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Family Businesses: Can the Family and the Business Finances be Separated? Preliminary Results

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I. INTRODUCTION

Small businesses had nearly $1.25 trillion in loans outstanding from commercial lenders, business finance companies, other businesses in the form of trade credit, and friends and relatives in the early 1990s (Ou, 1991). Based on recent information derived from the National Survey on Small Business Finance (NSSBF), loans held by commercial banks and family members or owners of the firm were significant sources of credit, comprising 54 and 18 percent of all loans, respectively (Haynes, 1996). The relative importance of these types of loans suggests that the finances of the business and the family are often intertwined. This study utilizes the recently released Survey of Consumer Finances to examine the impact of small business ownership on the household's debt structure.

Households with a small business owner and manager residing in the household, hereafter called small business owner/manager households, are the focus of this study. These households are differentiated from other households by the decision of at least one member of the household to own and manager a business with 500 or fewer employees. This study examines whether small business owner/manager households hold more total household debt than other households and assesses whether these households employ different lenders and loan types than other households. If these small business owner/manger households hold more total debt, where some proportion of this debt is simply business debt held by the household, then the impact of business assistance programs, such as the Small Business Administration's 7(a) Loan Guarantee Program, may be mitigated. In this instance, the business assistance program, may be just substituting business debt for household debt, rather than investing new financial capital into the community. In addition, if small business owner/

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manager households face a different debt structure, where they are more likely to utilize a standard business debt structure (using commercial banks and line of credit and mortgage loans), then lenders may find it more difficult to distinguish between the household and business debt held by the borrower. When household and business debt are intertwined any assessment of the impact of small business assistance programs must assess the impact on the family, as well as the impact on the small business.

The **preliminary** results of this study are as follows:

1. Small business owner/manager households comprise about 13 percent of the population, however they account for 37 percent of the total debt held by households;
2. Small business owner/manager households have a higher probability of borrowing from a commercial bank lender than other borrowers; and,
3. Small business owners/manager households have a higher probability of utilizing line of credit and mortgage loans than other borrowers.

II. LITERATURE REVIEW

Previous research, severely limited by inadequate data, attempted to estimate financial capital demand relationships without adequate price and quantity data on both family and business finances; or, by using samples that weren't representative of the small business population or their lenders (Sanders, 1985, Walker, 1991; Haynes, 1996). In addition, previous research utilized profit maximization models to consider financial structure decisions of the firm, when models incorporating personal or family preferences may have been more appropriate.

An appropriate theoretical model for this study has been suggested by Lopez (1986), Bygrave and Petty (1991) and Newman and Osteryoung (1995). The theoretical considerations are summarized in the following statement by Lopez (1986):

> "...the financial resources of the small firm are arguably intertwined with those of the household. This interdependence of resources suggests a theoretical model, where the small business activity is integrated into the household utility maximization model."

This theoretical approach essentially integrates the profit function of the business into the monetary constraint of the utility maximization model. Utilizing this theoretical model approach, the decisions of the individual and the business firm are formally intertwined.

Previous empirical literature has examined the influence of personal preferences and risk on small business financing and discovered that lenders do not distinguish between business and personal assets (Levin & Travis, 1987); and, borrowers choose their capital structure by considering both personal and firm liability (Hutchinson, Meric & Meric, 1988). This empirical evidence supports the notion that the personal and financial resources of the small firm are intertwined.

The Survey of Consumer Finances has been used to study small business and household finances in the past. Using the 1989 SCF, privately held business assets were analyzed and the general usability of the SCF for analyzing small business finance topics was assessed (Ou, 1993). Numerous household studies have been conducted to examine the distribution of wealth and assess the general household balance sheet (Avery & Kennickell, 1988; Kennickell & Starr-McCluer, 1994).

This literature has provided an examination of the access of small businesses to financial capital and addressed the linkages between the financial assets of the family and the business. However, previous studies have not addressed the impact of small business ownership on the household's debt structure, which is the focus of this study.

III. CONCEPTUAL CONSIDERATIONS

This conceptual considerations section must examine one important question: why does the personal debt structure of small business owners differ from the personal debt structure of households not engaged in owning and managing a small business.

Small business ventures are capital intensive investments. While small business owners may not receive any differential treatment in the financial capital market, their personal and business debts are often inextricably intertwined. If personal and business debts are intertwined, then one would expect the debt structure of small business owners to be different from the debt structure of others. Most importantly, one would expect the debt structure of the small business owner to be more heavily weighted toward sources of capital that can be easily used in the business. This debt is most likely to be held by traditional business lenders, rather than lenders offering primarily consumer credit. In addition, one would expect the total amount of debt held by the small business owner to be higher, simply because the owner has the added burden of providing financial capital to the business. In effect, this additional financial burden is the "hidden" financing of small businesses because the responsibility for repaying the loan is ambiguously assigned to both the household and the business. This "hidden" financing is missed when using traditional business data

sets because the business may not legally hold the loan, but in reality it is the business' responsibility to repay it.

Commercial banks offer a wide array of financial services, which are important to the business, such as credit card processing, cash management and night depository capabilities. Hence, small businesses can more efficiently address their business financial needs by using a commercial bank. If the commercial bank is the most efficient financial services option for the small business borrower, then the borrower has the added incentive of conducting his personal business with the commercial bank. In addition, if the small business borrower typically mixes personal and business finances, then the borrower will utilize financial instruments similar to those used in the business (such as line of credit loans) that supply capital which can easily be used in either the household or the business. Therefore, one would expect small business owners to have a higher probability of borrowing from a commercial bank and utilizing line of credit loans than other borrowers.

This research will examine three hypotheses emanating from the conceptual framework:

1. Households with a small business borrower living in the household have a larger amount of debt outstanding than other borrowers, who do not own and operate a small business;
2. Households with a small business borrower living in the household have a higher probability of using a commercial bank lender than other borrowers, who do not own and operate a small business; and,
3. Households with a small business borrower living in the household have a higher probability of securing a line of credit than other borrowers.

IV. SAMPLE AND METHODOLOGY

This section discusses the data set used for this study, the Survey of Consumer Finances, and the analytical models employed.

Data

The 1992 Survey of Consumer Finance (SCF) was collected by the National Opinion Research Center at the University of Chicago. The SCF utilizes a dual frame sample to provide adequate coverage of the population. One part of the sample is multistage area probability sample, which provides adequate coverage of widely held assets and liabilities. The second part is a list design, which is employed to oversample relatively wealthy households. Of the 3,906 completed cases in the 1992 survey, 2,456 families are from the area-probability sample

and 1,450 are from the list sample. Response rates for the area probability and list samples were approximately 70 and 34 percent, respectively. Research conducted by Kennickell and McManus suggests that nonresponse is positively correlated with wealth, but weighting adjustments are used to correct for this potential source of bias (Kennickell & McManus, 1996).

In this study, small business owner/manager household borrowers and all other borrowers are compared. Borrowers comprise 72.8 of the households, or 2,800 observations. Small business owners comprised just less than 14 percent of the households, or 909 observations.

The variables of interest included the business ownership status of the household and the debt structure of all personal debt held by the household. The business ownership status was determined by whether an individual owned and actively managed at least one business with 500 or fewer employees. The gender of the business owner was determined by examining whether a male and/or female participated in the business. In cases where both a male and female worked in the business, it was assumed to be owned by the male. The personal debt held by these individuals was established by compiling detailed information on the amount of outstanding debt held by commercial banks, savings and loans, finance companies, other institutional lenders, credit card companies, families, government and other lenders. This debt was allocated into several loan accounts, including credit cards, lines of credit, mortgages, vehicle, education and other loans.

The control variables included personal and demographic characteristics of the household head and business owner, and characteristics of the business. The personal and demographic characteristics included age, gender, race (White, Black/Hispanic and other), marital status (married, never married or other) and education (high school or less, less than college but more than high school, and college or more). The business characteristics include the standard industrial classification (retail or otherwise), age, origin (started, inherited, given and other), number of employees and the legal organization of the business (sole proprietorship, partnership, corporation or sub-chapter S corporation).

IV. EMPIRICAL MODEL

A conceptual framework is used to establish three separate hypotheses. These three hypotheses require assessing the differences between households with a small business borrower living in the household and all other borrowers. Three empirical models are used to address these hypotheses.

The empirical models utilize the populations weights generated by the Federal Reserve Board for this analysis. These models use simple descriptive

statistics (i.e., means) and logistic regression to assess the probability of using various lender and loan types.

The first hypothesis is assessed by examining the share of total debt held by small business owner/manager households and other households; and, evaluating the probability of use and share of total debt held by various lenders and debt instruments.

The second hypothesis is addressed by using a model, which is employed to distinguish the type of lenders used by small business owner/manager households and other borrowers. Using this model, each lender type is regressed against personal and demographic variables and a dichotomous (zero-one) small business ownership variable to determine if small business borrowers are more likely to use each type of lender than other borrowers. The following logistic regression model is used for this analysis:

$$LEND_i = \alpha_0 + \alpha_1 SBO + \alpha_2\ GND + \alpha_3\ RACE + \alpha_4\ MS + \alpha_5\ ED + \alpha_6\ AGE + \varepsilon$$

where $LEND_i$ = lender, dummy variable for each of the nine lenders;
SBO = small business ownership;
GND = gender of the household head;
RACE = race of the household head;
MS = marital status of the household head;
ED = educational attainment of the household head;
AGE = age of the household head; and,
ε = residual error term.

Based on the arguments in the conceptual model, the expected sign on the coefficient for small business ownership (α_1) is positive for commercial banks.

A very similar model is employed to address the third hypothesis. This model assesses the probability that small business owners use each type of loan. The $LEND_i$ dependent variable is replaced with the $LOAN_j$ dependent variable. Each of the seven loan types are regressed against the same set of independent variables used above. The expected sign on the coefficient for small business ownership is positive for line of credit and mortgage loans.

V. RESULTS

This study explores the financial differences between households with a small business borrower living in the household and other households. This study suggests that small business borrowers are fundamentally different from other

Table 1
Debt by Selected Household Characteristics

Institution	*Share of Population* (%)	*Share of Income* (%)	*Share of Debt* (%)
Business Ownership			
Business Owner (not manager)	1.0	2.2	3.1
Business Owner/Manager	13.1	25.9	36.7
No Business Ownership	85.8	71.8	60.2
Income			
Less than $10,000	19.8	3.2	2.7
$10,000 - $20,000	21.0	8.4	5.6
$20,000 - $50,000	37.5	32.3	29.6
$50,000 - $100,000	16.7	29.4	28.4
Greater than $100,000	5.1	26.7	33.7
Race			
White	75.2	82.8	84.6
Black/Hispanic	20.2	12.2	9.5
Other	4.6	5.0	5.9
Marital Status			
Married	53.8	72.7	78.1
Never Married	14.4	8.0	5.8
Other	31.8	19.3	16.1
Education			
High School or less	50.5	31.7	23.1
More than HS	37.4	43.7	45.8
College Degree or More	12.1	24.5	31.1
Age of Household Head			
35 years old or less	28.6	22.9	23.0
36 to 44	22.0	26.1	28.4
45 to 54	15.6	21.9	25.3
55 to 65	13.6	16.0	15.5
65 years old or older	20.2	13.1	7.8

borrowers in the population because they appear to hold more debt and they have a higher probability of using commercial bank lenders and line of credit loans than other borrowers.

The debt held by households is examined by business ownership, income, race, marital status, education, and age of household head in Table 1. Small business owners, who also manage their business, comprise just 13.1 of total households, however they hold nearly 37 percent of total household debt. Even though households with an annual income of over $50,000 comprise only 21.8

Table 2
U.S. Household Borrower Debt for Each Lender by Small Business Ownership

	Not Business Owner/Manager			*Business Owner/Manager*		
Institution	*Percent Using*	*Mean Debt*	*Share of Debt*	*Percent Using*	*Mean Debt*	*Share of Debt*
	(%)	($)	(%)	(%)	($)	(%)
Commercial Bank	56.1	12,528	32.4	66.0	45,557	37.7
Savings and Loan	29.0	8,478	16.1	32.1	30,825	17.3
Finance Company	24.7	6,009	13.8	24.6	10,031	11.6
Other Institutional Lenders	28.5	8,903	17.0	30.6	18,963	16.3
Credit Card Companies	9.2	120	1.6	7.5	279	1.1
Family	9.1	567	3.5	9.7	1,139	1.9
Government	4.3	1,901	1.9	4.2	1,184	1.7
Other Non-Institutional Lenders	36.9	2,367	9.6	34.7	5,504	6.7
Unclassified	12.5	1,438	4.0	19.5	12,281	5.8
Total	100.0	42,312	100.0	100.0	125,763	100.0

Table 3
U.S. Household Borrower Debt for Each Loan Type by Small Business Ownership

	Not Business Owner/Manager			*Business Owner/Manager*		
Institution	*Percent Using*	*Mean Debt*	*Share of Debt*	*Percent Using*	*Mean Debt*	*Share of Debt*
	(%)	($)	(%)	(%)	($)	(%)
Credit Card	56.1	1,227	16.3	55.9	1,892	9.5
Line of Credit (home equity)	7.6	1,001	2.3	15.6	4,370	4.2
Mortgage	54.9	34,717	45.8	74.6	109,795	62.5
Vehicle	57.1	3,462	25.5	52.2	5,104	16.2
Business	0.0	0	0.0	2.5	933	0.7
Other	11.6	638	3.7	13.8	3,044	3.7
Education	15.1	1,267	6.4	10.9	625	3.2
Total	100.0	42,312	100.0	100.0	125,763	100.0

Table 4
Determinants of the Probability of Using Each Type of Lender by Small Business Owners and Others

Logistic Regression

	Commercial Bank		*Savings & Loan*		*Finance Company*		*Other Institution*		*Credit Card Co.*		*Family*		*Government*		*Other*		*Unclassified Lender*	
Variable[1]	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*
Intercept	0.1803	0.4919	−0.5808	0.0446	−0.4446	0.1432	−0.8202	0.0050	−3.3402	0.0001	0.6386	0.1547	−1.4408	0.0244	−0.4503	0.0972	−2.3377	0.0001
Gender - male	−0.0464	0.7094	−0.0576	0.7009	0.1751	0.2428	−0.1501	0.3050	0.1317	0.5697	−0.1574	0.4152	−0.0377	0.8983	−0.4181	0.0014	0.7266	0.0001
Race - white	0.1013	0.5792	0.1178	0.5634	0.0011	0.9958	−0.0023	0.9910	0.8278	0.0585	0.0761	0.8065	0.1880	0.6880	0.0092	0.9617	−0.2991	0.2291
Race - black/hispanic	−0.1775	0.3689	−0.0284	0.8985	0.5115	0.0261	0.3951	0.0728	0.6621	0.1500	−0.0790	0.8161	0.4138	0.4056	0.5087	0.0131	−0.0070	0.9794
Married	0.2393	0.0043	0.6250	0.0001	0.1893	0.1587	0.3791	0.0041	0.2623	0.2070	−0.5896	0.0012	−0.0359	0.8962	0.1930	0.1123	−0.2845	0.0733
Never married	0.1513	0.2654	−0.2507	0.1243	−0.2514	0.1218	−0.5889	0.0003	0.0617	0.8065	−0.4848	0.0199	−0.0189	0.9512	−0.4099	0.0043	−0.2834	0.1973
High school education	−0.4671	0.0002	−0.4875	0.0002	−0.2428	0.0766	0.2131	0.1238	0.1481	0.4923	−0.4287	0.0319	−0.7802	0.0023	0.1875	0.1481	−0.5291	0.0008
Less than college degree	−0.1286	0.3073	−0.1685	0.1841	−0.1993	0.1442	0.2943	0.0332	0.0681	0.7541	−0.4984	0.0114	−0.7847	0.0019	0.3336	0.0099	−0.4977	0.0016
Age	0.0029	0.2968	−0.0092	0.0028	−0.0183	0.0001	−0.0101	0.0009	−0.0020	0.6807	−0.0508	0.0001	−0.0277	0.0003	−0.0039	0.1647	0.0151	0.0001
Business owner	0.2670	0.0158	−0.0484	0.6726	−0.0294	0.8116	0.1051	0.3634	−0.2805	0.1533	0.2266	0.2166	−0.0605	0.8194	−0.0103	0.9259	0.4306	0.0019
-2 Log Likelihood		3,807		3,448		3,107		3,350		1,693		1,693		1,009		3,679		2,198
Correct Predictions (%)		60		71		79		70		93		91.4		96		67		79

percent of the population, they hold 62.1 percent of the household debt identified by the SCF. White households comprise just over 75 percent of the population and they control nearly 85 percent of the household debt outstanding. Households with a married head of the household comprise nearly 54 percent of the population and hold just over 78 percent of the total household debt. Education appears to be an important determinant of the amount of debt held. Individuals with at least a high school education comprise just under one-half of the population, however they hold over three-fourths of the total household debt outstanding.

This study is primarily concerned with the behavior of borrowers. In this study, seventy-three (73) percent of all households are borrowers. The borrowers in this study hold nearly $4 trillion of debt. On average, small business owner/manager households hold over 3 times more debt ($42,312 versus $125,763) than other borrowers. However, small business owner/manager households appear to use lenders holding their personal debt in much the same way as other borrowers when examining simple comparisons. They both have about one-third of their debt outstanding in commercial banks and one-half outstanding with other institutional lenders (Table 2). However, small business owner/manager household appear to have a substantially larger share of their debt held in mortgages than other borrowers (Table 3).

When more formal analytical tools are employed to assess the use of lenders and loan types by small business and other borrowers a somewhat different picture emerges. Logistic regressions were used to assess the probability that small business owner/manager households would borrow from each of the nine lenders. Based on these logistic regressions, small business owner/managers have a higher probability of borrowing from a commercial bank and "unclassified lenders" than other borrowers (Table 4). The "unclassified lenders" includes a relatively insignificant amount of loans (approximately 4.3 percent of all loans) that were not classified in the SCF. Marital status and education were also important determinants of the probability of using most types of lenders.

When considering the types of loans held by these borrowers, small business owner/manager households are more likely to hold line of credit and mortgage loans and less likely to hold education loans than other borrowers (Table 5).

VI. CONCLUSIONS

Financial capital access is an important problem for many small business owners. This problem has been examined in the literature, however most of the analyses have proceed under the assumption that business and household (or personal) finances can easily be separated. While this study has not directly addressed the linkages between business and household debt capital, it has

Table 5
Determinants of the Probability of Using Each Loan Type by Small Business Owners and Others

Logistic Regression

	Commercial Bank		*Savings & Loan*		*Finance Company*		*Other Institution*		*Credit Card Co.*		*Family*	
Variable[1]	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*	*Parameter Estimate*	*p-value*
Intercept	–0.0041	0.9874	–3.7360	0.0001	0.3316	0.2343	1.3937	0.0001	–2.2237	0.0001	1.7681	0.0001
Gender - male	–0.2293	0.0647	–0.0210	0.9434	–0.2547	0.0495	–0.1857	0.1436	0.6883	0.0005	0.0502	0.7783
Race - white	0.0151	0.9335	0.6070	0.1325	0.1861	0.3333	–0.1085	0.5622	–0.2925	0.2643	0.6036	0.0504
Race - black/hispanic	–0.0704	0.7202	–0.0217	0.9618	–0.1499	0.4713	–0.0733	0.7181	0.0614	0.8283	0.8132	0.0133
Married	0.3202	0.0053	0.7548	0.0027	1.0450	0.0001	0.2094	0.0760	–0.3226	0.0512	0.0016	0.9925
Never married	0.0578	0.6695	–0.6282	0.0838	–0.6002	0.0001	–0.3926	0.0045	–0.2795	0.2180	0.2062	0.2612
High school education	0.2601	0.0306	–1.2307	0.0001	–1.0567	0.0001	0.6527	0.0001	–0.6070	0.0002	–1.6850	0.0001
Less than college degree	0.5372	0.0001	–0.0909	0.6034	–0.5635	0.0001	0.3821	0.0018	–0.600	0.0003	–0.8651	0.0001
Age	–0.0025	0.3611	0.0176	0.0004	0.0040	0.'1668	–0.0311	0.0001	0.0131	0.0014	–0.0802	0.0001
Business owner	–0.0242	0.8205	0.4643	0.0032	0.5899	0.0001	–0.1141	0.2908	0.1043	0.5032	–0.4224	0.0154
-2 Log Likelihood		3,963		1,555		3,500		3,733		2,031		1,961
Correct Predictions (%)		53		89		72		62		85		88

suggested that small business owner/manager households hold more debt and structure their debt differently than other borrowers. Most importantly, small business ownership has been shown to be an important determinant of the amount and structure of household debt.

Analysts have been very willing to invoke the weak separability assumption when considering small businesses. However, small business owner/manager households appear to be different from other households. Most importantly, the human, physical and financial capital resident in the family is utilized in the business. When considering programs, such as the Small Business Administration's 7(a) Loan Guarantee Program, the financial impact of the program may be mitigated because business capital may be used to retire household debt. Those analysts assessing these financial impacts may misinterpret investments into the community as new investments, when the borrower is just substituting business for household debt. In addition, if analysts (most often lenders) are unable to distinguish between household and business debt because these sources of debt are intertwined, then the full impact of the gain (or loss) of financial capital can not be assessed without considering the impact on the family.

This study has several important limitations in assessing the linkages between the financial resources of the business and family. While the data set enabled the household debt structure for small business owners and others to be compared, it was not possible to examine the interrelationships among personal and business debts. The SCF does ask whether personal collateral is pledged against business debts and whether the business borrowers money from the family. Unfortunately, the lender and loan types were not identified in the data set for these two interesting variables.

In empirical studies, such as this study, important variables may be omitted from the model. If small business owner/manager households are wealthier than other households, then a wealth variable should be added to the model. Future research on the linkages between personal and business finances should include an assessment of the impact of various wealth, and possibly income, measures on these results.

Many of the substantive issues concerning the intertwining of personal and business financial capital are not addressed. For instance, an assessment of the relationships between family and businesses sources of debt would be useful and informative to public policy makers. Those researchers convinced that the weak separability assumption applied to most small business analysis, where business finances are separated from those of family, is incorrect, must forge collaborative research agreements with family and business researchers to construct data sets that will allow researchers to carefully assess the mixing of personal and business financial capital. The small business finance picture can

only be completed when the finances of the business and the household can be assessed concurrently.

NOTE

1. George W. Haynes is an Assistant Professor in the Department of Health and Human Development at Montana State University; and, Rosemary J. Avery is an Associate Professor in the Department of Consumer Economics and Housing at Cornell University.

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