tax Status". The Journal of Finance. (1998). 53,1: 131-162. JSTOR. Eastern Michigan University. 04 Apr 2006.

<http://links.jstor.org/sici?sici=0022->

[1082%28199802%2953%3A1%3C131%3ADLTATE%3E2.0.CO%3B2-M](http://links.jstor.org/sici?sici=0022-1082%28199802%2953%3A1%3C131%3ADLTATE%3E2.0.CO%3B2-M)

Johnson, James M., and Barry S. Marks. "Technology Leasing Priorities; What Do Lessees Want?" Journal of Equipment Lease Financing 16. 2 (1998). 5 February

2006.<<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Keiso, Donald E., Jerry J. Weygandt, and Terry D. Warfield. Intermediate Accounting. 11 ed. Hoboken: John Wiley & Sons, Inc., 2004.

Marsh, Sarah J. "Drivers of Success in the U.S. Equipment Lease and Financing Industry". Journal of Equipment Leasing Financing 23.1 (2005). 5 February 2006. <<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Murtagh, James P. "Credit Risk: Contract Characteristics for Success." Journal of Equipment Leasing Financing 23.1 (2005). 5 February 2006. <<http://www.leasefoundation.org/store/index.cfm?fuseaction=access.download>>.

Nevitt, Peter K., and Frank J. Fabozzi. Equipment Leasing. 4th ed. New Hope, CT: Frank J. Fabozzi Associates, 2000.

Pricewaterhousecoopers. State of the Industry Report. New York: Pricewaterhousecoopers, 2002. 31 Jan 2006. <http://elaonline.com/search/index.cfm?fuseaction=show_SectionSummary&SiteID=1,2,3&SectionID=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22&Keyword=state%20of%20the%20industry%20report&SearchOption=Phrase>.

Ross, Stephen A., Randolph W. Westerfield, and Jeffrey Jaffe. Corporate Finance. 7th ed. New York, NY: McGraw Hill, 2005.

Smith, Clifford W, MacDonald Wakeman L. "Determinants of Corporate Leasing Policy". The Journal of Finance. (1984). 40,3: 895-908. JSTOR. Eastern Michigan University. 4 Apr 2006. <http://links.jstor.org/sici?sici=0022-1082%28198507%2940%3A3%3C895%3ADOCLP%3E2.0.CO%3B2-V>

APPENDIX

List of Figures

1. Regulatory Bodies
2. Lease Accounting Classification
3. Lease Tax Classification
4. Business Process of Leasing
5. Lease Sales Quote Requirements
6. Equipment Properties
7. Components of Lease Contracts
8. Accounting/Finance – Terms & Conditions
9. Internally Financing Equipment to be Leased
10. Simple Leveraged Lease Transaction
11. Complex Leveraged Lease Transaction
12. Securitization of Lease Receivables
13. High Level Process Flow of the Lease vs. Purchase Model
14. Process Flow for Depreciation Calculations
15. Process Flow for After Tax Sales Proceeds Calculations
16. Process Flow for Present Value of Cash Outflow Calculations

List of Graphs

1. Factors Considered by Firms when Leasing Equipment
2. Investment in Business Equipment & Lease Volume
3. Market Penetration Rate of Leasing
4. Percent Growth in Investment in Business Equipment & Lease Volume
5. Average Investment in Equipment by Industry (1997-2004)
6. Lease Volume by Industry
7. New Lease Volume by Ticket Segment
8. New Lease Volume by Lessor Type
9. Propensity to Lease by Industry
10. Propensity to Lease by Lessee Size
11. Propensity to Lease by Lessee Age
12. Propensity to Lease by Geographical Location
13. Delinquency of Accounts Receivable in Micro Ticket Segment
14. Delinquency of Accounts Receivable in Small Ticket Segment
15. Delinquency of Accounts Receivable in Middle Ticket Segment
16. Delinquency of Accounts Receivable in Large Ticket Segment
17. Expense Components in Micro Ticket Segment
18. Expense Components in Small Ticket Segment
19. Expense Components in Middle Ticket Segment
20. Expense Components in Large Ticket Segment
21. Trends in Percentage of Losses in Lease Contracts by Industry
22. Pretax Yields, Cost of Funds, & Pretax Spreads in Micro Ticket Segment

23. Pretax Yields, Cost of Funds, & Pretax Spreads in Small Ticket Segment
24. Pretax Yields, Cost of Funds, & Pretax Spreads in Middle Ticket Segment
25. Pretax Yields, Cost of Funds, & Pretax Spreads in Large Ticket Segment
26. Delinquency of Accounts Receivable of Banks
27. Delinquency of Accounts Receivable of Captives
28. Delinquency of Accounts Receivable of Independents
29. Expense Components and Net Income of Banks
30. Expense Components and Net Income of Captives
31. Expense Components and Net Income of Independents.
32. Pretax Yields, Cost of Funds, & Pretax Spreads of Banks
33. Pretax Yields, Cost of Funds, & Pretax Spreads of Captives
34. Pretax Yields, Cost of Funds, & Pretax Spreads Of Independents
35. Return on Assets by Lessor Type
36. Return on Equity by Lessor Type
37. Earnings Before Interest & Taxes by Lessor Type

List of Tables

1. Operating and Capital Lease Differences
2. Financial Ratio Implications by Lease Classifications
3. Component of the Cash Flows From Leasing and Purchasing
4. Computation of Alternative Minimum Tax
5. Bonus Depreciation rates
6. Percentage of Successful and Failed Contracts
7. Percentage of Successful and Failed Contracts by Industry
8. Percentage of Failed Contracts by Industry in Descending Order
9. Percentage of Successful and Failed Contracts by Lease Term
10. Percentage of Failed Contracts by Lease Term in Descending Order
11. Successful and Failed Contracts by Equipment Type
12. Percentage of Failed Contracts by equipment type in Descending Order
13. Average of Expense Components by Lessor Type in Ascending Order
14. Lease Contract Issues
15. Lease vs. Purchase Definitions