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Keywords
initial capitalization, financing patterns, small businesses, Iowa

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SMALL BUSINESS CAPITALIZATION PATTERNS

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Abstract

This study investigates the initial capitalization and financing patterns of recently established (new) and established (old) small businesses in Iowa. Analysis of survey responses indicates that significant differences exist between these two groups of firms. Specifically, new firms are found to have relied more heavily on debt financing than old firms. This suggests that new firms with high debt loads are likely not to survive and become old firms.

Introduction

Small businesses are an important component of the U.S. economy. Converse et al. (no date) indicate that they employ a large percentage of the U.S. labor force and contribute to economic development and vitality through product and technological innovation and market evolution. Unfortunately, the failure rate of these businesses is very high (e.g. Dickenson (1981) notes that approximately one third of new small businesses are discontinued after the first year and approximately two thirds are discontinued within five years).

Nadu (no date) states that better financing would improve the survival rate of small businesses, and a number of studies (e.g. Jones (1979), Boardman et al. (1981) and Wucinich (1979)) indicate that the characteristics of initial capital significantly affect the success of small businesses. Under capitalization is a common problem and is reported to be a major cause of small business failure (e.g. see Wucinich (1979)). Composition of the initial capital can also affect the financial stability new businesses. For example, financial difficulties often occur when a large debt component in the initial capitalization causes liquidity problems. These problems can be magnified during the firm's first year in business when high start-up expenses and minimum revenue are common (e.g. see Jones (1979)).

This paper presents the results of a study that examines the financing patterns and business problems of established (old) and newly established (new) small businesses in the state of Iowa. The primary purpose of the study is to determine if differences exist in the financing patterns and business problems of these two groups of small businesses. Differences in financing patterns between old and new small businesses are expected to result in different types of problems. A greater use of debt by new businesses is expected to result in more cash-related problems, such as maintaining adequate cash-flow to service the large debt load. This paper will also focus on the specific sources of equity and debt used to initially finance the small business. While a few studies have discussed the importance of personal equity and borrowing from lending institutions, no study to date has investigated specific sources and combinations of personal equity and debt used to initially capitalize small businesses.

The few studies that have examined the acquisition of capital by small business have suggested that those firms are usually financed by a mixture of personal equity and bank loans. Combs et al. (no date) in a study of the financing patterns of small businesses in Wisconsin found that equity capital came not only from owners' personal funds but also from frequent borrowing from banks, family, and friends. Debt capital was found to have been commonly acquired from supplier credit, loans, installment purchases, lines of credit, and lease agreements. None of the firms studied were used all five types of business debt, but

tailored the combination of funds to meet their particular financing needs.

A study by Ando (1985) focused on the differences in the characteristics (including capitalization) of male versus female inured businesses and between minority versus non-minority owned businesses using a nationally distributed sample of 400 firms from the SBA Master Establishments List. He found that the acquisition of capital was: (1) easier for female than male business owners; (2) more difficult for divorced than non-divorced owners; (3) no more difficult for minority than non-minority owners.

Finally, a survey of small manufacturing firms by Jones (1979) indicated that personal equity and commercial banks loans were the primary sources of both initial and growth capital for small businesses. Other sources of capital, such as the SBA and other providers of risk capital, were seldom used.

Sample and Methodology

The sample for this study consisted of 375 randomly selected businesses listed in the 1987 Iowa Business Directory. One-half of the small businesses studied were selected from small towns (population < 10,000) and one-half from larger towns (population > 10,000). The sample was further partitioned by dividing Iowa into four quadrants and selecting one-fourth of the sample from representative small and large towns within each quadrant. This sampling methodology was used to obtain a representative sample of the small businesses throughout Iowa.

A questionnaire designed to identify financing patterns and business problems was developed and pretested in June 1987. The first mailing was in early July 1987 and the second mailing in late July 1987. The response rate for the survey was 35.7%. The respondents were divided into older firms (established before 1983) and newer firms (established between 1983 and 1987).

Results

Business Characteristics

Summary information regarding selected characteristics of respondent firms indicates that: (1) The majority are either retail (40.5%) or service (36.6%) businesses and the remainder (22.9%) are in areas such as agriculture, construction, manufacturing,and finance; (2) About two-thirds of the businesses were started between 1983 and 1987 and the remaining one-third were started before 1983; (3) 58.3% are sole proprietorships, 18.9% are partnerships, and 22.7% are corporations; (4) Almost all of the firms serve either local or regional markets.

The characteristics of the responding firms showed a high correlation with the characteristics of all Iowa businesses with regard to type of business. A Chi-square analysis showed a goodness of fit.

Acquisition of Start-up Capital

Acquisition of initial capital is often a difficult problem for small businesses and is usually affected by the availability of equity relative to debt. The composition of initial financing affects both the profitability and survivability of the small business. The plausible mixtures start-up capital are often limited because of constraints on available equity funds and/or the level of debt that a lending institution will to provide. Additionally, the initial financing mix may has a direct impact on the operational flexibility of the small business. Debt funds are expensive. Excessive use of debt often leads to liquidity problems and lenders are in a position to impose operational or financial constraints on the small business.

The survey collected information on the composition of initial capitalization. If the level of debt financing is negatively associated with the ability of a small business to survive, significant differences in the debt patterns of new and old small businesses would be observed. Specifically, older (survivor) businesses would have lower levels of initial debt than newer businesses.

Examination of the results (Table 1) shows that older firms, on average, had lower levels of debt than did newer firms. The percentage of debt relative to total initial capital averaged 57% for the new firms and 37% for the old firms. Significant differences exist in the amount of debt used by new relative to old firms (Chi-square = 16.5, significant at $p < .01$).

Table 1 also shows that over one-half (52.4%) of the new small businesses obtained more than

TABLE 1
DEBT AS A PERCENTAGE OF TOTAL INITIAL CAPITAL:
NUMBER OF FIRMS BY CATEGORY

	Debt/Total Capital					X^2
	0%-25%	26%-50%	51%-75%	76%-100%	Total #	
Old Firms	19	13	7	4	43	16.5*
New Firms	29	10	11	32	82	
Total # Firms	48	23	18	36	125	

Notes: * significant at <.01

TABLE 2

SOURCE OF INITIAL EQUITY CAPITAL:
NUMBER OF FIRMS BY CATEGORY

Sources	Percentage of Equity Funding				
	0-25	26-50	51-75	76-100	Total #
Old Firms (N=46)					
Personal Savings	22	7	1	---	30
Life Insurance	2	1	---	---	3
Home Equity	---	2	---	---	2
Common Stock	---	---	---	3	3
Limited Partnership	---	1	---	---	1
Sale of Personal Asset	1	4	1	2	8
Third Party Investment	---	---	1	3	4
Other	---	1	1	2	4
New Firms (N=85)					
Personal Savings	36	4	1	---	41
Life Insurance	3	3	---	---	6
Home Equity	---	---	---	3	3
Common Stock	---	1	---	5	6
Limited Partnership	---	1	---	---	1
Sale of Personal Asset	2	1	---	1	4
Third Party Investment	1	2	---	6	9
Other	1	1	1	---	3

50% of their initial capital from borrowed funds, while only about one-fourth (25.6%) of the old firms did. Additionally, in percentage terms, over four times as many new firms as old firms (39.2% versus 9.3%) had debt to equity ratios larger than 3 to 1. Greater use of debt financing in the initial capitalization by new compared to old firms suggests that new firms with high debt financing are less likely to survive and become "old" firms.

Table 2 presents information regarding the sources of equity funding. Thirty-nine of the forty-six old firms used equity as part of their initial capital (four firms were financed with 100% debt). The results in Table 2 indicate that the majority of old firms (65.2%) obtained a portion of their initial equity from personal savings. None of the old firms indicated that more than 75% of the equity funding came from personal savings. Almost all of the old firms (96.7%) indicated that less than 50% of their initial equity came from personal savings. About 73.3% obtained less than 1/4 of their initial equity from personal savings.

The balance of the initial equity for old firms came from other diverse sources, none of which accounted for more than 8% of the equity funding. The particular sources of equity funding used, such as life insurance, home equity, and sale of personal assets or stock holdings, may have been tailored to the specific financing requirements of individual owners. This would be consistent with Combs et al. (no date).

Only 54 of the 85 new firms used initial equity capital (31 were financed with 100% debt). The majority of these firms also obtained most of their initial equity from personal savings. However, the data shown in Table 2 indicates that personal savings funded a smaller percent of the total equity for new firms than for old firms. Similar to old firms, the balance of new firms' initial equity came from diverse sources. These other sources appear to be more important for new firms because a much larger percentage of the new firms (87.8% of new versus 73.3% old firms) obtained 25% or less of their funds from personal savings. Home equity, common stock, and third party investments were more important sources of equity for new than for old businesses. Neither group of firms acquired more than 75% of their initial equity from personal savings.

Personal equity was found to be an important source of capital for firms in both categories. This finding is consistent with Combs, Pulver and Shaffer (5) and Jones (11). A comparison of the principal sources of equity for new and old firms reveals two patterns. First, new firms used greater debt to begin operations. Only 15.2% of old firms were initially 100% debt financed as compared to 36.5% of new firms. The old firms may be the survivor set that initially used less start-up debt and, consequently, had fewer liquidity constraints. The new firms having the high debt ratios may not become old firms. Second, old firms relied more on third party investments and common stock, while new firms relied more on the sale of personal assets and other sources. New small businesses acquired equity funds from third party investors and thus did not need to generate additional funds through the sale of personal assets or other sources.

Table 3 shows the composition of initial debt capital for both old and new firms. Eighteen old firms and twenty-nine new firms used no initial debt capital (100% equity). The overall importance of lending institutions as the principal providers of initial debt financing is clearly evident, as was found by Jones (11). A large percentage of both old (45.6%) and new (51.8%) firms obtained some portion of their debt financing from a lending institution. Lending institutions provided more than 75% of the debt for almost all firms in both groups (85.7% for old firms and 90.1% for new firms).

The pattern of debt capital acquisition is distinctively different from that of equity capital acquisition. Both groups of firms obtained equity capital from several sources. Debt financing, however, is more concentrated. Approximately 76.0% of old firms and 71.4% of new firms (Table 3) obtained more than 75% of their initial debt financing from a single source.

A greater percentage of old firms (39.1%) than new firms (34.1%) are financed without initial debt. This supports greater debt utilization by the new firms. New businesses obtained more debt from friends/relatives, banks and bonds and less debt from "other sources" as compared to old firms. Additionally, an identical percent of both old and new firms (6%) obtained SBA financing, although old firms relied on the SBA for a larger percentage of total debt than did newer firms. In contrast, Jones (1979) found no evidence of SBA

TABLE 3

SOURCE OF INITIAL DEBT CAPITAL:
NUMBER OF FIRMS BY CATEGORY

Sources	Percentage of Debt Funding				
	0-25	26-50	51-75	76-100	Total #
Old Firms (N=46)					
Friends/Relatives	2	2	---	---	4
Lending Institutions	1	1	1	18	21
SBA Guaranteed	---	---	---	2	2
Bond	---	---	---	---	---
Finance Company	---	1	---	1	2
Government Grant	---	---	---	---	---
Other	---	---	---	4	4
New Firms (N=85)					
Friends/Relatives	3	3	1	5	12
Lending Institutions	1	1	2	40	44
SBA Guaranteed	---	2	1	3	6
Bond	---	---	---	2	2
Finance Company	1	---	---	---	1
Government Grant	---	---	---	---	---
Other	2	1	1	---	4

TABLE 4
PERCENTAGE OF ADDITIONAL CAPITAL OBTAINED FROM DEBT:
NUMBER OF FIRMS BY CATEGORY

	Debt as a Percentage of Additional Capital				
	0-25	26-50	51-75	76-100	X^2
Old (N=21)	5	5	1	10	2.07
New (N=14)	3	2	---	9	

financing.

Acquisition of New Long Term Capital

The survey asked whether additional long term capital had been procured after beginning initial operations. About 45.7% of old firms and 16.5% of new firms obtained additional long term capital. A large difference between the percentage of old and new firms acquiring new capital is not unexpected since growth and related capital needs would not be experienced by new small businesses as much as by old small businesses.

Table 4 presents the composition of additional long term capital by both categories of firms. New firms acquired a higher percentage of debt than did old firms. The additional capital of 5 old and 3 new firms was 100% equity, which is approximately the same percent of firms in each category. However, 8 of both old and new firms' additional funds were entirely debt - a much higher percent of the new than old firms. This difference is not surprising. From being in business longer than new firms, old firms have more time to generate equity from operations. The larger equity investment would result in smaller debt needs.

Table 5 presents the sources of new capital for both groups of firms. Although the small sample size limits the analysis, several patterns can be identified. When obtaining new capital, both categories of firms typically relied on a single source. Personal savings, the most common form of new equity, was more important for old than for new firms, which is consistent with the initial equity capitalization patterns. Having begun operations more recently, owners of younger firms would not have had time to accumulate large savings. Consequently, alternative sources of new equity would be necessary. The category, "other sources", thus was became an important source of new equity and was more important for old than for new firms.

Table 5 also shows the acquisition of new debt for the two groups of firms. Lending institutions were an important source of debt for both groups of firms. The SBA provided a larger percent of funds for old firms than for new firms. This difference may be due to the change in emphasis from direct SBA loans to SBA guaranteed loans from lending institutions under the current political administration.

Current Problems

The financing patterns discussed previously indicated that new firms acquired more debt than did old firms during both initial and subsequent capitalization. As a result, new firms are expected to have more cash related problems than old firms. Of course, old firms will have fewer cash related difficulties than new firm for other reasons, such as a longer time in business to reduce debt and solve other problems. Additionally, the sample of old firms may have a "survivor bias" in that poorly managed and less efficient firms may no longer be in operation. Such new firms, however, may still be in business.

To determine whether new businesses are having more cash related problems than old firms, respondents ranked their top three business related problems. Table 6 lists the percentage of old and new firms ranking each problem area as one of their top three. The differences in the rankings between the old and new small businesses provide insight into the problems faced by a small business at various life cycle stages.

Personnel, cash-flow, and inventory were most often ranked as one of the old firms' top three problems. In contrast, over one-half (51.8%) new firms cited cash-flow as of their top three problems. Approximately 24.7% of new and of 6.5% old firms ranked establishing market identity as one of their top three problems. Such a large difference is not surprising since the longer time in operation would have allowed the old firms to establish their market identity. Cash-flow problems, however, are a continuing concern for old as well as new small businesses.

After surviving their initial years in operation, the problems of old business are more managerial, such as inventory and personnel management, rather than financing concerns. This is not unexpected since as the small business becomes successful and established in the market, higher levels of inventory and more personnel must be managed.

The results also provide insight into the problems associated with large initial debt loads of new small businesses. The problems that the new firms ranked more often than the old firms may be divided into two areas: (1) those related to establishing the business in the market (establishing a market identity and advertising) and (2) cash related (cash-flow, short and long term debt and supplier relations). Higher rankings of cash related problems by new firms was probably due to a shortage of net cash flow from their operations. Higher debt loads and resulting greater interest obligation of the businesses undoubtedly aggravated their cash related difficulties.

Conclusions

The results of the study indicate that differences

TABLE 5

SOURCES OF NEW CAPITAL:
NUMBER OF FIRMS FOR OLD AND NEW FIRMS

OLD FIRMS (N=21)			NEW FIRMS (N=14)		
# FIRMS	COMBINATION	PERCENT	# FIRMS	COMBINATION	PERCENT
Equity[1]:					
5	Personal Savings	100	3	Personal Savings	100
4	Other Sources	100	1	Common Stock	100
2	Home Equity	100	1	Home Equity	100
1	Home Equity	85	1	Personal Savings	50
	Life Insurance	15		Other	50
1	Third Party	80			
	Common Stock	20			
Debt[2]:					
12	Bank Loan	100	7	Bank Loan	100
2	SBA	100	2	Friends/Relatives	100
1	Friends/Relatives	100	1	Govt. Grant	100
1	Friends/Relatives	50	1	Bank Loan	50
	Finance Company	50		Friends/Relatives	50

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[1] 8 of the old firms and 8 of the new firms acquired no new equity (100% debt)
[2] 5 of the old firms and 3 of the new firms acquired no new debt (100% equity)

TABLE 6

PERCENTAGE OF FIRMS RANKING
CURRENT PROBLEM AREAS AS ONE OF TOP THREE

Type of Problem	Old Firms (N=39)	New Firms (N=77)
Establishing a Market Identity	6.5	24.7
Advertising	13.0	17.6
Bookkeeping	10.9	5.8
Personnel	30.4	14.1
Inventory	28.3	12.9
Accounts Receivable	17.4	15.3
Supplier Relations	4.3	7.0
Short Term Debt	10.9	16.5
Long Term Debt	6.5	17.6
Cashflow	30.4	51.8
Other	10.9	8.2

exist between the initial financing patterns of old and new small businesses. New small businesses relied on more debt than did old firms for both initial capitalization and subsequent acquisition of long term capital. This suggests that new firms with high debt loads relative to those with low debt loads were less likely to survive and become old firms. Other differences between the financing patterns of the two groups include a larger percent of loans from friends/relatives and smaller percent of other debt sources when compared to old small businesses.

Differences also existed in the composition of the two groups' initial equity capital. The primary sources of equity and debt capital for both groups were personal savings and loans from lending institutions, respectively, but differences existed in the financing patterns of the two groups. New firms relied more on third party investors, while old firms relied more on the sale of personal assets and other equity sources.

The greater use of debt during initial and subsequent capitalization was hypothesized to result in more cash related problems for new firms. The results confirm that new firms experienced more cash-flow related problems than did old firms. Old firms experienced more problems in managerial areas such as bookkeeping, personnel, inventory and accounts receivable. Although some differences between the problems of the two groups may be related to their relative ages, the composition of capital has a compounding effect.

The results also provided insight into the life cycle nature of small business problems. The responses indicate that new firms were attempting to establish a market niche, become visible to consumers through advertising, and manage the imbalance between cash outflows and cash inflows. The old and presumably more established firms were experiencing more managerial related problems such as inventory, accounts receivable, and personnel management.

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