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Article

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Journal of Small Business Finance

Provided in Cooperation with:

The Academy of Entrepreneurial Finance (AEF), Los Angeles, CA, USA

Suggested Citation: Bathala, Chenchuramaiah T.; Mukherjee, Tarun K. (1995) : A Survey of Leasing in Small Firms, Journal of Small Business Finance, ISSN 1057-2287, JAI Press, Greenwich, CT, Vol. 4, Iss. 2/3, pp. 113-127

This Version is available at:

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A Survey of Leasing in Small Firms

Chenchuramaiah T. Bathala
Tarun K. Mukherjee

This paper reports survey results regarding leasing practices of small firms. Small firms that lease are more likely to be relatively large manufacturing firms which exhibit higher debt ratios and higher sales growth. The survey responses as well as empirical analyses of pertinent data reveal that the relationship between debt and leasing is complementary. Unlike their larger counterparts, small firms seldom use text-book recommended lease-borrow decision models. Also, unlike large firms, small firms are more likely to offer "dubious" reasons, such as off-balance sheet accounting and 100 percent financing, as advantages of leasing.

I. INTRODUCTION

Many questions pertinent to a firm's leasing decision have intrigued researchers over the years. The questions include: What type of relationship exists between leasing and debt financing? What factors determine a firm's choice of one alternative over the other? To what extent do firms employ prescribed theoretical models in making lease vs. borrow-buy decisions? In addressing these empirical questions, the research spotlight has almost exclusively focused on large firms (see e.g., Bowman, 1980; Ang & Peterson, 1984; Finucane, 1988; and Mukherjee, 1991) while small firms have received very little attention.

Lease financing is perhaps more critical to small firms than to their larger counterparts for several reasons. First, small firms have limited access to capital markets.¹ Second, small firms are reluctant to make long-term commitments of funds associated with a purchase as they are more vulnerable than large firms to changing technology. Also, relatively high insider ownership might induce small firms to rely on

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The Journal of Small Business Finance, 4(2/3): 113-127
ISSN: 1057-2287

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leasing in order to avoid divulging private information that lenders often require.

In this paper we attempt to shed some light on the way a small firm makes its leasing decision and to explore the extent to which such decision making process differs from a large firm. To a large extent, our approach is akin to that of Mukherjee (1991). However, while the object of Mukherjee's survey was the leasing practices of the Fortune 500 firms, our focus is on small firms. In addition, this paper addresses some empirical issues not examined by Mukherjee (1991). The issues include the factors that differentiate between high-lease and low-lease firms and whether the debt-lease relationship in small firms is complementary or substitutive.

II. SURVEY METHODOLOGY AND SAMPLE

We define "small firm" as a firm having between \$10 and \$500 millions in sales. Inclusion of all qualifying firms in the survey population may prove to be quite expensive. As such, we randomly select 862 firms from the 1991 Ward's Business Directory of U.S. Private and Public Companies. This survey target is represented by firms in 13 different industry segments (4-digit SICs). Sales and employment data of these companies are furnished in Panel A of Table 1. The average sales for these firms is \$62.95 million and the average number of employees is 393. A vast majority of these firms (81.4%) are privately-held and 16.7 percent of the firms are publicly-owned corporations.

After pre-testing the survey questionnaire, we mailed it in the early part of May, 1993, and followed it up with a reminder. We received usable responses from a total of 104 firms which comprise the sample of our study. Summary statistics of the sample firms are presented in Panel B of Table 1. The sample is an approximate representation of the population. Approximately 74 percent of the sample firms have annual sales of less than \$100 million. Of the respondents, 27.9 percent are publicly-held firms and 60.6 percent are privately-held firms. Firms in the manufacturing sector represent 38.5 percent of the sample. About 62 percent of the sample firms are less than \$50 million in asset size. Office equipment and machinery top the list of leased items (41 firms) followed by automobiles (33 firms), computers (25 firms) and plant, equipment, and buildings (23 firms).

Panel A of Table 2 shows that a majority of firms finance five percent or less of their total assets with lease. Although this number appears small, lease financing may be quite substantial as a percentage of total

Table 1
Characteristics of the Survey Population and Respondents

| <i>Panel A: Descriptive Statistics of the Survey Population</i> | | | | |
|--|---------------|------------------|----------------|----------------|
| | <i>Mean</i> | <i>Std. Dev.</i> | <i>Minimum</i> | <i>Maximum</i> |
| Sales (\$ million) | 62.95 | 88.91 | 9.00 | 500.00 |
| No. of Employees | 393 | 605 | 100 | 5,100 |
| <i>Panel B: Background Characteristics of Survey Respondents</i> | | | | |
| | <i>Number</i> | <i>Percent</i> | | |
| <i>1. Type of Business Organization (n = 104)</i> | | | | |
| i) Publicly-owned Corporation | 29 | 27.9 | | |
| ii) Privately-owned Corporation | 63 | 60.6 | | |
| iv) Other | 12 | 11.5 | | |
| <i>2. Type of Business Activity (n = 104)</i> | | | | |
| i) Manufacturing | 40 | 38.5 | | |
| ii) Construction, Mining, Real Estate, and Transportation | 19 | 18.3 | | |
| iii) Utilities | 20 | 19.2 | | |
| iv) Other | 25 | 24.0 | | |
| <i>3. Firm Size by Total Assets (n = 103)</i> | | | | |
| i) Less than \$10 million | 24 | 23.3 | | |
| ii) \$11 - \$50 million | 40 | 38.8 | | |
| iii) \$51 - \$100 million | 12 | 11.7 | | |
| iv) Over \$100 million | 27 | 26.2 | | |
| <i>4. Items Leased by Leasing Firms (n = 56)*</i> | | | | |
| i) Automobiles | 33 | | | |
| ii) Plant, Equipment, and Buildings | 23 | | | |
| iii) Office Equip. and Machinery | 41 | | | |
| iv) Computers | 25 | | | |
| v) Land | 4 | | | |
| vi) Others | 13 | | | |

Note: *The number of responses exceed 56 because of multiple answers.

Table 2
Use of Lease Financing in Small Firms

| | <i>Number of Firms</i> |
|--|------------------------|
| <i>Panel A: Percentage of Assets Financed by Leasing (n = 104)</i> | |
| Zero percent | 48 |
| 0.1 to 5.0 percent | 40 |
| 5.1 to 10.0 percent | 5 |
| 10.1 to 20.0 percent | 4 |
| Over 20 percent | 7 |
| <i>Panel B: Types of Leasing</i> | |
| Operating/Maintenance Leases | 39 |
| Financial/Capital Leases | 33 |
| Sale and Lease Back | 7 |
| Leveraged Leases | 1 |
| Other | 3 |

external financing.² Panel B of Table 2 shows that the number of firms using operating or maintenance leases (39 firms) slightly exceeds those that employ financial or capital leases (33 firms).

III. SURVEY FINDINGS

To Lease or Not to Lease

Leasing and non-leasing firms are about evenly divided, with 56 (53.8%) leasing firms and 48 (46.2%) non-leasing firms. To develop a profile of these two groups we form two-way tables based on some firm attributes.

The two-way tables and chi-squares statistics are presented in Table 3. The data depict that 24 out of 40 firms (or 60.0%) in the manufacturing sector lease as compared to 6 out of 20 firms (or 30.0%) in the utility sector. Similarly, the use of lease financing increases with geographical diversity (the chi-square statistics are statistically significant). Twenty-four of the fifty-six local or regional firms (or 42.9%) lease compared to 31 out of 47 (or 66.0%) firms with nationwide or international operations. Mid-size firms appear to lease more than the firms in either the smallest or the largest categories. The largest proportion of leasing firms (61.5%) is in Group 3 (assets between \$51 and \$100 million) followed by 52.5 percent in Group 2 firms (assets between \$11 and \$50 million).

Table 3 also indicates that small firms' use of lease financing increases with their use of debt, suggesting a complementary relationship between the two types of financing. No clear relationship seems to exist between the extent of managerial ownership and the firm's use of lease financing. Finally, the firms with a high sales growth in the recent past are more likely to lease than those with low sales growth.

To sum up, the leasing and non-leasing groups significantly differ from each other with respect to their geographical diversity, line of business activity, long term and secured debt ratios and sales growth. Chi-square tests reveal no clear pattern in the relationships between lease and either the insider ownership or the firm size.

Lease vs. Borrow Decision

Panel A of Table 4 indicates that a majority of firms (27 out of 48 or 56%) either directly or indirectly (via consultants) perform quantitative analysis to decide about leasing. About one-fourth of the firms make

Table 3
Differences in Characteristics of Leasing vs. Non-leasing Firms

| Firm Characteristic | Firm Type | No. of Firms in Each Category* | | | | Chi-Sq** | M-H Chi-Sq.** |
|---|-------------|--------------------------------|-----|-----|-----|----------|---------------|
| | | (1) | (2) | (3) | (4) | | |
| Line of Business (n = 104) | Leasing | 9 | 24 | 6 | 17 | 7.522 | 0.438 |
| | Non-leasing | 10 | 16 | 14 | 8 | (0.057) | (0.508) |
| (1) Construction, mining, real estate, and transportation; (2) Manufacturing; (3) Utilities; (4) Others | | | | | | | |
| Geographical Diversity (n = 103) | Leasing | 5 | 19 | 18 | 13 | 12.992 | 6.151 |
| | Non-leasing | 17 | 15 | 6 | 10 | (0.005) | (0.013) |
| (1) Local; (2) Regional; (3) Nationwide; (4) International | | | | | | | |
| Firm Size (Total Assets) (n = 104) | Leasing | 8 | 21 | 8 | 4 | 5.847 | 1.620 |
| | Non-leasing | 16 | 19 | 5 | 9 | (0.118) | (0.022) |
| (1) < \$10 million; (2) \$11 - 50 million; (3) \$51 - 100 million; (4) Over \$100 million | | | | | | | |
| L.T. Debt to Assets Ratio (n = 102) | Leasing | 3 | 29 | 16 | 7 | 6.811 | 1.819 |
| | Non-leasing | 10 | 22 | 8 | 7 | (0.078) | (0.177) |
| (1) Zero percent; (2) 0.1 - 25.0 percent; (3) 25.1 - 50.0 percent; (4) Over 50.0 percent | | | | | | | |
| Secured Debt Ratio (n = 102) | Leasing | 8 | 13 | 5 | 30 | 12.068 | 4.831 |
| | Non-leasing | 19 | 4 | 6 | 17 | (0.007) | (0.028) |
| (1) Zero percent; (2) 0.1 - 25.0 percent; (3) 25.1 - 50.0 percent; (4) Over 50.0 percent | | | | | | | |
| Management Ownership (n = 96) | Leasing | 27 | 5 | 22 | NA | 5.472 | 1.367 |
| | Non-leasing | 18 | 0 | 24 | NA | (0.065) | (0.242) |
| (1) Up to 25 percent; (2) 25.1 - 50.0 percent; (3) Over 50.0 percent | | | | | | | |
| Sales Growth (n = 103) | Leasing | 4 | 30 | 20 | NA | 4.320 | 4.186 |
| | Non-leasing | 9 | 29 | 11 | NA | (0.115) | (0.041) |
| Growth rate during the last three years: (1) Negative; (2) 0.1 - 10 percent; (3) Over 10.0 percent | | | | | | | |

Note: *Categories under each firm characteristic are described following the data in each segment.
** p-values are reported in parentheses below chi-square statistics

Table 4
Leasing Analysis

| | <i>Number of Firms</i> |
|---|------------------------|
| <i>Panel A: Quantitative Analysis or Judgement? (Number of Usable Responses = 48)</i> | |
| 1. We do not perform any type of quantitative analysis but rely on our judgement and experience. | 13 |
| 2. We do not perform any quantitative analysis because we simply prefer to lease some type of assets. | 8 |
| 3. We (or our consultants) do perform some type of quantitative analysis. | 27 |
| <i>Panel B: Is Leasing is Investing or a Financing Decision? Number of Firms (n = 27)</i> | |
| 1. Investing and Lease vs. Buy decisions are simultaneously determined. | 12 |
| 2. Lease vs. Buy analysis is followed by the investing decisions. | 12* |
| <i>Panel C: Relationship between Leasing and Borrowing (n = 54)</i> | |
| 1. Leasing is a substitute for borrowing. | 5 |
| 2. Leasing complements borrowing and increases the firm's debt capacity. | 26 |
| 3. Leasing has no bearing on firm's borrowing. | 23 |

Note: *Six of these firms compute Net Advantage to Leasing (NAL).

leasing decisions based solely on judgement and experience. Panel B shows that the 27 firms which employ some type of quantitative analysis in their leasing decisions are equally divided in the way they perform lease analysis, with one half saying that leasing is a financing decision (lease analysis performed subsequent to the investment decision) and the other half considering it as an investment decision (investment and leasing analysis performed simultaneously). Six of the twelve firms that consider leasing as a financing decision compute Net Advantage to Leasing (NAL).³

Lease evaluation models suggested in theory (see Myers, Dill, & Bautista, 1976) and in corporate finance textbooks (see Exhibit 1 of Mukherjee, 1991) are based on the premise that leasing and debt financing are substitutes for each other. Most small firms, however, do not share this view. Panel C of Table 4 shows that only nine percent of small firms view leasing as a substitute for debt compared to 48 percent of the firms saying that leasing complements debt financing.

Perceived Advantages of Leasing over Borrowing

Table 5 shows that more firms agree (or strongly agree) than disagree (or strongly disagree) with the statements:

Table 5

Responses About Advantages of Leasing Over Borrowing ($n = 56$)

Survey Question: To what extent do you agree (or disagree) with the following statements regarding advantages of leasing over borrowing? (SA = Strongly Agree, A = Agree, SD = Strongly Disagree, D = Disagree, N = Neither Agree nor Disagree, NA = Not Applicable or Not Sure).

| <i>Statement</i> | <i>Mean*</i> | <i>SA or A</i> | <i>SD or D</i> | <i>N</i> | <i>NA</i> |
|---|--------------|--------------------|--------------------|----------|-----------|
| Leasing, unlike borrowing, avoids the risk of obsolescence. | 3.25 | 32 | 13 | 3 | 4 |
| Legal consequences of default are less severe for leasing. | 3.00 | 16 | 17 | 11 | 9 |
| Generally, lease terms are more favorable. | 2.92 | 18 | 21 | 13 | — |
| Frequently, equipment can be leased for longer periods. | 3.02 | 16 | 17 | 18 | — |
| Generally, lease covenants are less restrictive. | 3.47 | 30 | 11 | 8 | 3 |
| Tax advantage is the most important reason for leasing. | 2.77 | 14 | 23 | 11 | 3 |
| Off-balance sheet accounting is an advantage of leasing. | 4.00 | 41 | 6 | 2 | 3 |
| Leasing provides 100% financing with no down payment. | 3.69 | 35 | 6 | 7 | 3 |
| Contracting costs are lower for leasing. | 2.80 | 10 | 18 | 13 | 9 |
| We prefer to lease because we are subject to Alternative Minimum Tax. | 2.62 | 5 | 17 | 17 | 11 |

Note: *Mean is computed on the basis of values for SA=5, A=4, N=3, D=2, and SD=1.

- 1) leasing avoids the risk of obsolescence;
- 2) lease covenants are less restrictive;
- 3) off-balance sheet accounting is an advantage of leasing; and
- 4) leasing provides 100 percent financing.

Approximately equal number of firms agree and disagree with the statement that the default consequences are less severe for leasing. By and large, firms do not view tax advantage as the most important reason for leasing. Fewer firms agree with the statement that contracting costs are lower for leasing. Payment of Alternative Minimum Tax (AMT) does not appear to be a factor in the firms' decision to lease.

Table 6 compares debt and lease financing in terms of some of the restrictive covenants faced by small firms. It is clear that restrictions imposed by creditors are more stringent than those imposed by lessors.⁴ More exacting nature of loan covenants is manifested in the restrictions

Table 6

Responses by Leasing Firms About Creditor and Lessor Restrictions ($n = 56$)
Survey Question: Please check the type of restrictions that may be placed by your firm's creditors and lessors. (Leave blank if a restriction does not apply.)

| <i>Restriction/Requirement</i> | <i>By Creditors</i> | <i>By Lessors</i> |
|-------------------------------------|---------------------|-------------------|
| Restrictions on future borrowing | 23 | 2 |
| Restrictions on additional leasing | 8 | 7 |
| Restrictions on dividends | 18 | 2 |
| Restrictions on future investments | 13 | 1 |
| Minimum working capital requirement | 20 | 5 |
| Maximum debt to equity ratio | 26 | 3 |
| Seeking membership on firm's board | 2 | 1 |
| Requiring more equity contributions | 2 | 2 |

on the firm's 1) future borrowing, 2) dividend payments, 3) future investments, and 4) maximum debt to equity ratio. Further, more firms are subject to minimum working capital requirements when borrowing than when leasing. In general, neither creditors nor lessors seek membership on the firm's board or additional equity contributions from firm's owners.

IV. FURTHER ANALYSIS OF THE SURVEY DATA

A Comparison of Leasing Practices Between Small vs. Large Firms

A comparison of the results of this survey with those of the Mukherjee (1991) survey on large firms leads us to make the following observations:

1. A large number of small firms do not lease. As much as 46 percent small firms do not lease as compared to only 20 percent among large firms. This result is somewhat surprising as we expected smaller firms to rely more heavily on leasing. The predominantly non-manufacturing nature of the sample in this paper as opposed to emphasis on manufacturing firms in Mukherjee's (1991) paper might partially explain the difference in lease participation between the two groups.
2. Small firms are less likely than large firms to perform a quantitative evaluation of the lease vs. borrow decision.

Approximately 96 percent of the lessees in the Mukherjee (1991) sample employ either NAL or IRR or both approaches to make their leasing decisions compared to only 12 percent of the small firms. Only nine percent of the large firms consider leasing and debt financing to be complementary, while 48 percent of small firms do so. Also, 88 percent of large firms view leasing as a financing decision as opposed to 50 percent of the small firms.

3. Mukherjee (1991) reports that most of the lessees in his sample "are motivated by what are considered to be "sensible" reasons for leasing" (p. 105). Many small firms, on the other hand, offer "dubious" reasons (such as off-balance-sheet accounting and 100% financing) as advantages of leasing.

Cross-sectional Variations in Leasing

What are the determinants of the magnitude of lease financing by small firms? To answer this question, we performed regression analyses using the following two models:

$$LEASE = a_0 + a_1LTDEBT + a_2SIZE + a_3PROFIT + a_4GROWTH + a_5TAXRATE + a_6GEOTYPE + e \quad (1)$$

$$LEASE = b_0 + b_1SECDEBT + b_2SIZE + b_3PROFIT + b_4GROWTH + b_5TAXRATE + b_6GEOTYPE + e \quad (2)$$

where

a_i and b_i = the regression coefficients;

$LEASE$ = the proportion of firm's assets financed with leasing;

$LTDEBT$ = long-term debt to total assets;

$SECDEBT$ = secured debt to total assets;

$SIZE$ = firm size (total assets);

$PROFIT$ = average annual net profit margin for the past three years;

$GROWTH$ = average growth in annual sales for the past three years;

$TAXRATE$ = 3-year average of federal income taxes as a percentage of income before taxes;

$GEOTYPE$ = firm's geographical diversity (local, regional, national, or international); and

e = the random error term.

Once again the questionnaire is the source of all data items. The correlation matrix of these variables is presented in Table 7 which

indicates that leasing (*LEASE*) is positively correlated with long term debt (*LTDEBT*), secured debt (*SECDEBT*), firm size (*SIZE*), growth in sales (*GROWTH*), and the firm's geographical diversity (*GEOTYPE*).

The regression results are presented in Table 8.⁵ The two models estimated are the same except that long term debt (*LTDEBT*) is used as an explanatory variable in Model 1 and secured debt (*SECDEBT*) is used in Model 2. The *F*-Ratios are 3.384 and 4.126 for Models 1 and 2 respectively and are statistically significant at the one percent level. The adjusted *R*-Squares are 0.122 and 0.154 for Model 1 and Model 2. The *F*-Ratios and the adjusted *R*-Squares indicate that the model with secured debt as a regressor has better explanatory power.

Both *LTDEBT* and *SECDEBT* variables have positive coefficients implying a complementary relationship between debt and lease financing. The complementary effect between secured debt and lease financing is stronger than the complementary relationship between long term debt and lease financing.⁶

The tax differential between the lessor and the lessee is often viewed as an important reason for the existence of leasing (e.g., see Brealey & Young, 1980; Drury & Braund, 1990; Lewellen, Long, & McConnell, 1976; Miller & Upton, 1976). The lessor in a higher income tax bracket can purchase the asset, take advantage of the depreciation tax shelters and other benefits (e.g., salvage value and investment tax credit, if available), and pass on some of the benefit to the lessee in the form of lower lease payments. This implies that lessees would have lower income tax rates than lessors. Consequently, the lower the lessee's tax rate the greater the likelihood of its usage of lease financing. Therefore, a negative relationship is expected between a firm's tax rate and the amount of lease financing. Table 8 exhibits a weak negative relationship between the lessee firms' tax rates and the proportion of their assets financed with leasing.

The variable reflecting geographical diversity of firms (*GEOTYPE*) has a positive sign and is significant at the five percent level. This suggests that firms with national and international operations use more lease financing than firms which are either local or regional. A firm's amount of lease financing is positively related to its *SIZE*. This result is slightly different from that reported in Table 2.

The sign of the coefficient for *PROFIT* is negative and it is positive for *GROWTH*. Although the regression coefficients are not statistically significant, their signs are consistent with the Pecking Order Theory which suggests that a firm exhausts its internal sources of funding before

Table 7
Correlation Analysis: Pearson Correlation Coefficients (n = 104)

| | <i>LEASE</i> | <i>LTDEBT</i> | <i>SECDEBT</i> | <i>MGTSTK</i> | <i>SIZE</i> | <i>PROFIT</i> | <i>GROWTH</i> | <i>TAXRATE</i> | <i>GEOTYPE</i> |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|----------------|
| <i>LEASE</i> | 1.000 | | | | | | | | |
| <i>LTDEBT</i> | 0.236 (0.015) | 1.000 | | | | | | | |
| <i>SECDEBT</i> | 0.264 (0.007) | 0.559 (0.001) | 1.000 | | | | | | |
| <i>MGTSTK</i> | -0.040 (0.685) | -0.133 (0.177) | -0.011 (0.911) | 1.000 | | | | | |
| <i>SIZE</i> | 0.187 (0.058) | 0.322 (0.001) | 0.008 (0.940) | -0.273 (0.005) | 1.000 | | | | |
| <i>PROFIT</i> | -0.076 (0.443) | 0.014 (0.884) | -0.063 (0.525) | -0.084 (0.398) | 0.020 (0.837) | 1.000 | | | |
| <i>GROWTH</i> | 0.198 (0.043) | 0.101 (0.305) | 0.017 (0.860) | -0.093 (0.345) | 0.053 (0.595) | 0.193 (0.050) | 1.000 | | |
| <i>TAXRATE</i> | -0.109 (0.268) | 0.108 (0.274) | 0.084 (0.395) | -0.049 (0.622) | 0.208 (0.034) | 0.123 (0.213) | -0.025 (0.800) | 1.000 | |
| <i>GEOTYPE</i> | 0.235 (0.016) | 0.020 (0.843) | 0.106 (0.233) | 0.192 (0.049) | -0.043 (0.662) | 0.101 (0.306) | 0.367 (0.001) | 0.045 (0.651) | 1.000 |

Notes: *p*-values are given within parentheses.

Table 8
Regression Analysis Using the
Ordinary Least Squares (OLS) Method ($n = 104$)
(Dependent Variable: LEASE)

| <i>Variable</i> | <i>Model 1</i> | <i>Model 2</i> |
|-----------------|--------------------|---------------------|
| INTERCEPT | 0.850* (1.918) | 0.657 (1.476) |
| LTDEBT | 0.159* (1.925) | |
| SECDEBT | | 0.159*** (2.744) |
| SIZE | 0.129* (1.641) | 0.175** (2.387) |
| PROFIT | -0.124 (-1.115) | -0.102 (-0.939) |
| GROWTH | 0.093 (1.023) | 0.108 (1.219) |
| TAXRATE | -0.101 (-1.581) | -0.109* (-1.727) |
| GEOTYPE | 0.168** (2.201) | 0.148** (1.970) |
| F-RATIO | 3.384 | 4.126 |
| ADJ. R-SQUARE | 0.122 | 0.154 |

Notes: *T*-Ratios are reported in parentheses below the respective parameter estimate. Statistical significance is indicated as: *** 1 percent, ** 5 percent, * 10 percent. All Variance Inflation Factors (VIFs) are less than two.

raising funds externally. Similar relationships have been found between a firm's debt proportion and *PROFIT* and *GROWTH* on the other.⁷

On the Relationship Between Debt and Lease Financing

Theoretical models developed by Myers, Dill, and Bautista (1976), among others, are based on the premise that leasing is equivalent to borrowing because lease payments are fixed obligations similar to debt repayments and that leasing takes away the firm's borrowing ability by the same amount. In this sense, leasing and borrowing are substitutes for each other. Others (Weingartner, 1987, for example) argue that, by conferring "use rights" on the lessee, the asset contributes to the cash flow of the firm similar to an owned asset and thus adds to the firm's debt capacity. Smith and Wakeman (1985) argue that similar characteristics are probably important for determining the firm's debt capacity as well as its leasing potential. As a result, both creditors and lessors may find the same set of firms attractive. Based on this line of

argument, one would expect a complementary relationship between debt and lease financing. Empirical findings on this issue have been contradictory. Ang and Peterson (1984) and Finucane (1988) find evidence in support of a complementary relationship. Marston and Harris (1988) and Bowman (1980) on the other hand find such relationship to be substitutive.

Mukherjee (1991) in his survey of large firms finds overwhelming support for the view that debt and lease financing are substitutes for each other. Based on the analysis of our survey results, however, we conclude that, for small firms at least, leasing complements debt. Results based on the two-way tables (Table 3), the correlation matrix (Table 7) and finally on the regression analysis (Table 8) clearly point to the complementary relationship. The evidence from regression analysis is more convincing as we control for the effect of other relevant variables on lease financing. Typically, because most small firms are closely held, they are under no obligation to make public the information pertinent to their operations. Consequently, monitoring costs for the suppliers of funds are relatively high. The lessor's monitoring costs are reduced in the presence of external debt since a large portion of such costs are borne by creditors. The monitoring benefit may partially explain small firms' complementary relationship between debt and lease.

V. SUMMARY AND CONCLUDING REMARKS

In this paper we report and analyze survey results regarding leasing decisions of small U.S. firms. As the sample size is small, caution needs to be exercised in generalizing the results. With this caveat, we make the following observations.

- Small firms that lease are more likely to be relatively large manufacturing firms which exhibit higher debt ratios and sales growth. No clear pattern seems to exist in the relationships between the leasing and the extent of management ownership.
- Small firms are less likely than large firms to perform a quantitative evaluation of the lease vs. borrow decision. Approximately 96 percent of the lessees in the Mukherjee (1991) sample employ either or both NAL and IRR to make this decision compared to about 12 percent of the small firms. Also, small firms are more likely to offer "dubious" reasons (such as off-balance-sheet accounting and 100 percent financing) as advantages of

leasing. The use of operating leases by a large number of firms in our study might explain the importance assigned to off-balance sheet accounting as a motive to lease.

- Small firms report more stringent covenants in a loan agreement than in a lease agreement. Some of the common debt covenants are restrictions on future borrowing and dividend payments and maintenance of a minimum debt to equity ratio and working capital.
- Unlike large firms, 90 percent of small firms do not view lease as being substitute for debt. Our regression results confirm the complementary relationship between debt and lease financing. Reduced monitoring costs for lessors in the presence of external debt may partially explain this relation.

ACKNOWLEDGMENTS

Names of the authors appear alphabetically. The authors gratefully acknowledge the suggestions for improvement of the paper from Jerome Osteryoung, Frederick Scherr, and Dean Kiefer. The authors also wish to thank Barb Geeslin for her assistance in data entry and manuscript typing. This research was partially funded by the Division of Business and Economic Research at the University of New Orleans and the College of Business Administration at the North Dakota State University.

NOTES

1. Drury and Braund (1990), among others, suggest that young companies which do not have an established track record may find it difficult to obtain finance from financial institutions and banks. Such firms may find it easier to receive lease financing since the lessor keeps ownership rights to the leased asset.
2. Unfortunately, our questionnaire did not include a question to elicit this information.
3. NAL = The acquisition cost of the asset *minus* discounted values of a) after-tax lease payments, b) the foregone depreciation tax shield if leased, and c) the foregone interest tax shield.
4. Finucane (1988) finds fewer restrictions for leasing than for borrowing in large firms as well.
5. Fairly low correlation coefficients among regressors (reported in Table 7) and small (less than two) Variance Inflation Factors (VIFs) (not reported) imply that there is no serious problem of multicollinearity.
6. Using a TOBIT regression model, Finucane (1988) finds similar evidence for large firms.
7. For example, see Baskin's (1989) work on large firms.

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