

Bathala, Chenchuramaiah T.; Bowlin, Oswald D.; Dukes, William P.

Article

Sources of capital and debt structure in small firms

The Journal of Entrepreneurial Finance and Business Ventures

Provided in Cooperation with:

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

Suggested Citation: Bathala, Chenchuramaiah T.; Bowlin, Oswald D.; Dukes, William P. (2004) : Sources of capital and debt structure in small firms, The Journal of Entrepreneurial Finance and Business Ventures, ISSN 1551-9570, The Academy of Entrepreneurial Finance (AEF), Montrose, CA, Vol. 9, Iss. 1, pp. 29-52

This Version is available at:

<https://hdl.handle.net/10419/55968>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Sources of Capital and Debt Structure in Small Firms

Chenchuramaiah T. Bathala+
Cleveland State University,

Oswald D. Bowlin++
Texas Tech University

and

William P. Dukes+++
Texas Tech University

In this paper we examine the relationship between ownership differences and small firms' financial policies using a survey of U.S. companies. The study finds that financial policies differ according to the type of ownership (private versus public) and by the ownership differences (family-owned, closely-held, or widely-held) within the private firms. The differences are in the ownership concentration, relative importance of various sources of capital, debt characteristics (sources of debt financing, debt maturity, and debt cost). A multiple regression equation estimated in the paper provides evidence relating to cross-sectional variations in debt ratios of small firms. The paper offers information

+ Chenchuramaiah T. Bathala, CFA, earned MS and Ph.D. degrees Texas Tech University. He is an Associate Professor of Finance at Cleveland State University and his current research interests are in small business finance, institutional investing behavior, and issues in corporate ownership and governance. Dr. Bathala's research has been published in *Financial Management*, *Journal of Financial Research*, *Financial Review*, *Journal of Business Finance & Accounting*, *Managerial & Decision Economics*, *The Journal of Entrepreneurial Finance and Business Ventures*, and *Journal of Small Business Finance*, among others.

++ Oswald D. Bowlin, BA and MA Economics, Texas A&M University and Ph.D. University of Illinois, is a Professor of Finance at Texas Tech University. Areas of interest include business finance, investments, and capital markets. He has published in many journals, including publications in *Journal of Finance*, *Journal of Monetary Economics*, *Financial Management*, *Journal of Portfolio Management*, *Financial Analysts Journal*, and *The Journal of Entrepreneurial Finance and Business Ventures*. He is also a co-author of two books.

+++ William P. Dukes, MBA (with high distinction) University of Michigan and Ph.D. Cornell University, is a Professor of Finance at Texas Tech University. His current research interests are in the areas of small business valuation, stock valuation, investment case development, and mutual fund operations and functions. He has multiple publications in journals such as *Business Valuation Review*, *Journal of Financial Research*, *Journal of Portfolio Management*, *The Journal of Entrepreneurial Finance and Business Ventures*, and *Journal of Small Business Finance*.

asymmetry, illiquidity, and agency cost explanations for the observed differences in ownership and financial policies of small firms.

I. Introduction

Small firms are by far a vast majority of for-profit business enterprises in the United States, and most small firms are privately-held. They differ from large, publicly-held corporations in several aspects relating to liquidity of corporate securities, informational asymmetry, credit risks, external monitoring, and agency problems. For these reasons, it may not be appropriate to apply the findings from research on large, public corporations in toto to explain the ownership differences and financial policies in small firms. Our research findings are intended to bridge the gap in our understanding of small business finance with the findings from our survey. The paper emphasizes ownership differences in rationalizing the observed differences in small firms' financial policies – sources of capital, debt structure, and lease financing. It also provides comparisons between private and public firms in those dimensions.

The agency problems in large corporations have been widely discussed in the financial literature, e.g., see Jensen and Meckling (1976), Fama (1980), Fama and Jensen (1983), Smith and Warner (1979), Easterbrook (1984), Barnea et al. (1985), and Myers (1977). Managers of large corporations, with very little or no equity interests in the firm but with control over the firm's resources, have opportunities to expropriate wealth from equity holders at large through shirking, excessive perk consumption, and expense preference behavior. Agency problems between stockholders and bondholders arise from several sources such as, excessive dividend payment, asset substitution, claim dilution, and under-investment. Private firms also face agency problems, but they are quite different from those encountered in public companies. Prior studies, for example, Mace (1948), Hand, Lloyd, and Rogow (1982), Peterson (1984), Petit and Singer (1985), Ford (1988), Bathala and Mukherjee (1996), Berger and Udell (1995, 1997), Myers (2000), and Scherr and Hulbert (2001), have examined the various facets of small business finance and offered explanations in terms of agency costs, informational asymmetry, and corporate governance. Our survey provides a conduit for empirical validation of various issues espoused in those studies.

Most private firms are small and conflicts of interest are primarily between "inside" and "outside" contributors of capital. The conflicts arise due to divergence of interests between the two groups with respect to control of the firm's affairs, cash-flow rights, and minority interest of stockholdings. Typically, the major owners of small firms are also their top managers. Those with minority stakes, having little control over the firm's affairs, tend to be in a disadvantageous position. Furthermore, stockholders face potential illiquidity problems because of the small number of investors, lack of a ready market for the firm's stock, and information limitations. Important mechanisms for disciplining the managers of large corporations, i.e., discipline from stock market and takeover mechanism are not available to the stockholders of private firms. In addition to these limitations, major stockholders and their family members are likely to dominate the boards devoid of control or monitoring from outsiders. As Mace (1948) suggests, the board's primary purpose in small firms is to fulfill the statutory requirements and managing group dynamics rather than monitoring the top management. These various limitations in monitoring and control of small firms' affairs have important implications for the sources and costs of different sources of capital, especially debt capital.

Myers (2000) models the inside versus outside equity financing in firms when cash flows and asset values are not verifiable. His arguments hold especially true for private firms in which investors have enforceable property rights but are unable to restrict insiders from capturing the cash flow for their

own benefit. In such situations, for raising outside equity, insiders must co-invest and pay dividends in order to attract capital from outside investors. It would be interesting to see if the survey data show high equity contributions from insiders of private firms.

In view of the high monitoring costs, informational asymmetries, and the above stated Myers' contentions, outside equity becomes a scarce resource to private firms. Therefore, primary sources of capital for small firms would be in the form of internally generated funds and capital supplied by the major stockholders as loans/additional equity. External sources of capital are likely to be from those who possess information and monitoring advantages, for example, trade credit, bank loans, and loans from friends and relatives. To some extent venture capitalists, Small Business Administration (SBA), and Small Business Investment Corporations (SBIC) may provide capital, especially during the early phases of small firms.

Although all privately-held businesses have a common thread as it pertains to the lack of ready marketability of their securities, they differ in terms of ownership structure, corporate governance, and sources of capital, particularly debt versus equity. The ownership of small firms can vary from one family owning the entire stock to a wide ownership. In sales, they vary from a few million to over half-a-billion dollars in sales. The differences in ownership structure and firm size can have a significant bearing on the company's ability to raise external capital and the risks faced by capital providers. In this paper, we primarily analyze the ownership differences in privately-held companies and relate them to the differences in sources of capital, debt structure, and lease financing. Additionally, we make comparisons with the publicly-held companies using the information obtained from the same survey. We also examine cross-sectional variations in debt ratios of small firms. Specifically, the findings from our survey will provide answers to the following questions: (1) How do small firms differ in their ownership structure? (2) Do ownership differences translate to differences in sources of capital and financial policies of small firms? (3) How do small firms' debt structures vary by source, maturity, cost, and security? (5) Are debt and lease financing substitutes or complementary? and (6) What factors explain cross-sectional variations in debt ratios of small firms? These questions are answered from the standpoint of arguments in agency costs, informational asymmetry, and liquidity considerations.

Our study is unique in several ways. First, it draws sample from the Standard & Poor's Directory of Corporations which is a highly credible source for the universe of corporations in the U.S. Second, the survey responses received from both privately-owned and publicly-owned companies enable us to make insightful comparisons between the two groups. Third, few past studies on small business finance have provided in-depth analyses of ownership and financial policy differences as much as our study does. The remainder of the paper is organized as follows. Section II describes the data and the methodology in the paper. Section III discusses survey results. Lastly, Section IV provides conclusions and implications from our research.

II. Data and Methodology

The data for this research were gathered using a survey instrument. The Standard & Poor's 1997 Directory of Corporations (Vol.1) is the source of names and addresses of the corporations surveyed in this research. The S&P Directory includes corporations (public and private), non-profit firms, charitable institutions, and trusts. From each page of the S&P Directory we chose the first firm in the first column. Next, we removed from the list all types of entities other than private and public corporations from the list (charities, universities, non-profit hospitals, etc.). This procedure resulted in a sample of 2,870 companies – 2,251 private firms (78.4 percent) and 619 public firms (21.6 percent).

The survey was anonymous and the questionnaire was not marked in order to ensure anonymity of responding firms. The survey instrument was four pages long and it sought information on ownership/governance issues, shareholder agreements, sale/transfer of ownership, and financial policies.

The survey questionnaires were mailed in the month of August, 1998. A total of 275 firms provided responses for a response rate of 9.6%. An additional 75 envelopes were returned to us as undeliverable. Of the responses received 253 were usable. The response rate, although somewhat low, looks typical of surveys involving small firms. The President or CEO of the company provided as much as 74.5% of the responses, but the proportion of responses provided by them is higher for publicly owned firms (78%) than for privately owned firms (61%). However, from the comparisons presented below, we note that the responding firms are representative of the firms in the population. Further, the final sample size is large enough for the purpose of the statistical methods (parametric and non-parametric) employed in the paper and making inferences about the data.

Out of the total of 253 responses, 202 (79.8%) are from privately-owned companies and 51 (20.2%) are from publicly-owned companies. This distribution is very close to the distribution of firms in the mailing list (2,870 companies) – 2,251 private firms (78.4%) and 619 public firms (21.6%). The distribution of sample firms according to their business background is as follows: 130 firms (52%) are in manufacturing sector; 26 firms (10.4%) are in trading sector (wholesale and retail); 25 firms (10%) in agriculture, construction and mining, and 19 firms (7.6%) in service sector. The distribution of sample firms according to sales are as follows: 153 firms (61.7%) have sales revenues of \$25 million or less. Of this, 139 are private firms (90.8%) and 14 (9.2%) are public firms. We find 17 firms (6.8%) with sales over \$500 million, of which 3 are private firms (17.6%) and 14 (82.4%) are public. In terms of company size measured as the number of employees, a total of 138 firms (55%) have 100 or fewer employees. However, 125 of those firms are private (90.6%) whereas only 13 firms (9.4%) are public. At the other extreme, in the category of firms with employees of 500 or more, there are a total of 41 firms (16.3% of total respondents) of which 13 firms (31.7%) are private and 28 firms (68.3%) are public. Overall, sales and number of employees seem to correlate highly.

The data gathered from our survey are in different forms: (a) use of a Lichert scale (for example, 1 = Least important; ---- 5 = Most important), (b) by a range of values (for example, 1 = Zero% debt ratio; ----- 6 = Debt ratio over 75%), (c) identification by a classification scheme (for example, 1 = Short-term debt; 2 = Medium-term debt, and 3 = Long-term debt), and (d) continuous measurement (for example, Number of shareholders in the firm and percentage of shares owned by the CEO). The classifications or rankings were appropriately used to capture the differences according to the needs of statistical approaches used in the study.

For empirical analysis, we use Chi-Square tests and a multiple regression model. In Chi-Square analysis, a univariate approach, we test the null hypothesis that there is no difference between the set of observed frequencies and the set of expected frequencies. With this approach, we examine (1) if small firms differ in their ownership structures and ownership concentrations and (2) if those differences relate to various financial policy attributes (debt ratio, source of debt, debt maturity, cost of debt, and debt security). For the firms that are privately-owned, we have responses large enough to examine the differences according their ownership structure: family-owned, closely-held, and publicly-held. For publicly-owned companies, this classification is less relevant even though we have received responses to that effect. In addition to the comparisons within the sub-groups among privately-owned firms, we make comparisons between privately-owned and publicly-owned firms. For public firms, the ownership sub-groups are ignored to keep the analysis centered on privately-owned firms and also

because of too many cell sizes falling below five.

In our second approach, multiple regression analysis, we examine cross-sectional variations in debt ratios by estimating a regression equation with debt ratio as the dependent variable and a set of explanatory variables reflecting dimensions such as ownership differences, alternate sources of financing, firm size, and the firm type (private or public). We find these two approaches to be valid statistical techniques for the data at hand and the inferences we intend to make. However, there are a couple of limitations that we would like to point out up-front. First, in Chi-Square analysis, some frequency tables have a few cells with the number of observations fewer than five. In such instances, we were warned that Chi-Square test may not be valid. Second, in multiple regression analysis, many variables are discrete (for example, responses received on a Lichert scale or using a classification scheme to distinguish the variable of interest by multiple levels).

III. Survey Results

The empirical analysis in the paper uses two approaches, (i) univariate analysis with Chi-Squared tests, and (ii) a multiple regression analysis. The data comparisons center around the ownership differences by classifying sample firms into (1) family-owned (all or majority of the firm's equity owned by one person or the members of a single family), (2) closely-held (majority of equity ownership held by a small group of families and their relatives, and (3) widely-held (no single person or a group holding majority ownership or controlling interest in the firm. Comparisons are also made between privately-owned and publicly-owned firms.

Univariate Analysis

In this section, first we present our preliminary analysis of ownership differences of the responding firms. Next, we provide detailed analyses of (A) Sources of Capital, (B) Lease Financing, and (C) Debt Structure.

Ownership Differences: Out of a total of 201 privately-owned firms in the sample, 129 firms (64.2%) are family owned, 57 firms (28.4%) are closely-held, and 15 firms (7.4%) are widely-held. On average, the CEOs of family-owned private firms hold 57.4% of common stock compared to a mere 5.6% in widely-owned private firms. Between the privately-owned and publicly-owned groups, the CEOs of privately-owned firms possess 48.5% of equity compared to 10.4% by the CEOs of publicly-owned companies. Further, the CEOs in 50.4% of family-owned firms hold 50% or more of the company's stock. The number of firms with CEO stockholdings over 50% decline to 30.4% in closely-held firms to 0% in widely-owned firms. The differences become even more distinct when we compare the CEO stockholdings between private and public firms.

Another dimension of CEO stock ownership is whether or not the CEO is the largest stockholder in the firm. In 69.8% of family-owned firms CEO is the largest stockholder compared to only 25% of the widely-held firms. Between private and public firms, the CEO is the largest stockholder in 36.5% of the privately-owned group versus 22.5% for the publicly-owned group. The proportion of insider stock ownership (managers and directors) is another important measure of ownership and control duality in firms. In 82.1% of family-owned firms, insiders own over 50% of the firm's common stock, as opposed to a mere 15.4% of firms in the widely-owned group. In case of public companies, only 10% of the firms have insider ownership in excess of 50%.

The duality of management and control is more pronounced in privately-owned firms (with 62.1% of managers holding board memberships) compared to 29.8% in public firms. Thus, there is a greater outside representation on boards of public firms than on boards of private firms, and private firms,

especially family-owned, seem to have the most concentrated power structure resulting in a limited monitoring and control by outsiders. This observed phenomenon of highly concentrated board structures in private firms is consistent with Mace's (1948) contention that the board's role in such firms is primarily to fulfill the statutory requirements. Overall, these findings are consistent with the agency theory arguments and provides a validation for the existence of concentrated ownership and control structures as a means of controlling equity agency costs in firms. A more complete analysis of these ownership differences can be found in Bathala et. al. (2003).

(A) Analysis of Sources of Capital

In Table 1, we present our findings about the relative importance of various sources of capital in small firms. The data in the table are means of responses collected on a Lichert scale (1 = least important, 5 = most important). The top two sources of financing (bank finance and equity from owners) are the same both private and public firms. In family-owned and closely-owned groups, the top four rankings are the same – (1) loans/credit lines from banks, (2) equity from owners, (3) trade credit, and (4) loans from stockholders/directors. While trade credit is the third most important source of capital for family-owned and closely-held firms, it is equity from outside investors for public firms. Loans from stockholders and directors is a less important source of capital for public firms compared to its rank as the fourth most important source of capital for private firms. These findings are consistent with the argument that owners and those having informational/monitoring advantages tend to be the primary providers of capital to small firms. This is not entirely surprising as small firms, either private or public, are constrained by their ability to raise significant amounts of external capital. We anticipated small firms, especially in private ownership, to be heavy users of SBA financing and venture capital for supplementing their capital needs. However, the survey responses prove otherwise. Those two are the least important sources of capital to either private or public firms in the sample.

(B) Analysis of Lease Financing

Lease finance is an important source of capital for small firms, especially because of limited sources of borrowing. Among others, Mukherjee (1991) and Bathala and Mukherjee (1996), have addressed issues such as relative costs and benefits of leasing versus borrowing and whether leasing and borrowing are substitutes or complements of each other. Mukherjee's survey of large firms (Fortune 500 companies) found a substitute relationship between leasing and borrowing, whereas Bathala and Mukherjee's survey of small firms found them to be complements of one another. The question, therefore, remains unsettled and this survey provides empirical validation to explore the issue further. Additionally, to our best recollection, no other study has provided evidence on the importance of lease finance in privately-owned firms by capturing the ownership differences and also making a comparison between privately-owned and publicly-owned firms.

The data in Table 2 (Panel A) are on the basis of the following classification scheme. The different ownership groups are as before. On the basis of the percentage of assets financed with leases, the groups are: 0 percent, 1-10 percent, and greater than 10 percent. This distribution provides cell sizes large enough for conducting the Chi-Squared tests. The data show that almost 51 percent of private firms do not finance their assets with lease finance compared to only 31 percent of firms belonging to the publicly-owned category. On the basis of the Chi-Squared statistic, the private versus public group difference is statistically significant at the 5 percent level. A vast majority of firms making use of lease finance seem to finance no more than 10 percent of their total assets via leasing. The proportion of firms using leases to finance greater than 10 percent of their assets with leases is small either in

privately-owned group (11 percent) or publicly-owned group (12.5 percent). The differences within the three groups of private firms (family-owned, closely-held, and widely-held) reveal that leasing is less prevalent in firms belonging to family-owned or closely-held groups relative to those in widely-held category. The group differences among private firms is weakly significant (Chi-Squared = 8.07; p-value = 0.0889).

Initially, we presumed that small firms would probably rely more on lease finance owing to their limited access to debt markets and more stringent covenants imposed by creditors. The data speak otherwise. This shows that small firms, to a large extent, are less attractive to financiers other than those who have on-going lending relationships and monitoring advantages (trade creditors and banks). Alternatively, small firms may be not finding (especially privately-owned) lease finance attractive enough in comparison to trade credit (a free financing source) and bank finance (with the accompanying advisory benefits and on-going relationships).

Next, we examine the relationship between leasing versus borrowing to verify if they are substitutes or complements of each other. We do this first by examining the correlation coefficient between the debt ratio (percentage of total debt in the firm's total assets) and the lease ratio (percentage of leased assets in the firm's total assets) in this section. Later, we use lease ratio as an explanatory variable in a regression equation to examine the relationship between debt and lease financing. For both debt ratio and lease ratio, we use the raw data from the survey responses collected on a Lichert scale for this purpose.

For private firms, the correlation coefficient between debt ratio and lease ratio is 0.29 and the p-value of 0.0002 indicates a high statistical significance. For public firms, the correlation coefficient is even higher at 0.42 and the p-value is 0.003. The strong positive association between debt and lease ratios are supportive of a complementary relationship between leasing and borrowing and the evidence is consistent with that reported by Bathala and Mukherjee.

(C) Analysis of Debt Structure

In Table 3 we present a detailed analysis of differences in debt financing by ownership structure. The data show that, among privately-owned firms, ownership differences do not give rise to statistically significant differences in debt ratios (Panel A), sources of debt – trade credit, bank loans, and other sources (Panel B), and debt maturity (Panel C). This inference is drawn from the Chi-Squared statistics and p-values reported in the table. The differences between privately-owned and publicly-owned firms are also not significantly different with respect to debt ratios (Panel A). However, privately-owned and publicly-owned companies significantly differ from each other with respect to debt characteristics such as sources of debt (Panel B), debt maturity (Panel C), and the cost of debt (Panel D).

In Panel A, the Chi-Squared statistics suggest no significant differences in debt ratios of firms in different ownership groups. However, we notice that a larger proportion of firms (about 46%) in either private or public ownership have debt ratios of 10% or less. In contrast, the proportion of firms with high debt ratios (50% or greater) is slightly lower at 13.2% for private firms than 14% for public firms. Overall, a vast majority of firms (about 86%) in both privately-owned and publicly-owned groups have debt ratios of 50% or smaller. From Panel B, we observe that bank loans comprise the most important source of debt capital for 76.4% of privately-owned firms and 56.1% of publicly-owned firms. Trade credit is the second most important source of finance for 13.9% of private firms compared to 7.3% of public firms. As high as 36.6% of public firms rely primarily upon other sources of debt in comparison to a much smaller proportion (10.2%) of private firms. Within the Heavy reliance on bank loans and

trade credit by privately-owned firms, relative to publicly-owned firms is consistent with the information asymmetry and monitoring arguments. This evidence is also consistent with Johnson (1997) who has examined the choice between bank loans and private non-bank loans. The results from his study showed that bank loans are used by smaller firms as banks have the advantage of being cost-effective monitors of firms that maintain depository relationships with them.

In debt maturity (Panel C), we find that private firms predominantly use short-term debt. As high as 48.8% of private firms reported that their primary maturity structure is short-term. Only 27.8% and 23.5% of private firms respectively indicated medium-term and long-term as the primary maturity structure of their debt financing. This contrasts with the maturity preferences of public firms. Long-term debt is the primary maturity structure of public firms (38.6% firms), followed by short-term debt (34.1% firms), and medium-term debt (27.3% firms). The maturity differences between the different ownership groups of private firms are not statistically significant, but they are significantly different between private and public firms (Chi-Square = 4.74; p-value = 0.0934). These findings are akin to the agency arguments relating to firm size and debt maturity put forth by Stohs and Mauer (1996). Their arguments suggest that small firms can overcome the agency costs between equity and debt holders by diminishing the maturity structure of debt financing. The private firms in our sample are, on average, smaller than the public firms, and their greater use of short-term debt relative to public firms is consistent with the arguments of Stohs and Mauer (1996).

The cost of debt (Panel D) varies significantly by ownership differences within the privately-owned firms and between private and public firms. On average, 82.8% of family-owned firms and 77.1% of closely-held private firms borrow at or above the prime rate. This contrasts with only 53.9% of widely-held private firms incurring debt costs at or above the prime rate. Overall, a larger proportion of private firms (79.1%) have borrowing costs at or above prime rate compared to a smaller proportion of public firms (47.6%) having to borrow at or above the prime rate.

The opposite is true in borrowing below the prime rate – only 20.9% of private firms are able to borrow below the prime rate compared to a high of 52.2% for public firms. We believe that the higher borrowing costs for private firms are due to the informational asymmetry and illiquidity problems associated with them relative to public firms. Another source of variations in borrowing costs among small firms could be due to the differences in banking relationships of firms belonging to different ownership groups. Berger and Udell (1995), for example, found that firms with longer banking relationships pay lower interest rates.

Debt Ratios, Debt Maturity, and Cost of Debt. If a firm that is highly levered uses more short-term debt, then the firm may face a liquidity crisis if it is unable to refinance the maturing debt or if its cash flows are insufficient for meeting the maturing obligation. Therefore, firms with high (low) debt leverage are more likely to use long-term (short-term) debt. In Panel E (Table 3) we examine if this relationship holds for small firms. Recent studies by Guedes and Opler (1996), Leland and Toft (1996), and Stohs and Mauer (1996), and Scherr and Hulburt (2001) have analyzed the debt leverage vs. debt maturity relationships. As can be seen, among private firms, 65.5% of firms in the low-leverage group (debt ratio $\leq 10\%$) have short-term debt as their primary maturity structure compared to a much smaller proportion of firms (32%) in the high-leverage group (debt ratio $> 50\%$). In contrast, only 12.1% of low-leverage firms have long-term debt as their primary source of debt compared to 24% of firms in the high-leverage group. The maturity differences between the different groups of private firms by debt use are statistically significant (Chi-Square = 14.09; p-value = 0.007). These findings are consistent with the evidence provided by Stohs and Mauer (1996) for large firms and Scherr and Hulburt (2001) for small firms. The debt maturity differences between private and public

firms were already discussed along with the results in Panel C.

With increased use of debt leverage, a firm's financial risk would increase, so does its cost of debt. In Panel F (Table 3), we examine if there is a positive relationship between debt ratios and debt costs. In the case of privately-owned firms, only 29.4% of firms in the low-debt group (debt ratio \leq 10%) have their borrowing cost above the prime rate compared to a much larger proportion of firms (65.4%) in the high debt ratio group (debt ratio $>$ 50%). The differences in borrowing costs for private firms according debt ratios are statistically significant (Chi-Square = 12.05; p-value = 0.017). From the results, it is apparent that financial risk is a discriminating factor for loan pricing. The borrowing costs also differ significantly between private and public firms (Chi-Square = 18.05; p-value = 0.0001) which was already discussed along with findings in Panel D. One peculiarity is that, among privately-owned firms, the proportion of firms borrowing below the prime rate appears to be about the same irrespective of their differences in debt ratios. This is somewhat surprising and we suspect that lending below the prime rate is influenced by factors other than the financial risk differentials. Perhaps, borrowers with longer banking relationships are able to receive financing at lower interest rates, as reported in a study by Berger and Udell (1995). We are unable to verify the validity of this reasoning as our survey data lacks information for making such analysis.

Multiple Regression Analysis

The univariate analyses and Chi-Square tests in the previous section have provided insights into various facets of debt leverage by ownership differences. In this section, we employ a multiple regression model to identify the determinants of debt leverage in small firms. Through regression analysis we can examine the cross-sectional variations in debt ratios using multiple dimensions of explanatory variables reflecting ownership differences, alternative sources of financing, dividend payout, company size, age, and the firm's class (private or public). The estimated regression equation is of the following form.

$$\text{DEBTRAT} = f(\text{OWNERS, SHLDNUM, CEOSTOCK, CEOEXP, TRCREDIT, LEASING, SALES, PAYOUT, COMPAGE, TRADING})$$

Discussion of the Regression Model. The definitions and measurement of variables in the regression equation are furnished in Table 4. All variables are from the survey responses. Many variables are on discrete scales but the survey responses contained multiple levels which provided sufficient variability in their measurement. The robustness of results from the regression model negates any suspicion of distortions from data limitations. The following is a discussion of the variables in the regression model.

Debt ratio (DEBTRAT) is the dependent variable in the regression equation. It is a discrete variable with six levels of measurement: 1 for 0% debt ratio at the low end to 6 for debt ratios over 75%. The independent variables in the regression model reflect the ownership differences (OWNERS), number of shareholders (SHLDNUM); CEO attributes – % of the CEO's stock ownership (CEOSTOCK) and the CEO's total experience in the firm (CEOEXP); two alternative outside sources of financing, trade credit (TRCREDIT) and lease financing (LEASING); dividend payout (PAYOUT); and variables to control for firm size (SALES), age of the company (COMPAGE), and the type of firm (TRADING), a 0-1 dummy variable with value equal to 1 if the company is

publicly-owned.

A priori, we expect ownership differences (OWNERS and SHLDNUM) to have a significant bearing on debt ratios. We hypothesize that family-owned firms would have smaller debt proportions owing to their conservative attitude toward risk and greater information asymmetry faced by creditors. At the other extreme, firms that are widely-owned may be perceived as better credit risks and may have less informational asymmetry. Therefore, widely-held firms are likely have higher debt ratios. The univariate analysis in Panel A of Table 3 showed a pattern of debt ratios consistent with our expectation even though the Chi-Square test statistics were not statistically significant. We expect positive coefficients for both the ownership variables, OWNERS and SHLDNUM.

The CEO is the most important person in corporations, more so in privately owned businesses owing to her/his dual influence through high ownership stakes and management roles. We believe that lenders would view the CEO's stock ownership (CEOSTK) and the length of total experience of CEO in the firm (CEOEXP) as positive factors in extending credit to the firm. The CEOs with larger stockholdings would have their interests more closely aligned with the stockholder interests and they may use more debt financing if it leads to value enhancements (Mehran, Taggart, and Yermack, (1999). Further, using debt rather than external equity will enable the CEO to maintain better control over the firm. If these arguments hold, we should find a positive association between DEBTRAT and CEOSTK and CEOEXP. However, there is a possibility that the CEO's longevity in the firm may be indicative of entrenchment possibilities. Researchers argue that entrenched managers may use less debt in order to reduce the risk associated with their undiversified human capital (Fama, 1980), or for the fear of not achieving the level of performance required to meet debt related obligations (Jensen, 1986).

A recent study by Berger, Ofek, and Yermack (1997) examined the relationship between managerial entrenchment and capital structure decisions. Their findings show that CEO stock ownership is positively related to debt leverage, whereas CEO tenure is negatively related to debt leverage. They rationalize the positive sign for CEO stock ownership as a result of managerial incentive to realize more value for their stockholdings from value-increasing leverage. On the other hand, CEOs with longer tenures were able to increase equity values by their high quality management which resulted in reduced leverage. It will be interesting to see if the evidence in Berger, Ofek, and Yermack (1997) paper holds for small firms.

The next set of variables in the regression equation relate to three financial policy variables which could have a bearing on debt ratios. The first two variables, trade credit (TRCREDIT) and lease financing (LEASING) reflect alternate sources of financing. The third variable, dividend payout ratio (PAYOUT), reflects cash outflows that compete with interest/principal obligations on debt financing. Trade credit is a spontaneous source of financing and it has no explicit interest cost. Firms with low credit risk may receive generous trade credit from their suppliers and such firms would have less reliance on other sources of debt. If this hypothesis holds, TRCREDIT will have a negative coefficient. Alternatively, firms that are viewed positively by their suppliers may also be favored by banks and other lenders for credit extension. If this explanation holds, we will find a positive coefficient for TRCREDIT. In a recent paper, Cook (1999) shows that suppliers of trade credit support the role of financial intermediaries in overcoming the informational asymmetry about small firms. Using a survey sample of Russian small firms, he finds that firms using trade credit have a higher probability of acquiring bank credit. TRCREDIT is measured as a qualitative variable on a Lichert scale to indicate its relative importance to the firm (1 = Least important; 5 = Most important). As such, we do not suspect any potential spurious relationship between TRCREDIT and DEBTRAT to distort the

empirical verification that we are seeking between the two variables.

Leasing is an important source of financing for privately-owned firms owing to their limited access to debt markets. Also, Bathala and Mukherjee (1995) argue that small firms are reluctant to make long-term commitment of funds by purchasing assets owing to their greater vulnerability to changing technologies. Several prior studies (for example, Marston and Harris, 1988; Mukherjee, 1991; Bathala and Mukherjee, 1995; and Deloof and Verschueren, 1999) have examined the relationship between leasing and debt financing in firms and found mixed results with respect to whether they are substitutes or complements of each other. Specifically, Mukherjee's survey of Fortune 500 companies found a substitute relationship between debt and leasing, whereas Bathala and Mukherjee's survey of small firms found a complementary relationship between the two.

Dividend payments are cash outflows, similar to interest payments on debt. Small businesses, especially private firms, need to conserve cash because of their limitations in raising external capital for operating and growth needs. Since dividend payments compete with the interest expense on debt, companies with higher debt ratios (and high interest costs) may have a diminished ability to pay dividends. We would therefore expect a negative association between PAYOUT and DEBTRAT.

Firm size is proxied by SALES and it is expected to capture the differential credit and bankruptcy risks among firms differing in size. As larger firms are perceived to be better risks, we anticipate a positive relationship between DEBTRAT and SALES. The company's age (COMPAGE) is a stability factor. The length of time the company has been in operation is indicative of its ability to withstand the ups and downs of economic cycles and its potential for survival in the future. We believe that the longevity of small firms, especially owing to information limitations, provides a positive "signal" to lenders and enhances their debt capacity. On this assumption, we expect a positive coefficient for COMPAGE. The analysis in Berger and Udell (1998) shows that capital structure in small businesses varies with firm size and age.

Finally, TRADING is a 0-1 dummy variable with the value equal to 1 if the firm is publicly-owned or 0 if the firm is privately-owned. Considering the advantages of publicly available information and liquidity associated with public firms, we expect that lenders will be more willing to provide debt financing to them than to private firms. Therefore, we predict a positive relationship between DEBTRAT and TRADING.

Discussion of Regression Results. The results from the regression equation specified above (Model 1) are presented in Table 4. In all 179 firms had the data for all variables in the regression equation. The estimated regression model has an F-Value of 6.75 that is highly significant at the 1 percent level and an adjusted R-Squared value of 0.2440. Considering the fact that it is a cross-sectional regression, the model's explanatory power is quite reasonable. The parameter estimates of all but three explanatory variables are statistically significant and most of them have signs in the direction of our predictions. All Variance Inflation Factors (VIF) are less than three, indicative of no potential multicollinearity among the independent variables.

The parameter estimate for OWNERS is not statistically significant indicating no association between debt ratios and ownership differences in small firms. This finding is consistent with the results from univariate analysis using ChiSquared tests (See Panel A, 8Table 3) However, the second measure of ownership attribute, the number of shareholders (SHLDNUM), is positively related to DEBTRAT as indicated by the statistical significance of its coefficient at the 5% level. The regression coefficients for CEO attributes (CEOSTK and CEOEXP) are highly significant with p-values better than 0.01. The positive association between CEOSTK and DEBTRAT is consistent with the Leland and Pyle (1977) arguments that the fraction of ownership kept by the entrepreneur is indicative of the

magnitude of informational asymmetry about the firm, and it influences the willingness of outsiders to provide capital to the firm. The CEO's length of total experience (CEOEXP), however, is negatively related to DEBTRAT. The negative coefficient for CEOEXP is consistent with Fama (1980) and Jensen (1986) arguments concerning entrenchment effects associated with the longer tenure of managers. Our findings of the relation of CEOSTK and CEOEXP with debt leverage for small firms are similar to the results for large firms obtained by Berger, Ofek, and Yermack (1997) and Mehran, Taggart, and Yermack (1999).

The coefficients for TRCREDIT and LEASING are positive and statistically significant with p-values of 0.0390 and <0.0001 , respectively. The positive relationship between TRCREDIT and DEBTRAT seems to suggest that the firms that are viewed positively by their suppliers are also favored by other lenders. The positive relationship between LEASING and DEBTRAT indicates that they are complementary to each other and this evidence supports previous findings by Bathala and Mukherjee (1996), and Mehran, Taggart, and Yermack (1999). From this evidence, it appears that debt usage builds up the firm's credit rating and provides a positive "signal" to lessors. Further, greater monitoring by lenders reduces the lessors' monitoring costs. In sum, information, signaling, and monitoring advantages seem to drive the complementary relationship between debt and lease financing in small firms.

The dividend payout (PAYOUT) is not a significant factor in the determination of small firms' debt ratios. At best, there is a very weak negative association between the two considering the p-value of 0.1687 for the regression coefficient of PAYOUT variable. Perhaps, dividend payments does not constitute a major claim dilution factor for lenders of small firms (especially privately-owned) as they tend to payout little, if any, in dividends. In order to verify this assertion, we examined the distribution of firms paying dividends versus not paying dividends. A total of 229 firms provided responses to this question. Out of them 120 firms (52.4%) do not pay dividends and the distribution of no-dividend firms is about the same for both private and public groups. Among those paying dividends, 74 firms (32.3%) pay utmost 25% of earnings in dividends.

In regard to the other variables in the regression equation, we find that SALES has a positive and statistically significant coefficient (p-value = 0.004) indicating that larger firms tend to have higher debt ratios. As discussed before, firm size is generally viewed as a proxy for business risk and larger firms are assumed to be less risky. The evidence is consistent with this notion and also with the results found by Mehran, Taggart, and Yermack (1999). The age of the company (COMPAGE) is not an influencing factor in the determination of debt ratios. Finally, the TRADING dummy variable (0 = private firms with no trading in company's stock; 1 = public firms with trading in company's stock) has a negative coefficient that is statically significant (p-value = 0.0285). This indicates that, on average, public firms have smaller debt ratios than private firms. This finding is different from our expectation that public firms would have higher debt ratios owing to their liquidity and information advantages relative to private firms. However, it appears that public firms are able to meet much of their capital needs through equity financing especially in view of their access to capital markets thereby relying less on debt capital. This can be verified from Table 2, which shows that equity from outside investors is the most important source of capital whereas it ranks among the lowest for private firms. Privately owned firms, on the other hand, would have limited access to equity capital, both internal and external. Their limitation in raising equity stems from the smaller number of owners and their wealth constraints. With respect to external equity, they have disadvantages of illiquidity, information deficiency, and lack of publicly issued stock. The negative coefficient for TRADING is consistent with these arguments.

As stated earlier, we do not suspect any spurious relationship between TRCREDIT and DEBTRAT potentially clouding the findings from the estimated regression equation (Model 1). However, in order to ensure that there is no semblance of improper empirical modeling we have estimated the regression excluding the TRCREDIT variable from the model (Model 2). The results are presented in Table 2 (Model 2). Apparently, deletion of TRCREDIT has led to a decline in the regression's explanatory power in addition to a change in the statistical significance of a couple of explanatory variables. Otherwise, the parameter estimates of explanatory variables and their respective standard errors remained pretty stable with no changes in their signs.

IV. Conclusions and Implications

This research is based on a survey of small businesses in the U.S. The paper analyzes differences in the ownership structure and corporate financial policies of small firms, both private and public. The survey results show that ownership and management are highly concentrated in small firms. On average, the CEOs of private firms own a much larger percentage of equity ownership than the CEOs of public firms. However, the proportion of executives and directors who own common stock in public firms is far greater than in private firms. This suggests the importance of stock ownership in mitigating equity agency costs in public firms as opposed to private firms. Within private firms, the CEO's equity ownership declines as the ownership structure moves from family-owned to widely-held. By and large, compared to public firms, private firms have a larger percentage of CEOs who are the largest shareholders. In 75.5% of private firms (compared to only 10% of public firms) insiders (officers and directors) own 50% or more of the firm's common stock. In regard to the different sources of capital, both private and public firms are alike in the use of top two sources of capital – (1) loans/lines of credit from banks and (2) equity capital from current stockholders. Trade credit is the third most important source of capital for private firms and it is equity from outside investors for public firms. Venture capital and SBA financing rank at the very bottom for both groups. These differences are apparently due to the factors such as informational asymmetry, illiquidity, and agency costs that differ by the ownership structure.

In debt financing, over 86% of firms (public or private) have debt ratios of 50% or smaller. The ownership differences are not statistically significant. Both types of firms predominantly rely upon bank loans for debt capital, with 76.4% of private firms and 56.1% of public firms using bank loans as their primary source of credit. The difference between the two groups lies in the use of trade credit and other sources of debt. A larger percentage of private firms (13.9%) use trade credit as the primary source of debt compared to 7.3% of public firms. Other sources of debt appear to be more important for public firms (36.6%) than for private firms (10.2%). Private firms and public firms differ in sources of debt, but there are no significant differences between the different ownership groups within the private firms.

In maturity structure, private firms tend to rely more on short-term debt and public firms tend to rely more on long-term debt. The data indicate a heavier use of short-term debt by family-owned and closely-owned firms. In terms of borrowing costs, on average, private firms tend to pay more than public firms. A larger proportion of private firms (41.2%) pay interest above the prime rate compared to only 28.2% of public firms. Further, a larger proportion of public firms (52.2%) are able to borrow at rates less than the prime rate compared to only 20.9% of private firms. The ownership differences within the sub-groups of private firms also matter. A larger proportion of widely-held firms (50%) are able to borrow at rates less than the prime rate, whereas only 17.2% of family-owned firms are able to borrow at rates less than the prime rate. On average, secured debt is more commonly used, irrespective

of whether the firm is public or private. However, 66.% of private firms have majority of their debt as secured, compared to 55% for public firms. Among private firms, greater proportions of family-owned and closely-owned firms, relative to widely-owned firms, have majority of their holdings in secured form. The analyses of debt maturity structure and cost of debt in relation to the level of debt (debt ratio) show differences in that firms with low debt levels use more short-term debt and have lower debt costs.

The evidence from regression analysis suggests that debt ratios differ by the type of ownership (private versus public), the dispersion of stock ownership (the number of shareholders), the CEO attributes (stock ownership and experience), alternative sources of financing (trade credit and lease finance), and the company size (sales). On average, private firms have higher debt ratios than public firms, debt ratios increase with firm size, and debt and lease financing are complementary sources of financing. While debt leverage is positively associated with the CEO stock ownership, it is negatively related to the CEO's total experience in the firm. Although the dividend variable is not statistically significant, it has a weak negative association with the amount of debt capital in the firm.

The study provides important implications for small business finance. The findings are valuable to the owners and managers of small firms (both private and public) and the providers of capital to those firms, especially suppliers trade credit and banks. Owing to the highly concentrated ownership and duality between ownership and control in private firms, minority shareholders and providers of outside capital should be watchful of the potential for diversion of cash flows and weakening in property rights. Further, in order to attract outside capital, small firm CEOs and other insiders should contribute more of their own capital. Small firms, especially privately-owned, should emphasize maintaining excellent relationships with their suppliers trade credit and bankers as it would improve their ability to receive financing from those two primary sources of capital on better terms and lower costs. By having a better understanding of the factors contributing for differences in ownership concentrations, incentive structures, and sources capital, managers (or owner-managers) of small firms will be better able to structure the nexus of contracts and financial policies that can best serve the collective interests of both passive and active owners.

REFERENCES

- Barnea, A., R.A. Haugen, and L.W. Senbet, Agency Problems and Financial Contracting, Prentice-Hall Foundations of Finance Series, 1985, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.
- Bathala, C.T., O.D. Bowlin, and W.P. Dukes, "Corporate Governance, Illiquidity, and Valuation Issues in Privately-Owned Corporations," The Journal of Entrepreneurial Finance & Business Ventures, April 2003, pp. 1-30.
- Bathala, C.T. and T.K. Mukherjee, "A Survey of Leasing in Small Firms," Journal of Small Business Finance, 1996, 4(2/3), pp. 113-127.
- Berger, A.N. and G.F. Udell, "Relationship Lending and Lines of Credit in Small Firm Finance," Journal of Business, July 1995, pp. 351-381.
- Berger, A.N. and G.F. Udell, "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle," Journal of Banking & Finance, August 1998, pp. 613-673.
- Berger, P.G., E. Ofek, and D.L. Yermack, "Managerial Entrenchment and Capital Structure Decisions," Journal of Finance, September 1997, pp. 1411-1438.
- Cook, L.D., "Trade Credit and Bank Finance: Financing Small Firms in Russia," Journal of Business Venturing, September-November 1999, pp. 493-518.
- Deloof, M. and I. Verschueren, "Are leases and Debt Substitutes? Evidence from Belgian Firms," Financial Management, Summer 1999, pp. 91-95.
- Easterbrook, F.H., "Two Agency-Cost Explanations of Dividends," American Economic Review, September 1984, pp. 650-659.
- Fama, E. F., "Agency Problems and the Theory of the Firm," Journal of Political Economy, April 1980, pp. 134-145.
- Fama, E.F., and M.C. Jensen, "Separation of Ownership and Control," Journal of Law and Economics, June 1983, pp. 301-325.
- Ford, R.H., "Outside Directors and the Privately-Owned Firm: Are They Necessary?" Entrepreneurship Theory and Practice, Fall, 1988, pp. 49-57.
- Guedes, J. and T. Opler, "The Determinants of the Maturity of Corporate Debt Issues," Journal of Finance, December 1996, pp. 1809-1833.

- Hand, J.H., W.P. Lloyd, and R.B. Rogow, "Agency Relationships in the Close Corporation," Financial Management, Spring 1982, pp. 25-30.
- Jensen, M.C., "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers," American Economic Review, May 1986, pp. 323-329.
- Jensen, M.C. and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics, October 1976, pp. 305-360.
- Johnson, S.A., "An Empirical Analysis of the Determinants of Corporate Debt Ownership Structure," Journal of Financial and Quantitative Analysis, March 1997, pp. 47-69.
- Leland, H.E. and D.H. Pyle, "Informational Asymmetries, Financial Structure, and Financial Intermediation," Journal of Finance, March 1977, pp. 371-387.
- Leland, H.E. and K.B. Toft, "Optimal Capital Structure, Endogenous Bankruptcy, and the Term Structure of Credit Spreads," Journal of Finance, 51, 1996, pp. 987-1019.
- Mace, M.L., The Board of Directors in Small Corporations, Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1948.
- Marston, F. and R.S. Harris, "Substitutability of leases and debt in corporate capital structures," Journal of Accounting, Auditing, and Finance, Spring 1988, pp. 147-170.
- Mehran, A., R.A. Taggart, and D. Yermack, "CEO Ownership, Leasing, and Debt Financing," Financial Management, Summer 1999, pp. 5-14.
- Mukherjee, T.K., "A Survey of Corporate Leasing Analysis," Financial Management, Autumn 1991, pp. 96-107.
- Myers, S.C., "Determinants of Corporate Borrowing," Journal of Financial Economics, November, 1977, pp. 147-176.
- Myers, S.C., "Outside Equity," Journal of Finance, June 2000, pp. 1005-1037.
- Peterson, R.A., "Small Business Management Assistance: Needs and Sources," American Journal of Small Business, Fall 1984, pp.35-45.
- Petit, R.R. and R.F. Singer, "Small Business Finance: A Research Agenda," Financial Management, Autumn 1985, pp. 47-60.
- Scherr, F.C. and H.M. Hulburt, "The Debt Maturity Structure of Small Firms," Financial Management, Spring 2001, pp. 85-111.

Smith, Jr., Clifford W., and Jerold B. Warner, "On Financial Contracting: An Analysis of Bond Covenants," Journal of Financial Economics, June 1979, pp. 117-161.

Stohs, M.H. and D.C. Mauer, "The Determinants of Corporate Debt Maturity Structure," Journal of Business, July 1996, pp. 279-312.

Table 1 : Analysis of Sources of Capital

| Sources of Capital | Privately-Owned Firms | | | | Public Firms |
|---|------------------------------|---------------------|--------------------|-------------------------------|---------------------|
| | Family Owned | Closely Held | Widely Held | Overall: Private Firms | |
| Equity from current stockholders | 3.09 (2) | 3.15 (2) | 3.00 (2) | 3.10 (2) | 3.31 (2) |
| Equity from outside investors | 1.30 | 1.22 | 1.36 | 1.28 | 3.24 (3) |
| Loans from stockholders/directors | 2.27 (4) | 1.78 (4) | 1.18 | 2.07 (4) | 1.42 |
| Loans/credit lines from banks | 3.91 (1) | 4.00 (1) | 3.92 (1) | 3.92 (1) | 3.49 (1) |
| Loans from other sources | 1.65 | 1.49 | 2.36 | 1.65 | 2.00 |
| Trade credit | 3.00 (3) | 2.50 (3) | 2.45 (4) | 2.87 (3) | 2.24 |
| SBA financing | 1.29 | 1.12 | 1.45 | 1.25 | 1.07 |
| Venture capital | 1.27 | 1.06 | 1.18 | 1.20 | 1.18 |
| Other sources | 1.71 | 1.73 | 2.60 (3) | 1.78 | 2.29 (4) |
| <p>Note: The cell values are the average values of the responses: 1 - least Important 5 = Most Important The values in parentheses are the ranks for the top four sources of financing within the respective ownership category.</p> | | | | | |

Table 2 : Analysis of Lease Financing

| Panel A: Ownership Differences in Lease Financing – Number of Firms (Row Percentages) | | | | |
|---|--|---------------------|------------------------|-------------------|
| Ownership Type | Percentage of Assets Financed with Leases | | | |
| | 0 percent | 1-10 percent | > 10 percent | Row Totals |
| Family Owned | 60 (49.1%) | 52 (42.6%) | 10 (8.2%) | 122 (100%) |
| Closely Held | 32 (58.2%) | 16 (29.1%) | 7 (12.7%) | 55 (100%) |
| Widely Held | 5 (35.7%) | 5 (35.7%) | 4 (28.6%) | 14 (100%) |
| <i>Overall: Private Firms</i> | <i>97 (50.8%)</i> | <i>73 (38.2%)</i> | <i>21 (11.0%)</i> | <i>191 (100%)</i> |
| <i>Public Firms</i> | <i>15 (31.2%)</i> | <i>27 (56.3%)</i> | <i>6 (12.5%)</i> | <i>48 (100%)</i> |
| <p><i>Note: Differences within private firms: Chi-Square = 8.07 p-value = 0.0889</i> <i>Differences between private vs. public: Chi-Square = 6.34 p-value = 0.0420</i></p> | | | | |

| Panel B: Use of Debt and Lease Financing — Number of Firms (Row Percentages) | | | | |
|--|--|-----------------------|------------------------|-------------------|
| Percentage of Assets Financed with Debt | Percentage of Assets Financed with Leases | | | |
| | 0 percent | 1 - 10 percent | > 10 percent | Row Totals |
| 0 percent | 31 (77.5%) | 8 (20.0%) | 1 (2.5%) | 40 (100%) |
| 1 - 10 percent | 28 (63.6%) | 12 (27.3%) | 4 (9.1%) | 44 (100%) |
| > 10 percent | 34 (34.0%) | 50 (50.0%) | 16 (16%) | 100 (100%) |
| <i>Overall: Private Firms</i> | <i>93 (50.5%)</i> | <i>70 (38.0%)</i> | <i>21 (11.4%)</i> | <i>184 (100%)</i> |
| <i>Public Firms</i> | <i>15 (31.2%)</i> | <i>27 (56.3%)</i> | <i>6 (12.5%)</i> | <i>48 (100%)</i> |
| <p><i>Note: Differences within private firms: Chi-Square = 26.02 p-value = <0.0001</i> <i>Differences between private vs. public: Chi-Square = 6.34 p-value = 0.0420</i></p> | | | | |

Table 3 : Analysis of Debt Structure

| Panel A : Ownership Differences and Debt Ratios — Number of Firms (Row Percentages) | | | | |
|--|---------------------|----------------------|--------------------|-------------------|
| Ownership Type | 10 % or Less | 10.1 - 50.0 % | > 50.0 % | Row Totals |
| Family Owned | 53 (44.1%) | 50 (41.7%) | 17 (14.2%) | 120 (100%) |
| Closely Held | 27 (49.1%) | 21 (38.2%) | 7 (12.7%) | 55 (100%) |
| Widely Held | 7 (50.0%) | 6 (42.9%) | 1 (7.1%) | 14 (100%) |
| <i>Overall: Private Firms</i> | <i>87 (46.1%)</i> | <i>77 (40.7%)</i> | <i>25 (13.2%)</i> | <i>189 (100%)</i> |
| <i>Public Firms</i> | <i>23 (46.0%)</i> | <i>20 (40.0%)</i> | <i>7 (14.0%)</i> | <i>50 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 4.269 p-value = 0.8321</i> <i>Differences between private vs. public: Chi-Square = 1.498 p-value = 0.8270</i> | | | | |

| Panel B : Ownership Differences and Source of Debt — Number of Firms (Row Percentages) | | | | |
|---|---------------------|--------------------|----------------------|-------------------|
| Ownership Type | Trade Credit | Bank Loans | Other Sources | Row Total |
| Family Owned | 15 (13.8%) | 82 (75.2%) | 12 (11.0%) | 109 (100%) |
| Closely Held | 7 (16.3%) | 34 (79.1%) | 2 (4.6%) | 43 (100%) |
| Widely Held | 1 (7.7%) | 10 (76.9%) | 2 (15.4%) | 13 (100%) |
| <i>Overall: Private Firms</i> | <i>23 (13.9%)</i> | <i>126 (76.4%)</i> | <i>17 (10.2%)</i> | <i>165 (100%)</i> |
| <i>Public Firms</i> | <i>3 (7.3%)</i> | <i>23 (56.1%)</i> | <i>15 (36.6%)</i> | <i>41 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 2.35 p-value = 0.6714</i> <i>Differences between private vs. public: Chi-Square = 17.35 p-value = 0.0002</i> | | | | |

Table 3 : Analysis of Debt Structure, continued

| Panel C : Ownership Differences and Debt Maturity — Number of Firms (Row Percentages) | | | | |
|--|-------------------|--------------------|-------------------|-------------------|
| Ownership Type | Short Term | Medium Term | Long Term | Row Total |
| Family Owned | 49 (47.1%) | 30 (28.8%) | 25 (24.1%) | 104 (100%) |
| Closely Held | 26 (56.6%) | 10 (21.7%) | 10 (21.7%) | 46 (100%) |
| Widely Held | 4 (33.3%) | 5 (41.7%) | 3 (25.0%) | 12 (100%) |
| <i>Overall: Private Firms</i> | <i>79 (48.8%)</i> | <i>45 (27.8%)</i> | <i>38 (23.5%)</i> | <i>162 (100%)</i> |
| <i>Public Firms</i> | <i>15 (34.1%)</i> | <i>12 (27.3%)</i> | <i>17 (38.6%)</i> | <i>44 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 2.78 p-value = 0.5959</i> <i>Differences between private vs. public: Chi-Square = 4.74 p-value = 0.0934</i> | | | | |

| Panel D : Ownership Differences and Cost of Debt — Number of Firms (Row Percentages) | | | | |
|---|-------------------------|----------------------|-------------------------|-------------------|
| Ownership Type | Below Prime Rate | At Prime Rate | Above Prime Rate | Row Total |
| Family Owned | 20 (17.2%) | 50 (43.1%) | 46 (39.7%) | 116 (100%) |
| Closely Held | 11 (22.9%) | 14 (29.2%) | 23 (47.9%) | 48 (100%) |
| Widely Held | 6 (50.0%) | 3 (23.1%) | 4 (30.8%) | 13 (100%) |
| <i>Overall: Private Firms</i> | <i>37 (20.9%)</i> | <i>67 (37.9%)</i> | <i>73 (41.2%)</i> | <i>177 (100%)</i> |
| <i>Public Firms</i> | <i>24 (52.2%)</i> | <i>9 (19.6%)</i> | <i>13 (28.2%)</i> | <i>46 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 8.29 p-value = 0.0816</i> <i>Differences between private vs. public: Chi-Square = 18.05 p-value = 0.0001</i> | | | | |

Table 3 : Analysis of Debt Structure, continued

| Panel E : Debt Ratios and Debt Maturity — Number of Firms (Row Percentages) | | | | |
|--|-------------------|--------------------|-------------------|-------------------|
| Debt Ratio | Short-term | Medium-term | Long-term | Row Totals |
| < = 10 percent | 38 (65.5%) | 13 (22.4%) | 7 (12.1%) | 58 (100%) |
| 10.1 - 50.0 percent | 31 (40.8%) | 21 (27.6%) | 24 (31.6%) | 76 (100%) |
| > 50.0 percent | 8 (32.0%) | 11 (44.0%) | 6 (24.0%) | 25 (100%) |
| <i>Overall: Private Firms</i> | <i>77 (48.4%)</i> | <i>45 (28.3%)</i> | <i>37 (23.3%)</i> | <i>159 (100%)</i> |
| <i>Public Firms</i> | <i>15 (34.1%)</i> | <i>12 (27.3%)</i> | <i>17 (38.6%)</i> | <i>44 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 14.09 p-value = 0.0070</i> | | | | |
| <i>Differences within public firms: Chi-Square = 4.74 p-value = 0.0934</i> | | | | |

| Panel F : Debt Ratios and Cost of Debt — Number of Firms (Row Percentages) | | | | |
|--|-------------------------|----------------------|-------------------------|-------------------|
| Debt Ratio | Below Prime Rate | At Prime Rate | Above Prime Rate | Row Totals |
| < = 10 percent | 14 (20.6%) | 34 (50.0%) | 20 (29.4%) | 68 (100%) |
| 10.1 - 50.0 percent | 17 (22.1%) | 29 (37.7%) | 31 (40.2%) | 77 (100%) |
| > 50.0 percent | 5 (19.2%) | 4 (15.4%) | 17 (65.4%) | 26 (100%) |
| <i>Overall: Private Firms</i> | <i>36 (21.0%)</i> | <i>67 (39.2%)</i> | <i>68 (39.8%)</i> | <i>171 (100%)</i> |
| <i>Public Firms</i> | <i>24 (52.2%)</i> | <i>9 (19.6%)</i> | <i>13 (28.2%)</i> | <i>46 (100%)</i> |
| <i>Note: Differences within private firms: Chi-Square = 12.05 p-value = 0.0170</i> | | | | |
| <i>Differences within public firms: Chi-Square = 18.05 p-value = 0.0001</i> | | | | |

Table 4 : Regression Analysis : Cross-sectional Variation in Debt Ratios

| Dependent Variable: Debt Ratio (DEBTRAT) | | | | |
|---|---------------------------|-----------------------|---------------------------|-----------------------|
| VARIABLE | Model 1 (n=179) | | Model 2 (n=197) | |
| | Parameter Estimate | Standard Error | Parameter Estimate | Standard Error |
| INTERCEPT | 0.577 | 0.709 | 1.597** | 0.659 |
| OWNERS | 0.118 | 0.151 | 0.027 | 0.146 |
| SHLDNUM | 0.104** | 0.050 | 0.041 | 0.044 |
| CEOSTK | 0.013*** | 0.004 | 0.011*** | 0.004 |
| CEOEXP | -0.024*** | 0.008 | -0.024*** | 0.007 |
| TRCREDIT | 0.138** | 0.066 | ----- | ----- |
| LEASING | 0.640*** | 0.138 | 0.546*** | 0.119 |
| PAYOUT | -0.105 | 0.076 | -0.103 | 0.074 |
| SALES | 0.205*** | 0.070 | 0.202*** | 0.067 |
| COMPAGE | 0.064 | 0.091 | 0.049 | 0.088 |
| TRADING | -0.881** | 0.399 | -0.514 | 0.363 |

**Table 4 : Regression Analysis : Cross-sectional Variation in Debt Ratios
continued**

| | | |
|--------------------------|--|--------------------------|
| Model F Value | 6.76*** | 5.82*** |
| Adjusted R-Squared | 0.2440 | 0.1814 |
| Variance Infl. Factors | All Values < 3 | All Values < 3 |
| Statistical Significance | ***1percent; **5 percent | ***1percent; **5 percent |
| Variable | Measurement | |
| DEBTRAT | 1 = 0%; 2 = 1-10%; 3 = 11-25%; 4 = 26-50%; 5 = 51-75%; 6 = >75% | |
| OWNERS | 1 = One person owned; 2 = Family owned; 3 = Closely held; 4 = Widely held. | |
| SHLDNUM | Log of the number of shareholders. | |
| CEOSTK | The percentage of common stock owned by the CEO. | |
| CEOEXP | The length of CEO's total experience in the firm. | |
| TRCREDIT | 1 = Least important; 5 = Most important. | |
| LEASING | 1 = 0%; 2 = 1-10%; 3 = 11-25%; 4 = 26-50%; 5 = 51-75%; 6 = >75% | |
| PAYOUT | 1 = 0%; 2 = 1-10%; 3 = 11-25%; 4 = 26-50%; 5 = 51-75%; 6 = >75% | |
| SALES | 1 = <= \$25 m; 2 = \$26-50 m; 3 = \$51-100 m; 4 = \$101-250 m; 5 = \$251-500 m 6 = \$501 m - 1 b; 7 = \$1.1- 5 b; 8 = \$5.1-10 b; 9 = >\$10 b | |
| COMPAGE | 1 = 1-5 yrs; 2 = 6-10 yrs; 3 = 11-25 yrs; 4 = 26-50 yrs; 5 = 51-75 yrs; 6 = > 75 yrs. | |
| TRADING | Dummy variable; 1 = If the company's stock is publicly trading; 0 otherwise. | |