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Finance Companies and Small Business Borrowers: An Empirical Investigation

George Haynes
Myles Watts

Finance companies have been perceived as isolated and insignificant lenders, attracting high risk borrowers and charging these borrrowers relatively high prices. Using the 1988 National Survey of Small Business Finance, this study examines the relationship between finance companies and other lenders, describes the characteristics of borrowers attracted to finance companies and assesses whether finance companies charge higher loan prices and impose more stringent collateral requirements on their borrowers than other lenders. This study refutes the popular notion that finance companies are not mainstream lenders by suggesting that finance companies are an important source of financial capital attracting borrowers similar to those attracted by commercial banks and charging these borrowers competitive prices.

I. INTRODUCTION

In *The Revolution in U.S. Finance*, Litan concludes that "...more business borrowers — especially the small to medium-sized companies that historically have relied on banks for credit will move to finance companies for more of their credit needs." (Litan, 1991). Finance companies are an important source of financial capital for small businesses, however they have been portrayed as being isolated and insignificant participants in the market, attracting primarily high risk borrowers and charging these borrowers relatively high prices. This study challenges the popular notion that finance companies are not mainstream lenders by examining the demand for financial capital supplied by finance companies.

Finance companies encompass a broad range of lenders extending from those companies such as General Motors Acceptance Corporation (GMAC) to finance companies owned by individuals. In this study, finance companies are

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separated into two groups: captive finance companies, which provide financing for products marketed by their parent company; and, non-captive finance companies, which provide financing for products not marketed by a parent company. Captive finance companies, such as GMAC, use the financial strength of their parent company to raise low cost capital and their product knowledge to efficiently resell assets acquired in loan defaults, hence decreasing their total cost of capital. Non-captive finance companies typically have no comparative advantage in raising capital or disposing of products acquired in a loan default, hence they depend on offering other financial services (such as consulting, sales financing and accounts receivable factoring) to survive. While previous studies have carefully evaluated the financial condition of finance companies, this study explores who finance companies attract as customers and whether these customers pay higher prices and face more stringent collateral requirements than other borrowers.

In the aftermath of the worst decade for financial services since the 1930s (the 1980s), commercial banks and thrifts faced higher rates for deposit insurance, the potential for higher capital requirements, increased supervisory expenses and higher regulatory compliance costs. These higher transactions costs have increased the price of commercial bank loans to all borrowers. In addition, non-bank lenders, exercising innovative and less costly methods of raising capital, have become aggressive competition to the traditional lenders (i.e., the commercial banks and thrifts). Specialty market lenders focusing on specific markets, such as automobiles, have brought their product expertise to the market. One non-bank lender, finance companies, increased total business lending from just under $86 billion in 1980 to over $350 billion in 1994 (Table 1). Over this period of time finance companies have adjusted their portfolios toward business and real estate credit and away from consumer loans, their traditional source of customers. In 1994, the total loan portfolio held by finance companies was dominated by business loans (58 percent), while consumer (29 percent) and real estate (13 percent) loans comprised the remaining portion of the $604.1 billion of finance company credit outstanding.

The next section reviews previous literature on finance companies. Subsequent sections present the conceptual framework, empirical models and the results and conclusions derived from this study.

II. LITERATURE REVIEW AND BACKGROUND

Business financing through finance company entities had its origins with the development of the automobile, where finance companies assisted automobile dealers with inventory financing (Gant, 1989). Finance companies have moved well beyond just inventory financing to include several asset backed and other

financing options (Roncoroni, 1990). To differentiate finance companies from other lenders, the Federal Reserve officially classifies finance companies as institutions providing short and intermediate term credit that are not commercial banks, credit unions, mortgage banking firms, mutual savings banks or savings and loan associations (Hurley, 1981). Even though finance companies have actively competed against other lenders since their inception, previous research on finance companies has concentrated on the financial condition of these entities and the distribution of their credit among consumer, business and real estate loans. This literature has been concerned with the finance company supplying credit, rather than the business (or individual) demanding credit supplied by finance companies. This literature is categorized into two groups: Financial condition of finance companies and the role of finance companies and their competition with other lenders.

Every five years from 1955 through 1980 the Federal Reserve Board conducted a survey of finance companies and reported the survey results in the Federal Reserve Bulletin (Hurley, 1981). These reports provided information about the financial condition of the surveyed finance companies, the total

Table 1
Business and Consumer Credit Outstanding at Finance Companies

Account/Type	*1980*	*1984*	*1988*	*1990*	*1992*	*1994*
Business Credit			(billions of dollars)			
Retail Installment	10.09	11.33	37.21	26.40	20.54	22.11
Automobiles						
Equipment	16.23	20.77	28.19	31.97	33.52	38.91
Wholesale Installment						
Automobiles	12.37	18.51	32.95	33.57	29.89	30.61
Equipment	5.07	4.59	5.97	11.10	8.68	9.48
Other	4.30	6.62	9.36	3.28	5.76	15.31
Leasing Automobiles	6.19	12.35	24.69	32.10	38.58	60.50
Equipment	16.94	35.88	57.66	94.59	109.22	105.92
Other Credit	14.75	25.16	38.86	63.77	66.70	68.43
Business, Total	85.94	135.23	234.89	296.78	312.89	351.27
Consumer, Total	77.26	103.40	146.20	161.97	159.56	174.93
Real Estate, Total	11.83	23.80	43.50	65.51	72.24	77.91
Total Credit Out	175.03	262.43	424.59	524.76	544.69	604.11
Shares		Proportion of Business, Consumer, and Real Estate Credit				
Business	0.49	0.52	0.55	0.57	0.57	0.58
Consumer	.044	0.39	0.34	0.31	0.29	0.29
Real Estate	0.07	0.09	0.10	0.12	0.13	0.13

Source: *Federal Reserve Bulletin*, March 1995, Tables 1.51-1.52, pg. A36; *Federal Reserve Bulletin*, March 1993, Tables 1.51-1.52, pg A35; *Federal Reserve Bulletin*, November 1991, Table 1.51-1.52, pg A34; *Federal Reserve Bulletin*, December 1989, Tables 1.51-1.52, pg A36; *Federal Reserve Bulletin*, March 1985, Tables 1.51-1.52, pg A37; *Federal Reserve Bulletin*, March 1983, Tables 1.52-1.53, pg A39; Hurley (1981), pg 400.

amount of debt outstanding and the percentage change since the survey was conducted in previous years. In the most recent Federal Reserve Board study, Hurley (1981) depicts finance companies as being highly concentrated, where a few large finance companies hold most of the consumer and business debt.

Finance companies have been financially successful. A recent report on finance companies conducted in 1988 by the First National Bank of Chicago suggests that finance companies are financially stable and growing non-bank entities (Neihengen, 1989). The 1980s have been marked by outstanding financial performance stimulated by industry consolidation, branch level efficiency gains, declining interest rates and improving credit quality (Neihengen, 1989). The financial success of finance companies has been continued into the 1990s (Kramer & Neihengen, 1992 and 1993).

While the Hurley (1981), Neihengen (1989) and the Kramer and Neihengen (1992, 1993) studies depict finance companies as aggressive, yet stable, sources of financial capital for all businesses, Roncoroni (1990) has suggested that finance companies are crucial to small businesses. Based on anecdotes and informal observations, he suggests that finance companies have been more willing to offer credit to small businesses because they are more knowledgeable about them and their credit demands. While Roncoroni (1990) focused on the small business borrower, the lack of appropriate data on small business borrowers limited the discussion to a summary of services offered by finance companies and the distribution of loans among consumer and business borrowers.

With the release of the National Survey of Small Business Finance (NSSBF) appropriate micro-level data became available on small business borrowers to examine the use of financial services offered by finance companies. The NSSBF offers the unique opportunity to examine the demand for services, rather than only the supply of services, offered by finance companies. In this survey, 14.3 percent of all firms had experience with finance companies (Elliehausen & Wolken, 1990). In contrast to local commercial banks, where the average small business uses two or more services, finance company borrowers typically used just one service—borrowing financial capital. While most borrowers used just one service offered by a finance company, finance companies were found to offer a wide range of services.

The services offered by finance companies have expanded to include high quality and easily accessible asset backed loans and leases for automobiles, equipment and other assets; accounts receivable factoring; sales financing and floor planning; handling federally guaranteed loans; and, other services (Roncoroni, 1990). Other programs, such as the SBA's Section 7(a) Loan Guarantee Program, have been actively used by finance companies, which later pool the SBA Loan Guarantees and sell them on the open market (Borowsky, 1993). In short, the finance company of old, which was recognized as an isolated

and insignificant source of financial capital, has evolved into a viable financial competitor in the local and national financial markets (Roncoroni, 1990).

Finance companies have effectively brought new lower cost financing to the business market, while facing higher average costs of capital (Remolona & Wulfekuhler, 1992). While finance companies aren't able to raise capital through savings deposits and loans from the Federal Reserve System, they effectively market commercial paper and aggressively service markets where they know the product (i.e., automobile leasing and lending). The net result is that finance companies may face a lower marginal cost of capital than commercial banks, hence giving them some pricing advantage in the business credit market (Remolona & Wulfekuhler, 1992).

Finance companies appear to be capturing market share from commercial banks and other lenders. Litan (1991) suggests that commercial banks may become less important providers of financial services as competition in the market intensifies. Litan (1991) cites several reasons including the following: increased deposit insurance costs, higher capital requirement demands, stiffer supervisory expenses, higher regulatory compliance costs, increased competition from foreign banks and the composition of demand deposits (savings) will shift from bank savings to retirement vehicles, such as mutual funds, life insurance and pension funds. Bank mergers and acquisitions are likely to add some economies of size, but the local service tradition stands to lose (Litan, 1991). Clearly, the "pawn shops" of the financial services industry are pushing to the head of the line (Luechter, 1993).

The previous literature has described the financial resources supplied by finance companies and assessed the role of finance companies in the financial services market and their relationship with other lenders. This study makes an important contribution to literature by focusing on the borrower's demand for financial services, rather than the supply of financial services offered by finance companies.

III. CONCEPTUAL FRAMEWORK

This conceptual framework uses a risk-return model and conclusions drawn from previous literature to assess the demand for financial capital supplied by finance companies and commercial banks.

Figure 1 depicts the relationship between the risk and rate of return on loans for commercial banks and finance companies. In order to keep this model simple, only two lenders (commercial banks and finance companies) are assumed to exist in the market. Each of these lenders has some rate of return they expect to earn on each loan or lease. Previous literature suggests that finance companies may have lower costs of capital and other transactions costs

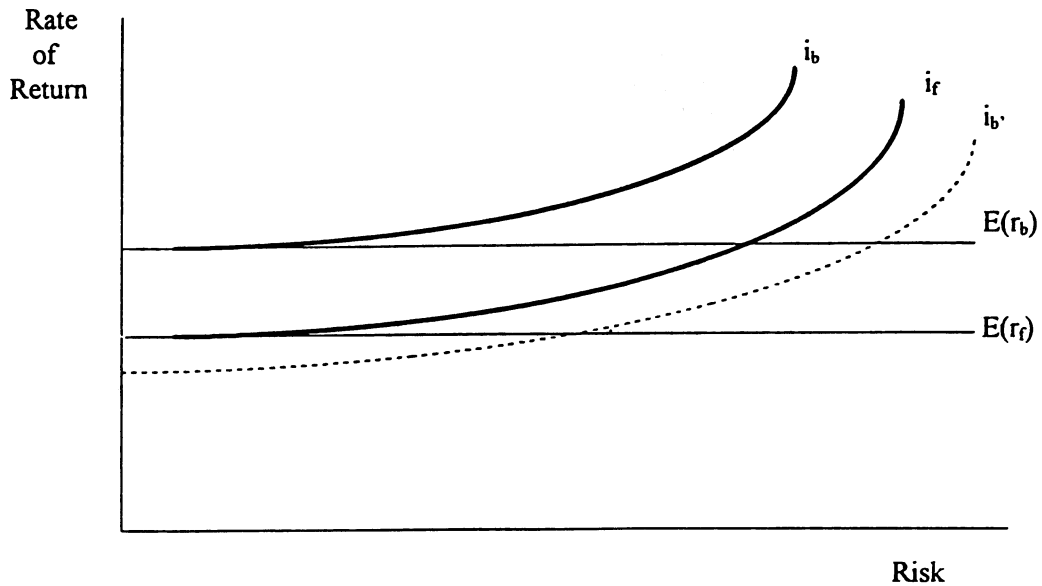

Figure 1
Expected Risks and Returns for Banks and Finance Companies

than commercial banks, therefore finance companies in a competitive market should offer a lower loan price than a commercial banks (i.e., $E(r_f) < E(r_b)$). In this case, $E(r_f)$ and $E(r_b)$ are gross returns expected by the finance company and commercial bank, respectively. This scenario explains the pricing behavior of captive finance companies engaged in asset backed leases and loans. These finance companies are essentially niche, or specialty, lenders who have well established avenues for raising capital and disposing of products obtained when a loan defaults. This characteristic of being a niche, or specialty, lender lowers the credit risk in their loan portfolio and effectively reduces the cost of capital for asset backed leases and loans.

Finance companies are expected to face a lower marginal cost of capital and both lenders are assumed to adjust their loan pricing for the credit risk of the borrower. As the credit riskiness of the borrower increases, both lenders are expected to charge higher rates of interest, hence both loan contract curves (i_b and i_f) are increasing with the level of risk. At high levels of credit risk the contract curves become very steep, indicating that lenders understand the moral hazard and adverse selection concerns and would prefer to forego making loans rather than charge a high rate of interest to compensate for the added credit risk.

Finance companies offer few additional services to their borrowers, while commercial banks offer a wide array of financial services and have the

opportunity to bundle leases, loans and other services. In these cases, the lender may realize lower transactions costs when initiating a loan for the borrower because they have good information about the borrower. In addition, the borrower may realize lower transaction costs because they can transact business with lender more efficiently. Since commercial banks offer more services than finance companies, they are likely to have more information about the borrower. If the commercial bank has good information about a borrower and the borrower actively uses the services of the lender, then the contract curve facing the borrow would shift outward and parallel from i_b to $i_{b'}$.

If the loan price differences between commercial banks and finance companies remain constant across all levels of borrower risk and the transactions cost advantage of a close relationship between the borrower and lender is constant across all levels of risk, then all borrowers with good relationships with their lender (i.e., commercial bank) should have a higher probability of using a commercial bank than a finance company (i.e., where $i_{b'} < i_f$). However, those borrowers without good relationships with their commercial bank lender, should have a higher probability of using a finance company than a commercial bank ($i_f < i_b$).

The model depicts the loan price for two lenders (i.e., commercial banks and finance companies), who evaluate borrowers based on their credit riskiness and relationship with the lender. In essence, this model suggests that borrower quality and lender relationships are important factors in determining if a borrower obtains credit from a particular lender and what prices are paid for the credit. This study focuses on the quality of borrowers attracted to finance companies, rather than the relationship between borrowers and lenders. Peterson and Rajan (1994) suggested that the relationship between the borrower and lender may be an important factor determining the interest rate paid by the borrower. Therefore, the relationship between the borrower and lender is used as an important control variable, rather than a variable of interest, in this study.

Based on the conceptual framework and previous literature the following hypotheses will be tested:

1. Finance companies attract higher risk borrowers than other lenders; and
2. Finance company borrowers pay lower loan prices (i.e., face lower interest rates and lower collateral requirements) than other borrowers.

IV. EMPIRICAL MODEL

This section briefly summarizes the data set and empirical models used for this study. The data set employed is the National Survey of Small Business Finance (NSSBF), which was collected by the Federal Reserve Board and the Small Business Administration in 1988/89. The empirical models include linear and

non-linear regression models, which are employed to distinguish finance company borrowers from other borrowers and to determine if finance company borrowers pay higher prices. The first subsection discusses the data used in this study.

Data

A probability sample was designed to select a sample from the Dun's Market Identifier file. A stratified random sampling design was used with 24 separate strata (defined by the 4 census regions, 3 firms sizes and 2 metropolitan locations). Of the 5,190 eligible firms, 1,786 firms didn't complete the survey because of a host of reasons (outright refusal, unable to contact, language barrier and other reasons), leaving 3,404 (or 42 percent) businesses, who eventually completed the survey instrument. Based on the number of eligible businesses interviewed (5,190), 3,404 businesses completed the survey, yielding a 65.6 percent response rate.

The original sample of 3,404 small businesses had 179 businesses with incorrect financial information. These businesses were deleted from the sample. Based on the original sampling strata, the sample was reweighted to reflect the loss of these 179 observations and maintain the original population of small businesses.

When interest rate information is used to assess the loan prices facing finance company and other borrowers, only the most recent loan is used. The sample contained 2,302 observations with most recent loans. Most recent loan information was collected for loans acquired as early as 1955. Since current financial information, primarily balance sheet and income statement information, is unlikely to reflect the financial condition of a firm acquiring a loan so many years earlier, all observations acquiring their most recent loan before 1978 were deleted. With these firms deleted, 1,784 observations remained for use in this study.

Variables of Interest

This study has six variables of interest: Business quality (or the risk of default), lender type, loan type, collateral requirement, interest rate and whether the borrower used a finance company for their most recent loan. In addition, a set of control variables is defined to identify the lender, borrower and local financial services market.

Business quality measures the default risk of the borrower. Embodied in this measure of quality must be the same criterion used by lenders to assess borrower quality, since lenders are the ones ultimately determining the quality of the borrower. Borrower quality is often evaluated by assessing the repayment

history and the character of the loan applicant. Unfortunately neither of these characteristics is directly available in this data set. The closest measure available in the data set is financial statement information, which measures the personal wealth and the financial stability of the business. An Altman Z statistic is used to assess business quality in this study (Altman, 1968). Altman has proposed numerous models to assess the probability of business failure. While the Altman business scoring models primarily have been designed to predict business failures for publicly traded manufacturers, Altman has proposed a business scoring model for private, non-manufacturing businesses (Altman, 1983). Altman refers to this model as the Z - Score model. The Altman Z - Score model is specified as follows:

$$Z'' = 6.56x_1 + 3.26x_2 + 6.72x_3 + 1.05x_4$$

where: x_1 = working capital / total assets;
x_2 = retained earnings / total assets;
x_3 = earning before interest and taxes / total assets; and,
x_4 = net worth / total liabilities.

Working capital is calculated by subtracting current liabilities from current assets. Retained earnings is calculated by subtracting any initial cash contributions made by the current owners from total equity. Earnings before interest and taxes (EBIT) is reported in the NSSBF, however EBIT is not adjusted for differences in accounting methods employed by corporate and non-corporate businesses.

The composite Altman Z statistic is just one method to assess quality. A recent study in the United Kingdom suggests that problems can arise when attempting to apply the composite Altman Z statistic approach to smaller firms where accounting procedures and principles may be subject to greater variation than is the case for large firms (Storey, et al, 1987). Therefore, other firm quality measures are used to complement the Altman model in this study. To determine the financial leverage, or the ability to carry more long term debt, the debt to equity ratio is employed. In this study, the debt to equity ratio is essentially total loans outstanding divided by the firm's net worth. To assess the cash position of the firm, the current ratio is used. To measure the operating efficiency of the firm, the net profit margin is included. A new measure of quality, designed by McNamara and Bromiley (1993) and actively used by the Norwest Banks, is included in this analysis. McNamara and Bromiley (1993) use a logistic regression algorithm to generate four predictive equations. The four equations use standard financial ratios (such as net worth divided by total assets, net working capital divided by total assets and net before-tax operating profits

divided by total assets) to determine the default probability of the firm. These measures of firm quality are used to assess the robustness of the empirical models. The business quality variable is labeled QUALITY.

Lender and loan type are both well-defined in the data set and require only identifying the lender as a commercial bank, thrift, captive or non-captive finance company or other lender; and, identifying the loan type as a line of credit, mortgage, vehicle, equipment or other loan. The lender and loan types variables are labeled LENDER and LOAN, respectively.

Personal and business collateral requirements were given for each of the most recent loans, however only the business collateral requirement is used in this study. The collateral requirement label is COLL.

Three variables of interest are used as dependent variables in the multivariate analysis: the interest rate and collateral requirements on the most recent loan; and, a variable indicating whether the borrower used a finance company for their most recent loan. In this study, 313 observations required using imputed interest rates. A linear regression model was employed, where the interest rate was regressed on dummy variables for each year, each lender and each loan type. The means and standard deviations before and after the imputations were performed are seen in Table 2. The interest rate variable is labeled INTRATE.

Dichotomous variables were created to identify borrowers with collateral requirements attached to their most recent loan, where the variable is labeled PCOLL; and, identify borrowers using a finance company for their most recent loan, where the variable is labeled FCDEP.

This study examines the demand for financial lease and loan services. Therefore, other variables are added into the model to control for other factors affecting demand. The control variables used in this study identify characteristics of the borrowers, lender and the market for financial services. The control variables used in this study are as follows: the relationship between the borrower and commercial bank - where dummy variables are defined for checking and savings accounts, other bank services and leases and loans (RELATION); number of years the business was owned by the current owners (AGE); number of employees (SIZE); corporate legal organization (CORP); type of industry using the one-digit Standard Industrial Classifications where

Table 2
Deviations Before and After Imputations

Before/After	*Mean Interest Rate*	*Standard Deviation*
Before	11.14	2.63
After	11.07	2.45

Table 3
Population Characteristics for Borrowers with Loans Acquired Since 1978 in the NSSBF

Class	*All Borrowers*	*Finance Company borrowers*	*Non-Finance Company Borrowers*
Business Quality Measures	(Proportion of Borrowers in each category)		
Altman Z Statistic			
Low quality	0.092	0.078	0.097
Medium quality	0.191	0.209	0.186
High quality	0.716	0.713	0.717
Relationship to a Commercial Bank			
Borrower has a checking account	0.947	0.959	0.944
Borrower has a savings account	0.249	0.308	0.230
Borrower uses other bank services	0.608	0.619	0.604
Borrower has a lease or loan	0.761	0.582	0.816
Years Owned by the Current Owners			
5 or less	0.128	0.088	0.141
6 to 10	0.217	0.226	0.214
11 to 20	0.296	0.323	0.287
More than 20	0.359	0.363	0.358
Number of Employees			
0 to 19	0.826	0.789	0.837
20 to 99	0.151	0.185	0.140
100 or more	0.024	0.026	0.023
Legal Organization			
Sole proprietorship	0.333	0.295	0.345
Partnership	0.082	0.064	0.087
Corporation, subchapter S	0.133	0.127	0.135
Corporation	0.453	0.515	0.433
Type of Industry			
Mining	0.008	0.008	0.007
Construction	0.131	0.214	0.106
Manufacturing	0.098	0.102	0.096
Transportation	0.039	0.050	0.036
Wholesale	0.116	0.120	0.115
Retail	0.250	0.227	0.258
Insurance and Real Estate	0.070	0.052	0.076
Services	0.287	0.227	0.306
Location of the Principal Business Office			
Urban	0.751	0.767	0.746
Rural	0.249	0.233	0.254
Gender of the Majority Owner(s)			
Male	0.881	0.896	0.876
Female	0.119	0.104	0.124
Minority Ownership			
Minority owned	0.081	0.090	0.079
Non-minority owned	0.919	0.910	0.921

(continued)

Table 3
Continued

Class	*All Borrowers*	*Finance Company borrowers*	*Non-Finance Company Borrowers*
Degree of Financial Market Concentration			
Low concentration	0.129	0.113	0.134
Medium concentration	0.374	0.388	0.370
High concentration	0.497	0.499	0.496
Census Region			
North East	0.261	0.302	0.248
North Central	0.245	0.193	0.261
South	0.299	0.284	0.304
West	0.195	0.220	0.187
Lender Types Used for Most Recent Loan			
Commercial Bank	0.723	0.403	0.822
Thrift	0.072	0.021	0.087
Captive Finance Company	0.100	0.423	0.000
Non-captive Finance Company	0.026	0.112	0.000
Other Lenders	0.079	0.042	0.090
Loan Type of the Most Recent Loan			
Line of credit	0.290	0.225	0.309
Mortage	0.134	0.073	0.153
Vehicle	0.299	0.488	0.239
Equipment	0.163	0.160	0.164
Other	0.115	0.053	0.134
Collateral Requirements			
Business collateral	0.798	0.874	0.774
Fixed or Variable Interest Rate			
Fixed interest rate	0.571	0.684	0.536
Loan Amounts			
Small loans (less than $30,000)	0.545	0.590	0.531
Medium loans ($30,000 < x < $60,000)	0.151	0.151	0.151
Larger loans (greater than $60,000)	0.304	0.260	0.317
Prime (Years Loans were Acquired)			
1978-1983	0.154	0.076	0.178
1984-1989	0.846	0.924	0.822

separate dummy variables are created for each industrial classification (IND); rural or urban location of the principal business office (URBAN); gender of the majority owner (GENDER); minority ownership status (MINOWN); degree of financial market concentration in the local market (CON); census region where the firm is located (REGN), fixed or variable interest rate loan (FIX); natural log of the size of the loan (AMT) and the prime interest rate (PRIME) in the year the loan was initiated. The variables CORP, IND (for each industry type), URBAN, GENDER, MINOWN, CON, REGN (for each census region) and FIX are dichotomous variables. The other variables are continuous. Table 3

summarizes the population characteristics for the borrowers included in this study.

The empirical models address which borrowers are attracted to finance companies and whether these borrowers face higher loan prices. The first model uses logistic regression to assess the probability of a borrower choosing a finance company.

$$FCDEP = a_0 + a_1QUALITY + a_2RELATION + a_3AGE + a_4SIZE + a_5CORP + a_6IND + a_7URBAN + a_8GENDER + a_9MINOWN + a_{10}CON + a_{11}REGN + a_{12}LOAN + a_{13}INTRATE + a_{14}COLL + a_{15}FIX + a_{16}AMT + e$$

If high risk (low quality) borrowers have a higher probability of being attracted to a finance company, then the sign on the QUALITY coefficient, a_1, is expected to be negative.

The second model uses ordinary least squares regression to assess whether finance companies charge higher rates of interest.

$$INTRAT = a_0 + a_1PRIME + a_2QUALITY + a_3RELATION + a_4AGE + a_5SIZE + a_6CORP + a_7IND + a_8URBAN + a_9GENDER + a_{10}MINOWN + a_{11}CON + a_{12}REGN + a_{13}LOAN + a_{14}COLL + a_{15}FIX + a_{16}AMT + a_{17}LENDER + e$$

If finance companies charge lower interest rates than other lenders (specifically, commercial banks), then the sign on the lender dummy variable for finance companies is expected to be negative.

A third model uses logistic regression to assess whether finance companies are more likely to require business collateral than other lenders.

$$PCOLL = a_0 + a_1PRIME + a_2QUALITY + a_3RELATION + a_4AGE + a_5SIZE + a_6CORP + a_7IND + a_8URBAN + a_9GENDER + a_{10}MINOWN + a_{11}CON + a_{12}REGN + a_{13}LOAN + a_{14}COLL + a_{15}FIX + a_{16}AMT + a_{17}LENDER + e$$

If finance companies have less stringent collateral requirements than other lenders (specifically, commercial banks) then the sign on the dummy variable for finance companies is expected to be negative.

V. RESULTS

The results section is divided into two major sub-sections: (1) a description of how small businesses use finance companies and other lenders, and an analysis of how finance company borrowers differ from other small business borrowers; and, (2) an analysis of who's attracted to finance companies and whether finance

Table 4
Percentage of Small Business Borrowers Using Financial Institutions for at Least One Function by Source of Credit and Number of Employees[1]

Source of Credit	*All Borrowers*	*19 or less Employees*	*20 to 99 Employees*	*100 or more Employees*
All Sources of Credit	100.0	100.0	100.0	100.0
Institutional Lenders:				
Commercial Banks	97.0	96.7	98.3	100.0
Thrifts	17.2	18.9	10.1	4.4
Captive Finance	18.1	17.4	22.1	17.3
Non-Captive Finance	6.5	5.9	9.8	9.9
Other	24.4	21.8	35.7	44.5
Family and Friends	8.2	8.5	6.6	11.4
Government	1.2	0.7	3.5	3.2
Number of Observations	1,784	1,218	394	172

Source: [1]The use of a financial institution consists of using one or more of the following services: checking, savings, leasing, loans, currency and coin, cash management, credit card processing, bankers acceptances, pension funds, business trust, lock box, safekeeping for securities, factoring, sales financing and wire transfers.

companies charge higher interest rates and impose more restrictive collateral requirements on loans than other lenders.

Descriptive Analysis - Differentiating Among Borrowers

Captive and non-captive finance companies service 18.1 and 6.5 percent of these small business borrowers, respectively (Table 4). Commercial banks provide services to all of these small business borrowers, while thrifts service 17.2 percent of them. As the size of the small business increases, commercial bank participation remains constant, thrifts participation declines from 18.9 percent to 4.4 percent, captive finance company participation remains constant at around 17 percent and non-captive finance company participation increases from 5.9 percent to 9.9 percent of these small business borrowers.

Commercial banks offer a wide array of services including leases, loans, checking accounts, savings accounts and host of other services (i.e., coin services, cash management, credit card processing, night depository, brokerage, letters of credit and others). In 1987, finance companies offered a small subset of these services. While some finance companies provided savings accounts, credit card processing, letters of credit and other services, they were primarily lenders processing vehicle and equipment loans and leases.

While finance companies participated with a relatively large number of borrowers, they held a relatively small percentage of the total leases and loans outstanding to these borrowers (Table 5). For these small business borrowers,

captive and non-captive finance companies held 4.9 and 12.8 percent of total leases outstanding, respectively; and, 4.3 and 3.9 percent of total loans outstanding, respectively. For those borrowers with less than 20 employees, captive finance companies held only 2.6 percent of the total leases and loans outstanding. Non-captive finance companies held only 4.6 percent and 2.2 percent of total leases and loans outstanding, respectively. In general, both types of finance companies hold a larger percentage of total leases and loans outstanding for larger companies than for smaller companies. For the largest borrowers, captive finance company leases and loans comprised 6.0 percent and 8.7 percent of their total leases and loans outstanding, respectively. Non-captive finance company leases and loans comprised 16.3 percent and 2.1 percent of their total leases and loans outstanding, respectively. Commercial banks still remain the single most important source of leases and loans, supplying over 21 percent and 57 percent of total lease and loan amounts, respectively. While thrifts play a significant role as a lender for the very small firms, their significance dwindles to near zero for the largest firms.

When combining the share of leases and loans held by all finance companies, they rank as the third most significant source of financial capital supplied by institutional lenders. Based on this degree of market penetration, finance companies do not appear to be either insignificant or isolated lenders in the market for financial capital for small businesses.

Model-Based Analysis

The model based analysis evaluates whether high or low quality firms are attracted to finance companies, and assesses whether finance company borrowers pay higher interest rates and face more restrictive collateral requirements than other borrowers.

When considering what non-financial characteristics distinguish finance company borrowers from other borrowers, a logistic regression algorithm is used. Using a weighted logistic regression model, finance companies did not have a higher probability of attracting higher risk borrowers than commercial banks (Table 6). This result suggests that finance companies attract borrowers very similar to those attracted by other lenders, including commercial banks. In addition, borrowers with close relationships (i.e., leases or loans) with commercial bank lenders have a higher probability of using a finance company; mining and construction companies have a higher probability of using a finance company than companies in the service industry; firms located in the North Central Census Region have a lower probability of using a finance company than firms located in the West Census Region; firms needing vehicle or equipment loans have a higher probability of using finance companies than firms

Table 5
Mean Dollar and Percentage of Total Credit Held by Each Lender for Small Business Borrowers by Number of Employees

	Leases Only							
	All		*0-19 Employee*		*20-99 Employees*		*> 100 Employees*	
Lender Type	*Mean Dollar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*
Bank	1,430	21.5	608	28.2	1,830	10.4	27,439	29.3
Thrift	608	9.1	0	0.0	4,040	22.9	0	0.0
Captive Finance	326	4.9	56	2.6	968	5.5	5,650	6.0
Non-Captive Finance	851	12.8	100	4.6	2,700	15.3	15,215	16.3
Other lender	3,063	46.0	1,287	59.7	6,520	37.0	42,816	45.7
Family and Friends	253	3.8	105	4.9	711	4.0	2,508	2.7
Government	126	1.9	0	0.0	836	4.7	0	0.0
Total Leases	6,658	100.0	2,157	100.0	17,604	100.0	93,628	100.0

	Loans Only							
Lender Type	*Mean Dollar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*	*Mean Dolar*	*% of Total Leases*
Bank	147,451	57.1	52,934	50.7	330,476	56.0	2,270,085	64.9
Thrift	29,303	11.4	17,191	16.5	95,472	16.2	30,917	0.9
Captive Finance	11,066	4.3	2,744	2.6	10,564	1.8	303,172	8.7
Non-Captive Finance	10,193	3.9	2,342	2.2	43,011	7.3	75,005	2.1
Other lender	22,985	8.9	7,883	7.6	32,584	5.5	486,525	13.9
Family and Friends	8,328	3.2	5,855	5.6	15,976	2.7	45,778	1.3
Government	3,950	1.5	1,030	1.0	12,482	2.1	51,287	1.5
Owner Loans	24,837	9.6	14,383	13.8	49,129	8.3	233,978	6.7
Total Loans	258,114	100.0	104,361	100.0	589,694	100.0	3,496,748	100.0
Number of Observations	1,784		1,218		394		172	

Table 6
Determinants of the Probability of Borrowing from a Finance Company

Variable Name[1]	*Parameter Estimate*	*Standard Error*	*p-value*
Intercept	–3.4509**	0.8594	0.0001
Firm Quality - Altman Z	–0.0081	0.0296	0.7841
Relation - checking account	0.2003	0.3146	0.5244
Relation - savings account	0.2527	0.1447	0.0807
Relation - uses other services	0.2799	0.1448	0.0533
Relation - lease or loan	1.2234**	0.1846	0.0001
Number of Years of Ownership	0.0060	0.0036	0.0961
Number of Employees	0.0007	0.0020	0.7318
Corporation	0.0398	0.1463	0.7854
Mining and Construction	0.9770**	0.2003	0.0001
Manufacturing	0.3092	0.2397	0.1970
Transportation	0.5385	0.3223	0.0947
Wholesale	0.2585	0.2320	0.2652
Retail	0.3225	0.1926	0.0940
Insurance and Real Estate	0.1280	0.2974	0.6669
Urban Location	0.0548	0.1629	0.7366
Male Ownership	0.0714	0.2106	0.7347
Minority Ownership (>50%)	0.1323	0.2304	0.5659
Concentrated Market (Herfindalh Index)	0.0523	0.1404	0.7095
North East Census Region	–0.0443	0.1922	0.8178
North Central Census Region	–0.5649**	0.2005	0.0048
South Census Region	–0.2247	0.1852	0.2249
Loan - Line of Credit	0.5302	0.2794	0.0577
Loan - Mortgage	0.1381	0.3438	0.6879
Loan - Vehicle Loan	1.4811**	0.3051	0.0001
Loan - Equipment	0.8187**	0.3170	0.0098
Interest Rate	–0.0981**	0.0271	0.0003
Collateral Requirement Dummy	0.1873	0.2281	0.4117
Fixed Interest Rate Dummy	0.3203*	0.1613	0.0471
Log of Loan Amount	0.1121	0.0587	0.0563
-2 Log likelihood	1,554		

Notes: Dependent Variable = Finance Company Borrowers (yes/no)
Weighted Logistic Regression
[1]The categorical variables left out this regression are the following: non-corporate ownership, service industry, rural location, female owner, non-minority owner, non-concentrated (low and medium) financial market, west census region no collateral requirement.

needing other loans; and, firms looking for lower interest rates or fixed interest rate loans are attracted to finance companies. These results are robust across several models using different firm quality measures (see Appendix, Table A.1).

When assessing the interest rate charged by each of the lenders, the analysis considers all loans offered by all lenders. When considering all lenders and loan types, finance companies, and all other lenders, charge lower rates of interest

Table 8
Probability of Requiring Any Collateral on Any Loan[1]

Variable	*Parameter Estimate*	*Standard Error*	*p-value*
Intercept	–7.6294**	1.2378	0.0001
Altman Z	–0.1099**	0.0425	0.0097
Relation - checking account	1.6143**	0.5378	0.0027
Relation - savings account	–0.1178	0.2189	0.5906
Relation - uses other services	–0.3809	0.2030	0.0606
Relation - lease or loan	–0.1787	0.3249	0.5824
Number of Years Owned	–0.0176**	0.0049	0.0004
Number of Employees	–0.0035	0.0029	0.2196
Organized and Corporation	–0.4979*	0.2017	0.0136
Mining and Construction	0.1392	0.3092	0.6526
Manufacturing	0.9334**	0.3415	0.0063
Transportation	–0.1633	0.5283	0.7572
Wholesale	0.2849	0.3167	0.3683
Retail	0.5631*	0.2500	0.0243
Insurance and Real Estate	0.5108	0.3882	0.1882
Urban Location	0.0830	0.2250	0.7121
Male Ownership	–0.3114	0.2594	0.2300
Minority Ownership	0.2160	0.3408	0.5261
Concentrated Market	0.3751	0.2853	0.1885
North East Census Region	0.9023**	0.2834	0.0015
North Central Census Region	1.1998**	0.2725	0.0001
South Census Region	0.0137	0.1943	0.9436
Interest Rate	0.0610	0.0374	0.1033
Fixed Interest Rate	0.1463	0.2055	0.4766
Log of Loan Amount	0.5111**	0.0764	0.0001
Loan Type = line of credit	0.4270*	0.2177	0.0498
Loan Type = mortgage	15.7283	97.9777	0.8725
Loan Type = vehicle	16.5183	65.2580	0.8002
Loan Type = equipment	7.1374**	1.2844	0.0001
Lender = Thrift	1.2020**	0.4339	0.0056
Lender = Captive Finance Co.	11.3425	96.5632	0.9065
Lender = Non-Captive Finance Co.	–0.0814	0.7401	0.9124
Lender = Other	0.4914	0.4372	0.2610
-2 Log Likelihood	791		

Notes: Dependent Variable = Collateral Requirement (yes/no)
Weighted Logistic Regression
[1]The categorical variables left out of this regression are the following: non-corporate ownership, service industry, rural location, female owner, non-minority owner, non-concentrated financial market, other loan type, no collateral requirement, variable interest rate, and commercial bank lender.

Captive and non-captive finance companies supply loans to 18.1 percent and 6.5 percent of the small business borrowers, respectively. Since finance companies do not offer a wide array of financial services, they depend on leases

vehicle loans only. In addition, low risk firms pay lower interest rates than high risk firms; firms located in the North East pay lower interest rates and firms in the South pay higher interest rates than those located in the West; equipment loans carry higher interest rates than other loans; fixed interest rate loans have higher interest rates than variable interest rate loans; and, larger loans have lower rates of interest (Table 7). These results are robust across several different firm quality measures (see Appendix, Table A.2).

The loan price is a multi-dimensional price in this context. The interest rate is just one of many terms included in a typical loan contract. This data set includes collateral and compensating balance requirements for each recent loan. Since finance companies don't offer checking accounts in this sample, compensating balance requirements will not be examined. Using the same independent variables as those used in the price analysis, the collateral requirements imposed by each type of lender are examined. Since the survey didn't attempt to place a value on the collateral, this study can only assess whether collateral was required.

In this analysis, finance companies did not have a higher probability of requiring collateral than commercial banks (Table 8). Only thrifts had a higher probability of requiring collateral than commercial banks. In addition, higher quality firms had a lower probability of having any collateral requirement; firms with a commercial bank checking account had a higher probability of having a collateral requirement; older firms had a lower probability of having a collateral requirement; firms organized as corporations had a lower probability of having a loan secured by collateral; firms engaged in manufacturing or retail trade were more likely than service firms to have a loan secured by collateral; firms located in the North East or North Central had a higher probability of having a loan with a collateral requirement than firms located in the West; loans with higher balances were more likely to have collateral requirements; and, firms with line or credit or equipment loans were more likely to have collateral requirements than other loans.

VI. CONCLUSIONS

Finance companies have evolved into a significant source of financial capital for small business borrowers over the past decade. These finance companies include a very diverse set of financial institutions ranging from large niche lenders, such as the finance companies owned by the major automobile manufacturers, to small independent companies owned and operated by one individual. This section discusses the major results of this study and assesses the implications of these results.

and loans for their survival. The borrowers who acquire leases and loans from finance companies, typically have a lease or loan with a commercial bank. In addition, finance companies successfully attract a higher percentage of larger small businesses and provide a relatively high percentage of their financial capital needs. Most importantly, finance companies appear to be mainstream lenders, offering competitively priced loans and striving to attract high quality borrowers. None of the popular notions associated with finance companies operating outside of the mainstream of small business lending are supported in this study. This study has generated three important results.

Firstly, finance companies do not appear to exist in isolation. In fact, finance companies effectively use commercial bank lending experience as an important signal of quality and they appear to forge useful relationships with commercial banks and other lenders. Finance companies and commercial banks may have a complementary relationship in two important instances: (1) when the commercial bank has reached its lending limit and other funds are needed by the borrower; and, (2) when selected services, such as accounts receivable factoring and sales financing, aren't offered by commercial banks.

Unfortunately, more loan pricing information is needed to determine if various lenders are viewed as substitutes or complements. One could follow the lead of Dunkelberg and Cooper (1990) and use a stock adjustment model to explain the change in the quantity of financing from one source as a result of a change in the quantity of financing from another source. The most appropriate method of establishing whether two products are substitutes or complements is to use the neoclassical economic model and estimate the change in the quantity of financing from one source as a result of a change in the price of financing from another source. At this juncture, the objective and subjective evidence available suggests that more investigation is warranted to establish these relationships among various lenders and among the lease and loan products sold by each lender.

Secondly, finance companies appear to attract borrowers similar to those attracted by commercial banks. If finance companies attract low quality borrowers and effectively assist the borrower to upgrade the quality of their financial statements and projects, then one would expect the finance company borrowers surveyed in the NSSBF to be similar to borrowers using other lenders. If information was known about the financial status of borrowers when they first approach a lender, then one could assess whether finance companies initially attract lower quality borrowers.

Thirdly, finance companies appear to charge lower loan prices than commercial banks. In the vehicle loan market, finance companies are the low cost lender, typically offering interest rates substantially lower than commercial banks. In this market, finance companies have some transactions cost advantages

because they know the product and are easily able to dispose of products acquired through loan defaults. In addition, many of these finance companies are owned by financially stable parent companies, which have the ability to float their own commercial paper and attract other low cost capital.

This study suggests that finance companies attract borrowers similar to those attracted by commercial banks and they charge competitive prices, based on the risk of the borrower and the transactions costs associated with each type of loan. Hence, finance companies appear to effectively compete against the traditional mainstream institutional lenders (i.e., commercial banks and thrifts) to meet the financial capital demands of small business borrowers.

APPENDIX

Table A1
Robustness Tests for the Determinants of Probability of Borrowing from a Finance Company by Varying the Firm Quality Variable[1]

*Variable Name**	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*
Intercept	–3.2905**	–3.4930**	–3.4308**	–3.4667**
Firm Quality - Inverted Debt to Equity Ratio	–0.0277			
Firm Quality - Current Ratio		–0.00707		
Firm Quality - Net Profit Margin			–0.5023	
Firm Quality - McNamara Ratio (Low)				–0.0389
Firm Quality - McNamara Ratio (Medium)				0.5401
Firm Quality - McNamara Ratio (Good)				0.1747
Relation - checking account	0.2203	0.1983	0.1880	0.2108
Relation - savings account	0.2699	0.2505	0.2495	0.2597
Relation - uses other services	0.2756	0.2822	0.2789	0.2707
Relation - lease or loan	1.2123**	1.2272**	1.2218**	1.2318**
Number of Years of Ownership	0.0060	0.0059	0.0058	0.0054
Number of Employees	0.0006	0.0006	0.0006	0.0005
Corporation	0.0483	0.0451	0.0259	0.0284
Mining and Construction	0.9801**	0.9752**	0.9679**	0.9742**
Manufacturing	0.3182	0.3076	0.2964	0.2948
Transportation	0.5652	0.5398	0.5267	0.5629
Wholesale	0.2578	0.2569	0.2365	0.2354
Retail	0.3278	0.3239	0.3066	0.3114
Insurance and Real Estate	0.1299	0.1292	0.1323	0.1140
Urban Location	0.0549	0.0570	0.0541	0.0455
Male Ownership	0.0578	0.0685	0.0787	0.0959
Minority Ownership (>50%)	0.1221	0.1305	0.1406	0.1184

(continued)

Table A1
Continued

*Variable Name**	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*
Concentrated Market (Herfindahl Index)	0.0435	0.0523	0.0523	0.0581
North East Census Region	–0.0547	–0.0484	–0.0419	–0.0289
North Central Census Region	–0.5784**	–0.5657**	–0.5604**	–0.5459
South Census Region	–0.2359	–0.2258	–0.2245	–0.2059
Loan - Line of Credit	0.5500*	0.5236	0.5214	0.5688*
Loan - Mortgage	0.1501	0.1356	0.1456	0.1776
Loan - Vehicle	0.1501**	1.4745**	1.4767**	1.5011**
Loan - Equipment	0.8306**	0.8148*	0.8163*	0.8350**
Interest Rate	–0.1004**	–0.0976**	–0.0978**	–0.0990**
Collateral Requirement Dummy	0.1771	0.1908	0.1842	0.1865
Fixed Interest Rate Dummy	0.3229*	0.3179*	0.3235*	0.3142
Log of Loan Amount	0.1040	0.1140	0.1137	0.1038
-2 Log Likelihood	1552	1,554	1,554	1550

Notes: Dependent Variable = Finance Company Borrowers (yes/no).
Weighted Logistic Regression.
[1]The categorical variables left out of this regression are the following: non-corporate ownership, service industry, rural location, female owner, non-minority owner, non-concentrated financial market, west census region, no collateral requirement and variable interest rate.

Table A2
Robustness Tests of the Determinants of the Rate of Interest Paid by Small Business Borrowers[1]

Variable	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*
Intercept	9.3914**	8.9951**	9.1543**	9.0624**
Prime	0.4672**	0.4581**	0.4597**	0.4598**
Firm Quality - Inverted Debt to Equity Ratio	–0.0579**			
Firm Quality - Current Ratio		0.0530		
Firm Quality - Net Profit Margin			–0.6074	
Firm Quality - McNamara Ratio (Low)				0.1174
Firm Quality - McNamara Ratio (Medium)				0.4251
Firm Quality - McNamara Ratio (Good)				0.0420
Relation - checking account	–0.0657	–0.1216	–0.1028	–0.1000
Relation - savings account	0.1085	0.0746	0.0731	0.0818
Relation - uses other services	–0.0038	0.0087	0.0022	–0.0001
Relation - lease or loan	0.2675	0.3367	0.3153	0.3334
Number of Years Owned	–0.0051	–0.0053	–0.0055	–0.0054
Number of Employees	0.0019	0.0020	0.0019	0.0019
Organized as Corporation	–0.1543	–0.1577	–0.1899	–0.1768
Mining and Construction	0.3150	0.2974	0.2963	0.3056
Manufacturing	0.0496	–0.0002	0.0050	0.0074

(continued)

Table A2
Continued

Variable	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*	*Parameter Estimate*
Transportation	0.3747	0.3335	0.3092	0.3349
Wholesale	0.1988	0.1607	0.1536	0.1583
Retail	0.2634	0.2348	0.2306	0.2419
Insurance and Real Estate	–0.1617	–0.1419	–0.1613	–0.1850
Urban Location	–0.1059	–0.1125	–0.1114	–0.1188
Male Ownership	–0.0579	–0.0309	–0.0216	–0.0044
Minority Ownership	–0.0211	0.0101	0.0095	–0.0155
Concentrated Market	–0.3190	–0.3112	–0.3040	–0.2991
North East Census Region	–0.3784*	–0.3585*	–0.3504*	–0.3487*
North Central Census Region	–0.3030	–0.3013	–0.2918	–0.2804
South Census Region	0.4121**	0.4353**	0.4318**	0.4365**
Loan Type = line of credit	0.2429	0.1699	0.1833	0.2035
Loan Type = mortgage	0.1365	0.1108	0.1117	0.1142
Loan Type = vehicle	–0.0667	–0.1391	–0.1262	–0.1162
Loan Type = equipment	0.5230*	0.4958*	0.4869*	0.4917*
Collateral Required (yes/no)	0.0947	0.1330	0.1284	0.1425
Fixed Interest Rate (yes/no)	0.4484**	0.4447**	0.4509**	0.4443**
Log of Loan Amount	–0.2283**	–0.2048**	–0.2074**	–0.211**
Lender = thrift	–0.5537*	–0.5897*	–0.5565*	–0.5620*
Lender = captive finance co.	–0.9654**	–1.0250**	–1.0143**	–1.0259**
Lender = non-captive finance co.	–0.8792*	–0.9292**	–0.8815*	–0.8821*
Lender = other	–1.3713**	–1.4663**	–1.4450**	–1.4707**
R-Squared/Adjusted R-Squared	8.0/16.5	17.6/16.0	17.6/16.0	17.6/16.0

Notes: Dependent Variable = Interest Rate
Weighted Ordinary Least Squares
[1]The categorical variables left out of this regression are the following: non-corporate ownership, service industry, rural location, female owner, non-minority owner, non-concentrated financial market, west census region, other loan type, no collateral requirement, variable interest rate and commercial bank lender.

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