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Industry Effects and Banking Relationship as Determinants of Small Firm Capital Structure Decisions[‡]

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Introduction

This work examines the leverage ratios of firms covered by the 1998 SSBF Survey. We find that small firms in general are significantly more levered than their larger counterparts in an industry-matched Compustat sample, but the difference is at least partially explained by differences in industry distributions of the two samples. Our regression results provide some interesting contrasts to previous studies. In examining the effects of relationship banking on deviations from industry leverage norms, we find that a close banking relationship is related to a lower leverage, even after controlling for industry medians, and also that firms with a closer primary banking relationship adhere more closely to industry norms. Counter to previous research, we also find that small business leverage is negatively correlated with total assets.

While the field of empirical capital structure studies is very actively researched, the large majority of studies have been conducted on samples of large firms. The relative shortage

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of research into private small firm capital structure is troubling because small firms provide about half of private sector employment and produce about half of private sector output in the United States (Vinturella and Erickson, 2004). Even their aggregate importance as users of financing has recently surpassed that of better-known large-firm markets (Denis, 2004).

Small firms face a very different financial market compared to large public firms. Due to the dominance of private equity financing and bank lending in the field, small business owners face less competitive, perhaps less informationally efficient, and therefore more restrictive financial markets (Berger and Udell, 1998).

This study examines capital structure decisions in a small and medium enterprise (SME) setting. Specifically, we look at two main issues. First, we test whether industry median leverage, which has been found to affect large firm capital structure decisions (e.g. Hovakimian, 2004), also guide financing patterns of SMEs. This adherence to industry norms could be explained either by industry-specific variation in ability (and willingness) to carry debt, or, especially in small business setting, by financiers' use of industry medians as a guideline in their lending decisions. We find that while SMEs in general are more levered than larger firms, at least some of that difference is explained by SMEs being in industries that tend to use more leverage. SME capital structure is strongly affected by median industry leverage obtained from Compustat.

Second, we study the effects that the geographic proximity of the firm's banking relationship has on its use of financial leverage. Recent research (Brick, et.al., 2004, Berger and Udell, 2002, Berger, et.al., 2005) suggests that in small business lending, that is dominated by bank lending, smaller banks that are geographically closer to their customer firms are better able to use "soft" qualitative information about their customers' credit quality[1]. Since industry ratios represent "hard" information often used by lenders, we expect banks with a closer relationship to their customers to deviate more from industry norms when making lending decisions. Moreover, we expect that the soft information and the closeness of the relationship between the bank and the firm allows the bank to extend credit more readily to the firm. Our findings are surprising. First, controlling for industry medians from Compustat, we find that SME leverage is positively related to the distance from the firm's main bank, and negatively related to the duration of the firm's relationship with their main bank. Also, firms that only use one bank tend to be less levered. Second, our evidence suggests that firms with a longer primary banking relationship deviate less from their industry medians. This is counter to the argument that the soft information produced by a close banking relationship allows for more "tailor-made" lending.

The rest of the paper is organized as follows. In Section I, we provide a short summary of the existing literature on the differences between small and large businesses, especially with regards to capital structure decisions. In Section II, we introduce our data sources, and in Section III, we present our findings. Section IV concludes.

I. What is different about SMEs?

Numerous authors argue that small firms are not simply large firms scaled down (e.g. Scherr and Hulburt, 2001, Welsch and White, 1981). It is likely that there are issues specific to smaller firms that make it necessary to consider them as a different class of firms when

[1] Berger and Udell (2004) list the character and reliability of the entrepreneur, and past financial performance gathered from transaction history with the institution and from communications with the entrepreneur's suppliers, customers, and neighbors, as examples of soft information.

examining capital structure decisions. For example, SMEs typically have greater growth options, shorter asset maturities, occupy different industry sectors, and exhibit higher failure rates than larger firms (Scherr and Hulburt, 2001, Diamond, 1991). Also, their small size and difficulties in attracting external financing may make entrepreneurs' personal wealth an important factor (Stafford, el al., 1999).

In response to these issues, a limited body of literature examining SME capital structure has developed recently. Ang, et.al.'s (2000) findings support the idea that large ownership interest held by the entrepreneur reduces the agency costs of raising capital. Hall, et.al. (2000) find support for the pecking order theory (Myers, 1984) in the study using a large UK sample. According to their results, SME capital structure is affected not only by firm size, age, and profitability, but also by its industry. Petersen and Rajan's (1994) results suggest that close geographical relationships to financiers increase availability of financing, and also reduce its cost. However, in a more recent study, Petersen and Rajan (2002) report that the importance of closeness may be decreasing as technology is allowing more effective data analysis and easier access, even at greater distances. Local banking competition is also likely to affect the cost benefit of the close distance. Degryse and Ongena (2005) find evidence of spatial price discrimination in small business lending in Belgium. In their study, the cost of financing decreases with distance to the lender, but is also increases with distance to competing banks. The effect of entrepreneur's wealth has not received much empirical support. Tanewski, et al. (2000) find that family businesses behave similarly to non-family SMEs with regard to capital structure. Similarly, Rutherford, et al. (2006) find only a weak correlation between family net worth and capital structure.

A. More severe information asymmetry (supply side)

Perhaps the most heavily investigated difference between large and small firm capital structures is in the area of incomplete or asymmetric information. The conditions arising from informational asymmetries manifest themselves as the related concepts of adverse selection, information opacity, and moral hazard. Adverse selection describes a situation where a high quality firm may not be able to attain funding simply because the financier is unable to discern its quality (Akerlof, 1970). Because of opaqueness of SMEs, investors may be unable to detect entrepreneurs' behavior, resulting in the moral hazard. The related "costly state verification" problem further increases the perceived risk of SME investing.

Berger and Udell (2002) and others suggest that more severe information asymmetry among SMEs could lead to pecking order behavior because outside financiers, in order to make up for the increased risk caused by poor information and the inability to monitor the entrepreneur's behavior, will demand higher return rates. Thus, SME owners will prefer internal financing over external financing. Once internal sources are exhausted, the preferred solution to the information asymmetry problem is to apply for a loan with a bank with which the firm has an existing banking relationship. These issues are thought to soften with age and size, as the firm generates greater evidence and a greater ability to clearly communicate its quality.

B. SME owner's/manager's demand for control (demand side)

Another line of literature suggests that a corporate strategy perspective (i.e. owner's goals, preferences, and relationships) rather than a finance perspective (i.e. wealth maximization) may help in understanding private SME capital structure (Barton and Gordon,

1987; Chaganti, et al. 1995; Barton and Matthews; 1989). SME's capital structure decisions may often be made by the owner/manager with little credence given to the current capital market or industry conditions.

Barton and Matthews (1989) submit that the entrepreneur's characteristics and goals play a more important role than targeting an optimal debt level. In smaller firms, owner-managers control the majority stake in the firm and often prefer to retain that control (Scherr and Hulburt, 2001). While the individual characteristics of entrepreneurs are not yet well understood—and beyond the scope of this work—it is important to understand that 'ulterior' motives may exist for SMEs owners making the financing decisions. These motives provide a demand side motivation for pecking order, as it supports the desire to keep control of the firm. This results in a preference of internal equity to external financing sources and external debt over external equity, regardless of wealth maximization implications.

C. SME financing sources

The sources of SME financing differ significantly from those of large, publicly traded firms. On the debt side, banks dominate. The equity of small businesses often initially comes from the entrepreneur, and in later stages from angel investors and venture capital firms. While the difference in institutions between large and small businesses can be seen as a response to the information asymmetry and the entrepreneur characteristics discussed above, the institutional differences themselves could also cause capital structures of small firms to deviate from those of their larger counterparts.

Relationship banking has attracted a lot of recent research interest. Berger and Udell (2002) and Berger, et.al. (2005) suggest that closer ties between the bank and its customer allow the bank to "customize" its financing package. Also, in relationship banking, the bank is able to factor "soft" information about the customer's credit worthiness into its lending decisions. This soft information could allow banks to extend credit even in cases when such a decision would not be warranted by the available hard information. The counter-argument is that in a close banking relationship, the lender may take on a stronger fiduciary duty, perhaps even for non-monetary reasons, and therefore would curtail the borrowing of the SME customer. Among large firms, Byrd and Mizruchi (2005) find that bankers tend to limit borrowing when they act as board members. Observed capital structure patterns could also be influenced by the easier access to debt financing in relationship banking. If the firm can borrow when needed, the observed leverage could be lower than it is for firms with a more difficult access to debt financing.

II. Data

Our sample comes from the 1998 Survey of Small Business Finances (SSBF). The SSBF conducted the survey during 1998-2000 for the Board of Governors of the Federal Reserve System. The target population was all for-profit, non-financial, non-farm, non-subsidiary business enterprises that had fewer than 500 employees and were in operation as of the year-end of 1998. The sample was drawn from firms listed on the Dun's Market Identifier file as of November 1993. Businesses were contacted in advance of the survey to determine eligibility, verify addresses, and identify a contact person. Not all businesses met the target-population definition, some businesses could not be contacted, and others were determined to have erroneous frame data. The overall eligibility rate of sampled businesses was about 60 percent. Each business meeting the eligibility criteria was sent an advance work sheet to

encourage the use of written records in responding to the subsequent computer assisted interviews. Interviews were conducted by the National Opinion Research Center and averaged 42 minutes in length.

A total of 3,561 firms are included in this public use data set. The firms included in the sample represent 5.3 million small businesses as defined by the Small Business Administration general guidelines as firms having less than 500 employees.

Out of the 3,561 firms covered by the 1998 SSBF survey, we exclude financial firms (SIC code between 6000 and 6999) and firms that report a negative amount for either Total Debt (item s1) or Total Assets (item r12). After defining our main variable of interest (LEVERAGE) as Total Debt / Total Assets, we also exclude firms that report LEVERAGE greater than one. This leaves us with a sample of 1,812 firms. As a control group we use the COMPUSTAT universe, broken down to industries by the primary two-digit SIC code.

In Table I, we provide some descriptive statistics for our sample. Overall, leverage in our filtered data (35.84%) is significantly lower than that reported by Berger and Udell (1998) (50.37%). Their study is based on the 1993 NSSBF survey. Besides differences in firm and/or industry distribution of respondents, also differences in capital market conditions and even differences in survey procedures may explain the observed difference in leverage. Our sub-category results are also somewhat conflicting to the 1993 survey results of the identically identified sub-categories. When we define large firms in accordance with Berger and Udell's (1998) definition as firms with more than 20 employees and more than $1 million in sales, we find larger firms to be less levered, whereas in their paper, larger firms were more levered (52.33%) than small firms (44.00%).[2] Our age-dependent leverage distribution agrees with Berger and Udell's (1998) results as younger firms are more levered than more seasoned firms.

III. Analysis and Results

We begin our analysis by comparing our small business sample to the COMPUSTAT universe by two-digit SIC code. Our choice of comparing small business leverage to that of larger counterparts in the same industry is based on previous findings that optimal capital structure (or firms' ability to carry debt) is at least to some extent industry-related (e.g. Bradley, Jarrell, and Kim, 1984). Besides industry medians, Hovakimian (2004) also uses fitted values from cross-sectional regressions using explanatory accounting and stock-based variables to determine an alternative proxy for target capital structure. Unfortunately, our data source does not allow use of such an alternative in this study.[3]

In Table II, we report the median leverage ratios (measured as total debt/total assets) for each two-digit SIC code represented. In contrast to Faulkender (2002) who reports significant differences in cash holdings between the 1998 SSBF survey and COMPUSTAT, we find that the leverage ratios of small businesses conform relatively closely with those of their respective COMPUSTAT industry groups. Out of the 55 two-digit SIC codes represented, for 14 industries the median leverage of small businesses is different from the COMPUSTAT firms' leverage at the 10 percent level of significance.[4] In nine of the industries, the small business

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[2] The marked differences between our descriptive statistics and those of Berger and Udell (1998) suggest that comparing the capital structure patterns in 1993 and 1998 surveys is an interesting area of further study.

[3] Out of the eight determinants of target leverage, SSBF accounting data would only allow use of three, and even those three would give only "rough" estimates compared to Hovakimian's (2004) data set.

[4] Due to small sample sizes in many industries, we focus our analysis on the Medians test, while we also report t-statistics of a Means test in Table II.

leverage is higher than that of the larger firms as indicated by a Z-test of medians, and in five industries, the median small business leverage is lower than that of their larger counterparts. Therefore, one could posit that deviations from industry medians are due to chance rather than SMEs being different from the firms in COMPUSTAT.[5]

The ability to raise both equity and debt funding, and also the availability of retained earnings, is likely to differ between large firms and small firms (Berger and Udell, 1998). Any differences in leverage between small and large businesses could thus be in part attributable to the business size difference between the two groups. In the second column of Table II, we only include the smallest quartile (measured by book value of assets) of COMPUSTAT firms in each two-digit SIC code. When compared to only small COMPUSTAT firms, the small businesses in eight out of the 55 industries have median leverage higher than that of the COMPUSTAT firms, and none of the industries has a higher median leverage than that of the COMPUSTAT firms at the 10 percent level. The fact that in most of the industries included in our analysis the leverage of small businesses appears to follow the industry norms provides at least anecdotal support for existence of industry-specific target capital structures.

In Table III, we provide regression results on determinants of small business leverage, with the leverage ratio serving as the dependent variable in each regression. In column (a), besides the test variable INDLEV (median leverage of the industry-control group from COMPUSTAT), we include control variables for firm size [log(assets) and log(sales)]. In order to control for agency costs, we also include the control variables for percentage of ownership retained by the principle owner, and firm age (log(firm age in years)), used and motivated by Ang, Cole, and Lin (2000). As discussed above, the percentage of ownership retained by the principle owner is also an important measure of entrepreneur characteristics potentially driving the capital structure decision. Log(net worth) controls for entrepreneur's net worth having effect on capital structure. Our last control variable, college education, takes on value of one for entrepreneurs that are college educated, and zero otherwise. With that variable, we control for potentially more educated financing decisions that college-educated owners might make.

Our test variable INDLEV enters with a positive and significant coefficient, suggesting a role for industry norms in capital structure choices by small businesses. Our control variables provide further insights into the determinants of use of debt financing among small businesses. Surprisingly, total assets enter with a negative and significant sign, suggesting, counter to previous findings, that larger firms with typically more collateralizable assets actually use less debt financing. For example, Petersen and Rajan (1994) find the same variable to positively affect leverage in their small firm data set. As Table II indicated a tendency of the larger COMPUSTAT firms to use less leverage than the much smaller SSBF firms, it is interesting to note that we observe the same tendency even within the small firm sample. Some of the firm size effect may also be captured by sales, which is positively related to leverage. Column (a) further indicates a weak negative relation between ownership share and leverage. Firm age is strongly inversely related to leverage. This conflicts with Berger and Udell's (1998) financial growth cycle of small business that suggests that the initial small business financing often comes in the form of insider equity financing. The coefficients for college education and net worth are insignificant. Profitability could also affect leverage, as higher profits increase availability of internal equity. However, inclusion of profitability measures leaves our findings intact, while severely reducing the sample size (results not reported).

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[5] The industries in which capital structures differ at 1% level are 15 – Building Construction, General Contractors and Operative Builders, 73 – Business Services, and 80 – Health Services.

Column (b) of Table III confirms that our results are similar when we replace the leverage measure that controls for industry-related effects with a set of dummy variables representing each two-digit SIC code, with SIC26 serving as a control group. Out of the 54 SIC code groups, 14 exhibit an effect on leverage that is significant at the 10 percent level or better. Interestingly, in contrast to Bradley, Jarrell and Kim (1984) who find a set of industry dummies alone to describe over 50% of the variation in leverage of large firms, our model with 54 dummy variables and six control variables has an R-squared of only 8.29% and an adjusted R-squared of 5.18%. The low R-squared values in all of the regressions in Table 3 are most likely a result of the smallest firms in the sample exhibiting more "random" patterns in their capital structure decisions. Indeed, if we only include the largest quartile of the SSBF sample in the regression, the adjusted R-squared of the specification in column (a) increases to 8.8%, and in that sample, the dummy variables alone have an R-squared of 19.2% and an adjusted R-squared of 8.2%. The coefficients and the t-statistics are very similar to the full sample results reported in Table 3 (results not reported).[6]

In column (c), we repeat the main model from column (a) without log(sales). No large changes to column (a) are observed. The negative coefficient on log(assets) becomes weaker. However, the findings regarding log(assets) and INDLEV are similar to column (a) when all other independent variables are excluded in column (d) of Table III. While our findings suggest that industry capital structure standards play a role in financing decisions among small businesses, we are unable to detect consistent evidence of any economic incentives for small businesses to align their capital structures with those of larger firms within their industry (results not reported).

Next, we consider the effects of a close banking relationship on small business leverage. While we are unable to identify each bank and subsequently use bank-specific information like Berger, et.al. (2005) do in their study that uses the 1993 NSSBF survey data, we define three proxies for closeness of the banking relationship. The summary statistics of these proxies are reported in Panel A of Table IV. The 1998 SSBF dataset indicates the geographical distance that the firm has to each of the financial institutions it uses, and also how long the firm has been a customer with each institution. The respondents also indicate their primary banking relationship. The sample mean distance to the primary institution is 24.5 miles, and the median is two miles. In our subsequent analysis, we define "Long distance" as a dummy variable that takes on the value of one if the primary bank is further than ten miles away. Our expectation is that banks that are geographically closer have a closer relationship with their customers. The mean duration of a banking relationship is over eight years, and the median is five years. Our variable "Long relationship" takes on the value of one if the primary banking relationship has lasted for five years or more. We expect that a longer relationship would also be a closer one. Finally we use a dummy variable "one bank" that indicates firms that only used a single bank. 19.1% of the sample receives this dummy variable.

Most of the literature on relationship banking posits that a close banking relationship allows the use of more informal soft data in funding decisions (e.g. Berger and Udell, 2002). Duration of the banking relationship (Dell'Ariccia, 2001), exclusivity (Berger, et al. 2001) and distance (Hausman and Marquez, 2005; Berger, et al., 2005; and others) have been proposed as factors alleviating agency problems in small business lending. Thus, we might expect to observe higher leverage among firms with close banking relationships. Also, if we were to explain the adherence to industry norms reported in Tables 2 and 3 as evidence of financing

[6] We thank an anonymous referee for suggesting this.

providers using hard data such as industry medians when making their lending decisions, we should expect that with closer banking relationships, we would see more deviations from the industry norms. In Panel B of Table IV, we compare leverage and industry-adjusted leverage of firms with a close banking relationship to that of firms with a distant banking relationship, using each of our three proxies. The t-statistics of each comparison are reported in the parentheses. While the leverage of firms using one bank is indistinguishable from the leverage of firms using several institutions, our other two proxies indicate significant results. Surprisingly, firms whose primary institution is within ten miles and firms with a primary banking relationship beyond five years are *less* levered, both in absolute terms and after controlling for industry medians. Firms with a long primary banking relationship also have a lower absolute deviation from industry medians, which is equally surprising if we were to assume that a longer banking relationship would allow more "tailor-made" lending.

In the first three columns of Table V, we report regression results where DIF (Leverage – industry median leverage) is used as the dependent variable. Besides the independent variables used in Table III, we include each of our banking relationship variables in their own specification.

Regardless of whether we measure the closeness of the primary banking relationship by geographic distance, duration, or exclusivity, we find that a closer banking relationship is connected with lower industry-adjusted leverage. The finding regarding the duration of the banking relationship is even more surprising given Table I evidence that old firms are generally less levered.

Our evidence of a negative relation between close banking relationship and leverage suggests either that the soft information is systematically negative, or at least that it does not allow the banks to extend more credit. Petersen and Rajan (1994) posit that larger, and perhaps more distant banks may possess a competitive advantage in information production due to scale economies. In other words, while more distant banks may not have access to soft information, they have a better capability to assess hard information. Petersen and Rajan's (1994, 2002) finding that lending distance is inversely related to loan rates fits that notion. Our results provide further support for it. Also, as the banks indicated in Table V as relationship banks are likely to represent smaller banks[7], they may not be as well-prepared to extend loans that would put their customers into default risk as larger, more diversified banks[8]. The lower leverage amongst firms with close banking relationships could also be explained by the ease of access that those firms have to additional financing. In the language of Myers (1984), those firms' cost of adjustment is very low, so instead of borrowing to have financial slack, they maintain a close banking relationship to retain additional borrowing capacity. Furthermore, soft information and close relationship could lead the bankers to take on a fiduciary duty similar to bankers on boards (Byrd and Mizruchi, 2005), and make them more concerned about their customers' potential default. Regardless, these findings contrast with numerous theoretical studies, and warrant further inquiry.

In the last four columns of Table V, the dependent variable is the absolute deviation from the COMPUSTAT industry median. While other indicators of closeness of banking relationship are insignificant in determining deviations from industry norms, the indicator for banking relationship length is weakly negative. When only large firms with 20 or more

[7] Berger, et al. (2005) find that size of the bank is negatively correlated with its distance from the SME customers.
[8] Also consistent with this line of reasoning, Berger, et al.'s (2001) evidence suggests that small firms are likely to diversify their lending practices to several banks when their main bank faces financial trouble.

employees and over $1 million in sales are included in the last column of Table V, the negative sign on banking relationship length retains a negative and significant sign. The negative correlation between the length of primary banking relationship and dispersion of leverage around the industry median is also unexpected, as we would expect soft data in a close banking relationship to produce more deviations from industry norms, not less.

IV. Conclusion

We focus on the capital structure of SMEs and test the effect of industry averages on them. Based on our results, we conclude that SMEs tend to adhere to a target capital structure defined as industry median.

Because of the limited access to the financial market, SMEs face a constrained market that may determine and form the capital structure of SMEs to some degree. In practice financiers must discern the quality of SMEs before they approve any financing, however asymmetric information and costly state verification make it difficult. Financiers often consider the comparison between the leverage of small business applicants and that of the publicly traded companies within the same industry as a useful method to evaluate the risk level of SMEs.

To take the idea of externally-determined leverage further, we examine whether close banking relationships lead to a weaker adherence to industry norms. Contradictory to our expectations, we find that SMEs with a close banking relationship use less debt in their financing. We also find that the leverage ratios of firms that have a closer primary banking relationship are less dispersed with respect to the industry norms. These findings contrast with some of the literature on relationship banking, and warrant further study.

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Table I
Summary Statistics

Panel A reports statistics for the full sample. Leverage is calculated as total debt over total assets. Panel B indicates the same leverage measure for different size and age categories.

Panel A: Full Sample

	Mean	Median
Leverage	0.3584	0.3075
Total Assets	$ 2,422,119	$ 325,700
Sales	$ 5,607,157	$ 753,269
Employees	39.55	10

Panel B: Leverage by sub-categories

	Mean	Median	N
Small (<20 employees, <$1 mill. sales)	0.3770	0.3156	913
Large (>19 employees, >$1 mill. sales)	0.3380	0.2888	665
Age<3 years	0.4503	0.4302	99
Age=3-4 years	0.4153	0.4162	199
Age=5-24 years	0.3553	0.3039	1179
Age>24 years	0.3078	0.2399	330

Table II
Large firm versus Small firm median leverage by industry

Bold Z-statistics indicate statistical significance at the ten percent level or better. Compustat column includes all firms in the Compustat database for each SIC code, SME column includes firms in the 1998 SSBF database, and Small column includes the smallest quartile of Compustat firms.

SIC	Compustat	SMEs	t	Z	Small	T	Z	SIC	Compustat	SMEs	t	Z	Small	t	Z
12	0.2534 n=10	0.5098 n=1	-0.91	-1.10	0.5916	0.46	0.71	45	0.3054 n=59	0.3726 n=5	-0.61	-0.46	0.304	-0.39	-0.64
13	0.3731 n=223	0.1299 n=4	2.17	**2.00**	0.2895	1.44	0.99	47	0.1817 n=31	0.3735 n=10	-1.57	-0.81	0.1321	-2.24	-1.24
14	0.2838 n=19	0.4145 n=1	-0.79	-1.00	0.233	-0.68	-1.22	48	0.3940 n=364	0.3488 n=13	1.15	0.27	0.2835	-0.10	-0.89
15	0.4408 n=51	0.2350 n=56	3.16	**2.60**	0.3704	1.26	1.26	49	0.3761 n=285	0.3816 n=4	-0.37	-0.01	0.3199	-1.02	-0.03
16	0.2095 n=26	0.3710 n=17	-2.01	**-1.66**	0.2095	-2.43	**-1.74**	50	0.2966 n=215	0.2728 n=103	-0.75	0.60	0.3028	-0.43	0.17
17	0.2253 n=29	0.2310 n=122	-0.85	-0.17	0.1677	-4.92	**-2.69**	51	0.3109 n=120	0.2871 n=52	-0.16	0.66	0.2623	-0.18	-0.46
20	0.2970 n=184	0.1307 n=14	0.61	1.11	0.2373	-0.07	0.61	52	0.2576 n=18	0.2441 n=25	-0.09	0.13	0.3539	0.77	1.13
22	0.4267 n=45	0.4687 n=4	-0.22	-1.08	0.3904	-0.08	-0.15	53	0.2498 n=44	0.1341 n=4	-0.01	1.03	0.1055	-0.64	-0.15
23	0.2308 n=71	0.3629 n=15	-1.84	-1.41	0.2502	-1.10	-1.05	54	0.3968 n=51	0.3629 n=48	0.27	0.70	0.3686	-0.79	0.00
24	0.3094 n=37	0.4274 n=19	-0.97	-1.40	0.2761	-1.50	**-1.99**	55	0.4616 n=32	0.5161 n=63	-1.73	**-1.65**	0.4669	-1.24	**-2.19**
25	0.2305 n=47	0.3914 n=9	-2.26	**-1.80**	0.0991	-1.89	-1.31	56	0.1641 n=48	0.2234 n=19	-2.20	**-1.96**	0.1776	-1.50	-0.59
26	0.3523 n=90	0.4524 n=8	-0.64	-0.73	0.2736	-2.02	-0.81	57	0.2142 n=37	0.2884 n=48	-2.25	**-1.86**	0.1392	-1.37	-1.02
27	0.3026 n=101	0.3633 n=36	-1.43	-1.21	0.2975	-1.13	-1.19	58	0.3040 n=131	0.3407 n=90	-2.03	-1.15	0.3152	-1.45	-0.41
28	0.1905 n=516	0.3902 n=7	-1.78	**-1.91**	0.1307	-1.82	**-1.93**	59	0.2184 n=159	0.2985 n=97	-2.90	-1.41	0.1425	-3.56	**-2.46**
29	0.2630 n=50	0.5956 n=1	-1.71	-1.02	0.2759	-1.03	-1.08	70	0.4996 n=38	0.3565 n=22	1.18	1.59	0.4888	0.65	0.50
30	0.3705 n=91	0.2975 n=15	0.85	0.28	0.281	-0.05	-0.46	72	0.2925 n=17	0.2482 n=40	-0.54	0.37	0.1064	-1.11	-1.04
31	0.2184 n=24	0.1425 n=5	0.28	0.40	0.2238	0.35	0.32	73	0.1175 n=987	0.2804 n=158	-6.92	**-7.21**	0.13	-5.20	**-4.68**
32	0.2996 n=47	0.3954 n=12	-0.59	-1.35	0.2619	-1.53	-1.03	75	0.5784 n=17	0.3064 n=51	2.48	**2.50**	0.5101	1.04	0.04
33	0.3160 n=125	0.3051 n=4	0.05	0.02	0.3193	0.13	0.06	76	0.4484 n=7	0.3454 n=33	0.28	1.23	0.0467	-1.07	-1.00
34	0.3199 n=124	0.3439 n=26	-1.32	0.00	0.2111	-2.83	-0.65	78	0.2914 n=72	0.3246 n=8	-0.45	-0.74	0.2402	-0.88	-0.83
35	0.2108 n=458	0.2149 n=31	-1.60	-0.57	0.2303	-0.64	0.56	79	0.4531 n=90	0.3151 n=28	2.27	**1.72**	0.3778	0.73	0.56
36	0.1895 n=544	0.3735 n=21	-2.63	-1.56	0.1981	-2.40	-1.20	80	0.3795 n=139	0.2482 n=86	1.81	**3.51**	0.3219	0.87	1.61
37	0.3099 n=153	0.1419 n=8	1.11	1.43	0.3462	1.16	1.54	81	0.0539 n=3	0.2221 n=50	-1.51	**-1.73**	#N/A		
38	0.1666 n=405	0.2366 n=9	-1.57	**-1.68**	0.1568	-0.65	**-1.73**	82	0.1702 n=23	0.2115 n=9	-0.21	-0.39	0.057	-1.53	-0.54
39	0.2950 n=81	0.4673 n=17	-1.27	-0.80	0.2493	-2.35	**-1.78**	83	0.5141 n=19	0.4772 n=24	0.46	1.04	0.3387	-0.64	-1.06
41	0.4046 n=6	0.4247 n=7	-1.16	-0.25	0.4322	-0.30	1.00	87	0.1895 n=173	0.2428 n=118	-3.46	-1.48	0.2106	-1.55	-0.49
42	0.3297 n=58	0.5472 n=31	-2.97	**-2.07**	0.4573	-0.96	-1.17	99	0.1429 n=17	0.3406 n=2	-0.32	-0.08	0.2241	-0.27	0.00

Table III
Determinants of SME leverage ratios

The table reports OLS results. INDLEV is the median leverage in Compustat for the two-digit SIC code, Principle Ownership is the percentage of common stock held by the principle owner, Log(net worth) is the log of entrepreneur's net worth, Firm Age is the age of the firm in years, and College Education is a dummy variable taking on the value of one for firms with a college-educated principle owner. In column (b), indicator variables are included for each SIC code represented, except for SIC 26 (coefficients not reported). The t-statistics (in parentheses) have been obtained using White (1980) standard errors. Significance at the ten-, five-, and one-percent level is indicated by *, **, and ***

Variables	**(a)**	**(b)**	**(c)**	**(d)**
constant	0.4897***	0.6684***	0.5596***	0.4601***
	(7.420)	(9.438)	(8.838)	(10.747)
Log(assets)	-0.0237***	-0.0264***	-0.0069	-0.0118***
	(-3.637)	(-4.015)	(-1.578)	(-3.820)
Log(sales)	0.0213***	0.0145**		
	(3.431)	(2.365)		
Industry Leverage (INDLEV)	0.2070***		0.1870***	0.1652***
	(3.860)		(3.514)	(3.156)
Principle Ownership	-0.0306	-0.0444*	-0.0433*	
	(-1.248)	(-1.830)	(-1.798)	
Log(net worth)	-0.0050	-0.0019	-0.0032	
	(-1.046)	(-0.409)	(-0.677)	
Firm Age	-0.0430***	-0.0356***	-0.0433***	
	(-5.287)	(-4.499)	(-5.304)	
College Education	0.0074	0.0177	0.0082	
	(0.559)	(1.301)	(0.618)	
Industry Dummies		14/54 w/ p<.10		
N	1636	1734	1645	1711
Adjusted R^2	0.0365	0.0525	0.0319	0.0122

44	0.4419	0.3988	0.24	1.00	0.3067	0.05	1.00	**total**	**0.2666**	**0.3069**	**-8.68**	**-3.86**	**0.2284**	**-9.06**	**-6.74**
	n=31	n=1							**n=7814**	**n=1812**					

Table IV
Banking Relationship and Leverage Statistics

Panel B indicates the mean leverage for close versus distant banking relationship firms, using geographic distance, duration, and exclusivity as proxies for closeness. The t-statistics of a means test are reported in parentheses.

Panel A: Banking relationship indicators

	Mean	Median	Std Dev	Min	Max
Distance to primary institution (miles)	24.45	2.00	150.00	0.00	2506.00
Duration of primary banking relationship (months)	97.40	60.00	98.46	0.00	720.00
Firms with single banking relationship	0.19	0.00	0.39	0.00	1.00

Panel B: Effect of banking relationship indicators on leverage

	Leverage	Leverage - industry med.	|Leverage - industry med.|
distance>10	0.3851	0.1003	0.227
distance<11	0.3525	0.0618	0.228
	(-1.96)	(-2.11)	(0.09)
duration>59	0.3373	0.0439	0.2173
duration<60	0.384	0.0992	0.2413
	(3.77)	(4.05)	(2.75)
onebank=1	0.3492	0.049	0.2451
onebank=0	0.3598	0.0726	0.2238
	(0.68)	(1.27)	(-1.84)

Table V
Effect of bank relationship on leverage

The table reports OLS results. Principle Ownership is the percentage of common stock held by the principle owner, Log(net worth) is the log of entrepreneur's net worth, Firm Age is the age of the firm in years, and College Education is a dummy variable taking on the value of one for firms with a college-educated principle owner. Long distance is an indicator variable for firms located further than 10 miles from their primary bank. Long relationship is an indicator variable for firms with a longer than 60 month primary banking relationship. One bank is an indicator variable for firms with a single banking relationship. In the first three columns, the dependent variable is DIF = leverage - Compustat industry median. In the last four columns, the dependent variable is the square root of DIF^2. The last column only includes SSBF 1998 database firms with more than 20 employees and more than $1 million in assets. The t-statistics (in parentheses) have been obtained using White (1980) standard errors. Significance at the ten-, five-, and one-percent level is indicated by *, **, and ***

Variables	DIF	DIF	DIF	ABSDIF	ABSDIF	ABSDIF	ABSDIF
constant	0.4032***	0.3938***	0.4336***	0.4135***	0.4120***	0.3995***	0.4481***
	(6.049)	(5.906)	(6.368)	(9.245)	(9.200)	(8.848)	(4.412)
Log(assets)	-0.0384***	-0.0365***	-0.0377***	-0.0188***	-0.0182***	-0.0181***	-0.0088
	(-5.714)	(-5.432)	(-5.639)	(-4.141)	(-4.035)	(-4.010)	(-1.091)
Log(sales)	0.0235***	0.0232***	0.0219***	0.0085**	0.0083	0.0089**	0.0016
	(3.774)	(3.734)	(3.551)	(2.091)	(2.049)	(2.186)	(0.167)
Principle Ownership	-0.0598**	-0.0583**	-0.0628**	-0.0297*	-0.0292*	-0.0284*	-0.0067
	(-2.358)	(-2.294)	(-2.467)	(-1.735)	(-1.702)	(-1.653)	(-0.299)
Log(net worth)	-0.0021	-0.0018	-0.0018	-0.0002	-0.0000	-0.0001	-0.5905
	(-0.402)	(-0.340)	(-0.352)	(-0.046)	(-0.009)	(-0.034)	(-1.187)
Firm Age	-0.0407***	-0.0361***	-0.0401***	-0.0157***	-0.0124**	-0.0161***	-0.7165
	(-4.785)	(-4.100)	(-4.706)	(-2.722)	(-2.087)	(-2.786)	(-0.856)
College Education	0.0427***	0.0394***	0.0393***	0.0073	0.0060	0.0069	0.0036
	(3.114)	(2.878)	(2.865)	(0.796)	(0.656)	(0.756)	(0.271)
Long distance	0.0596***			0.0162			
	(3.352)			(1.309)			
Long relationship		-0.0276*			-0.0187**		-0.0414***
		(-1.944)			(-1.971)		(-2.844)
One bank			-0.0449**			0.0113	
			(-2.416)			(0.923)	
N	1729	1729	1729	1729	1729	1729	647
Adjusted R^2	0.048	0.045	0.046	0.020	0.021	0.020	0.018