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Acquisition of Additional Equity Capital by Small Firms – Findings from the National Survey of Small Business Finances

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ABSTRACT. While the importance of venture capital to the growth of small firms has been widely discussed during the past decade, little is known about the acquisition of additional equity capital, especially internal equity capital, by the majority of small firms in the U.S. This paper utilizes the information collected in the Federal Reserve Board's 1993 and 1998 Small Business Finance Surveys to investigate the acquisition of additional equity capital by small firms. While the importance of public issue markets and venture capital investment in promoting the growth of small dynamic firms cannot be denied, the importance of external equity capital seems to be overstated. Only a very small number of small firms acquired additional external equity capital. It is the internal equity capital, not external, equity, that is one of the major financing sources for most small firms. We found that younger, lower quality firms were more likely to acquire additional internal equity capital than other firms. There appeared to be a "pecking order" of borrowing from internal sources to traditional lenders to non-traditional lenders. In addition, internal equity capital and debt acquired from traditional and non-traditional lenders appeared to be complementary financial resources.

1. Introduction

The phenomenal growth in the number of small business ventures over the past decade has increased the demand for debt and equity capital by small business owners. It is estimated that total assets of $2.2 trillion were held by some 5 million small businesses in 1998 with about $870 billion of equity capital, or net worth, used as the source of financing for these asset purchases.[1] It is, however, important to remember that the sources of the growth in the total value of a company's net worth come from the initial and subsequent equity investments by the owner(s), business savings or retained earnings, as well as gains from market valuation in the assets when assets were valued at the appreciated market prices. Therefore, it is difficult to estimate the importance of initial and subsequent equity investments in the total composition of total equity held by the small business sector.

A majority of firms utilize some type of debt or equity capital. Debt capital includes loans provided by creditors. These creditors are classified as either traditional lenders, such as credit unions, thrifts, commercial banks, finance companies, brokerage firms and leasing companies; or non-traditional lenders, such as families, other businesses, government and other individuals. Equity capital includes capital invested in the firm without a specific repayment date, where the supplier of the equity capital is effectively investing in the business. This study examines the acquisition of internal and external equity. Internal equity is capital that is obtained from the existing owners, their relatives, new or existing partners or from retained profits within the firm. External equity is capital obtained from sources other than existing shareholders or their relatives. While an extensive literature exists on the availability of equity capital to small business, almost all of this literature focuses on the supply of external equity capital from the public markets (the initial public offerings), organized private equity markets (venture capital) and, to a more limited extent, informal equity capital markets (angels). This study examines the demand for additional internal and external

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equity capital by small business owners using the information collected in the Survey of Small Business Finances (for 1993 and 1998) by the Federal Reserve Board.

2. Literature review

The private equity market used by small firms is especially interesting because it is often involves rather complex contracts that are informationally opaque and contrasts significantly from the more informationally transparent public stock and bond markets used by large firms. External equity raised by small firms originates in the informal angel capital market, where individuals invest directly in small companies through an equity contract; or the venture capital market, where financial intermediaries deploy funds to selected small business ventures. Internal equity, primarily in the form of owner contributions and net worth, is used more widely by small business owners. The characteristics of small firms and their owners play an important role in the acquisition of internal and external equity capital. Those factors include growth stage (Berger and Udell, 1998) industrial classification (Timmons, 1997; Fenn and Liange, 1998; Carpenter and Peterson, 2002); goals of the family and business (Barton and Mathews, 1989; Petty and Bygraves, 1993; Kuratko et al., 1997), and risk preference (Bolton and Freixas, 2000; Xaio et al., 2001).

Startup firms are typically informationally opaque firms (Schmid, 2001) where the lender knows a limited amount of information about the firm or their products, hence these firms are more dependent upon owner loans, internal equity, trade credit and angel financing. Financial capital provided by the owners, either in the form of owner loans or internal equity, increase substantially as the firm approaches middle age from 25 to 40 percent of total financing (Berger and Udell, 1998).

Modern information based theory of security design and the notion of a financial pecking order also help explain the financing of small firms over the growth cycle. Monitoring (Diamond, 1984), adverse selection (Myers and Majluf, 1984) and moral hazard impose additional costs on suppliers of debt or equity capital. Costly monitoring and adverse selection challenges would favor external debt, while moral hazard challenges would favor external equity (Berger and Udell, 1998). Pecking order theory would suggest that external debt be employed before external equity, however this argument is dependent upon the information held by suppliers of debt or equity capital.

Some types of firms, especially high growth technology firms, have a substantially higher probability of acquiring external equity than other firms. On one hand, these firms offer the angel and venture capitalist the expectation of high returns, however these firms have highly variable profits, substantial information asymmetries and a lack of collateral which limits their access to debt (Timmons, 1997; Fenn and Liange, 1998; Carpenter and Peterson, 2002). Angel and venture capitalist funding is interconnected as these firms grow and develop, where they play a complementary role (Freear and Wetzel, 1995). The upstart firm may solicit angel capital initially and replace this capital with venture capital as the firm grows beyond the funding capacity of the angel investor.

Some matching occurs between potential suppliers of financial capital and small business owners. The goals and objectives of the family and their business and their risk preference are critical in finding the right match. Life style preferences (Petty and Bygraves, 1993), personal financial security and autonomy (Kuratko et al., 1997) and risk preferences (Bolton and Freixas, 2000; Xaio et al., 2001) will determine what type of financial capital the small business owner will pursue. Petty and Bygraves (1993) found that life style preferences were just as important as the goal of wealth maximization in choosing sources of financial capital. Kuratko et al. (1997) found that personal financial security and autonomy were as critical as business financial goals in pursuing financing alternatives. Bolton and Freixas (2000) examined the business risk profile and found that riskier firms prefer bank loans, somewhat safer firms prefer equity and bonds where they avoid intermediation costs. Xiao et al. (2001) found that business owners are very risk tolerant and that education, age, race, and personal net worth were important factors in determining their risk taking attitudes and behaviors. Other work suggests that graduate education significantly influenced the odds of using external equity financing by women entrepreneurs (Carter et al., 2003).

The previous studies have examined the determinants of the demand for internal and external equity capital by examining the characteristics of the business owner and business firm. This study extends these earlier studies by examining the influence of financial characteristics (high and low financial risk) of the business on the acquisition of additional equity capital and the relationship (complements or substitutes) between internal and external equity and other sources of capital. The next section examines conceptual considerations in assessing the demand for internal and external equity capital.

3. The demand for internal and external equity capital by small firms – some conceptual considerations

A firm's demand for capital arises when the expected cash inflow falls short of the expected cash outflow. The capital needs can be fulfilled by either debt or equity capital. Using equity capital has usually been touted as a preferred form of financing for young promising firms with the prospect of experiencing a prolonged period of cash shortages. Equity capital provides long-term funding with minimal cash flow drains typically associated with a debt financing. Moreover, investments by equity investors also enhance the creditability of a new firm by indicating that the firm has the "winning approval of sophisticated financial professionals".

Two circumstances give rise to this cash shortage that require financing from equity capital sources: (1) One when a firm experiences financial distress and the financing from alternative sources is lacking; and, (2) when a growing business generates a rapidly rising cash outflow that outpaces the growth in cash inflow from regular financing sources. In the first case, the firm needs working capital or cash to avoid defaulting on loans and risking foreclosure or bankruptcy. In the latter case, the high growth young firms need to spend so much cash to create new products and services for new market(s) that they are faced with prolonged cash shortages. Uncertainty about the firm's expansion prospects discourages regular lenders from extending loans. Equity capital can be used to meet these distress or expansion needs. However, decisions involved in borrowing and lending equity capital for these two cases are very different. Internal and external equity capital is supplied to meet different market conditions.

3.1. *Demand for external equity by dynamic ventures*

Most of the existing literature on the demand for equity capital concentrates on the uses of external equity capital – e.g., equity capital raised in the IPO market, venture capital from venture capital firms, and investment by private equity investors. This is a very special kind of demand for equity capital by a special group of small firms with high growth potential and high risk. External equity investors often prefer this type of firm.

Many factors determine the demand and the supply of this type of equity capital. To the entrepreneurs, getting equity capital from investors should be looked upon as an effort to invite strategic partners to grow a joint venture. It involves sharing of the vision, control and management of the business as well as the profit potential of a business operation. High costs of borrowing, 30–50 percent return on investment to the investors, plus the potential costs of losing control of the business need to be balanced with the prospects for faster business growth and potential appreciation in the value of the business.[2] To these entrepreneurs, the availability of alternative financing may not be that relevant. What is involved may not be choosing among debts, internal equity, and external equity, but rather choosing a growth strategy that maximizes the wealth growth potential.

For investors, the high risk of failures involved in launching a dynamic growing business demand a high return on investment as compensation. High return on investment is possible only in ventures with high growth potential in a relatively short period, say 5–7 years during the pre-boom period of late 1990s. The prospect of a rapidly expanding sales and profit is the only way to attract venture capital.[3] Investing in such a business also involves more than just providing financing. It involves the development and collaboration of a business strategy with the entrepreneur(s) to grow the business venture to a certain size. The financial risk is high, therefore these investors demand a high potential return.

It is difficult to estimate how many small businesses have the characteristics that would make them attractive to equity investors in the U.S. Fast growth is one major characteristic of firms utilizing venture capital. Of the 5.3 million small firms with employees in the U.S. some 100,000–200,000 of them may qualify to become the investment targets of equity investors.[4]

3.2. *Use of equity capital by most small firms*

Most small firms are not dynamic ventures. They do not grow or grow only steadily to serve growing local market(s). For these firms, the demand for equity capital arises as an integral part of the overall financing decision involving the choice between internal and external sources of financing to meet different kinds of demand arising from regular business operations, such as acquiring new assets or bridging the cash flow gaps caused by expected (and seasonal) or unexpected imbalances in cash flows. In this respect, the use of equity capital is the outcome of financing decisions on the use of internal funding conditioned by the availability and the relative costs of alternative financing sources. The pecking order theory of the uses of financing sources (ranking internal sources in preference to external sources) and the high agency costs of borrowing from external sources are most relevant here.[5] However, since owner's equity is a very important component of a business's collateral (in addition to physical assets), the use of internal equity capital is complementary as well as substitutive to the use of financing from financial institutions.

The uses of equity capital by non-dynamic businesses is likely to be more supply constrained, where use is affected by the availability and the relative costs of internal sources of funds versus debt financing from outside sources.[6] Financing for a business in distress will come from either debt capital with owner collateral or personal guarantees, and, most likely, from internal sources of capital such as owner's equity or owner's loans. Equity capital can be used to relieve the firm in distress from the liquidity pressure in making a loan payment. They also help improve the debt equity ratios that enhance the chance of obtaining debt financing.

For most small firms, it is the supply of internal savings and external debt that will be the most relevant in assessing their use of internal equity. The following hypotheses on the acquisition of additional internal and external equity capital will be examined:

Based on earlier work by Berger and Udell (1998), growth stage is an important determinant of the acquisition of additional equity capital. Based on this earlier work, we would expect the following:

1. Younger firms are more likely to acquire additional equity financing than older firms,
2. Smaller firms are more likely to acquire additional equity than larger firms, and
3. High sales growth firms are more likely to acquire additional equity than low sales growth firms.

The financial condition of the small business acquiring additional equity financing has not been explored by others. Lower quality (higher financial risk) small businesses are likely to face lower supplies of all types of financial capital, therefore we would expect the following:

4. Lower quality (weaker financial condition) firms are more likely to acquire addition equity financing than higher quality (stronger financial condition) firms.

The relationship between equity and other financing sources is an important consideration for lenders and small business owners, which has been mentioned by several authors (Berger and Udell, 1998; Papadimitriou and Mourdoukoutas, 2002; Tucker and Lean, 2003) but not examined. This study examines the differences in the relationship between internal equity financing and financing from other traditional and non-traditional sources. Traditional sources include credit unions, thrifts, commercial banks, finance companies, brokerage firms, and leasing companies. Non-traditional sources include families, other businesses, government, and other individuals. We expect internal equity financing will complement other sources of financing for small business owners, hence we would expect the following:

5. Firms using other internal financing sources, such as owner loans or personal and business credit cards, are more likely to acquire additional equity financing than other firms not using other internal financing sources; and
6. Firms with loans from traditional and non-traditional institutions are more likely to acquire additional equity financing than firms without loans.

4. Empirical considerations

The Survey of Small Business Finances (SSBF) is the national survey conducted by the Federal Reserve Board of Governors for information on small business use of different financing sources.[7] This study utilizes all of the observations from 1993 to 1998 surveys and distinguishes small businesses by their use of internal and external equity capital. All analyses employed in this study use the population weights generated by the research staff at the Board of Governors of the Federal Reserve to compensate for the oversampling of selected populations.

This study utilized three questions from the survey to determine the use of internal and external equity capital. It also allows us to examine the firm's use of equity financing in conjunction with other debt capital used by the firm. Internal equity capital is obtained from existing owners, their relatives or from new and existing partners over the past 3 years. External equity capital is obtained from sources other than existing shareholders or their relatives. The dependent variables (uses internal equity and uses external equity) in this analysis are dichotomous.

Although data collected on the uses of equity in 1998 differed slightly from the uses of equity in 1993 survey, data collected in both surveys (the 1998 SSBF and the NSSBF for 1993) were used separately and combined to increase the number of observations for the statistical analysis. The 1993 survey asked about additional equity acquired over the last 3 years and used the following question: During the last 3 years, has the firm obtained additional equity capital from existing owners, their relatives, or from new or existing partners. The 1998 survey asked about additional equity acquired during the previous year and used the following question: During (1998/the fiscal year ending [DATE]), did [FIRM] obtain additional equity capital from existing owners, new or existing partners, or existing shareholders? However, the database still permits limited testing of hypotheses related to small firm uses of external equity. Only 80 firms in the total sample of 8,100 firms (for two surveys) were found to have used external equity capital.

This study uses logistic regression models to assess the key determinants of the acquisition of internal and external equity by small firms. The statistical model employed for this study is specified as follows:

$$E_i = \alpha_0 + \alpha_1 FD + \alpha_2 CU + \alpha_3 YD + \varepsilon$$

where E is the acquisition of additional equity capital (i = internal or external equity capital), FD the firm demographic variables, include age, number of employees, growth in sales, profitability and quality of the firm (Altman Z). The variables for the standard industrial groups, legal organization, woman and minority ownership, census regions, and urban location, are used as proxy variables for the demand conditions.[8] CU the capital use, includes owner loans, personal and business credit cards, and recent loans from traditional and non-traditional lenders. These variables are included to show the importance of alternative financing sources used, and YD is the year dummy. Since two survey years were combined, a dummy variable for year 1998 was included.

The same independent variables are used in the internal equity models using the combined, 1993 only and 1998 only datasets. Given the small number of respondents acquiring additional external equity in 1998, the net profit margin, industrial classification and census region categories are collapsed. The variables of interest in this study are the age of firm, which uses a dummy variable to identify firms less than 4 years old or firms 4 or more years old; number of employees; quality of the firm, measured by the net profit margin and Altman Z statistic; sources of internal financing, including owner loans and personal and business credit cards; and recent loans from traditional and non-traditional institutions. Traditional institutions include credit unions, thrifts, commercial banks, finance companies, brokerage firms, and leasing companies. Non-traditional institutions include families, other businesses, government and other individuals. The firm's industrial classification, legal organization, woman or minority ownership, and location (census region and urban or rural) are included as control variables.

Standard logistic regression models are used to examine the determinants of the acquisition of additional internal equity capital. A logistic regression algorithm with error corrections for very rare events is employed to examine the determinants of the acquisition of external equity capital, where additional external equity was acquired by less than 1 percent of the firms in this study (King and Zeng, 2001).

5. Results

This section utilizes descriptive tables and logistic regression models to assess the key determinants of the acquisition of additional internal and external equity capital by small businesses. Table I shows the proportion of small businesses, differentiated by demographic and financial characteristics, acquiring additional internal and external equity capital. Tables II and III report logistic regression results assessing the determinants of acquiring additional internal (Table II) and external (Table III) equity capital.

Table I provides a description of the various types of firms that have acquired additional equity capital. Two groups of users are distinguished – users of internal and external equity. Certainly the most striking result is the insignificance of external equity capital by small firms. Less than 1 percent of all firms surveyed used any additional external equity capital. Overall, 87 percent of firms surveyed had not used any additional equity during the previous 1 or 3 years of the two surveys. Among those 13 per cent of small firms that acquired additional equity capital, almost all of them of them acquired only internal equity. Only 5 percent of those that acquired additional equity capital acquired external equity alone or with internal equity.

The firms most likely to have acquired additional internal equity were somewhat younger, smaller, less profitable and lower financial quality (Table I). They were more likely to hold owner loans, use personal and business credit cards and have recently had a loan approved with a traditional or non-traditional lender. The control variables suggest that these firms were more likely to be engaged in manufacturing, transportation, wholesale trade or retail trade than the services industry; organized as regular corporations; located in the North central rather than the West; and reside in urban locations.

The firms most likely to have acquired additional external equity were younger, had stable or increasing sales, were less profitable, were lower quality and were more likely to have used owner loans and business credit cards. The control variables suggest that these firms are more likely to be engaged in wholesale trade than the services industry, are organized as regular corporations and are less likely to reside in rural areas. Given the small number of firms acquiring additional external equity capital, these results should be used with caution.[9]

Multivariate analyses were performed to test the major hypotheses for acquiring additional internal and equity capital. The first analysis examines various factors that influence the firms' acquisition of additional internal equity capital using the combined data and data for each of the years, 1993 and 1998 (Table II). Firms with a higher probability of acquiring additional internal equity capital are younger (less than 4 years old), less profitable (lower profit margin), lower financial quality (as indicated by lower Altman Z ratios), more likely to use non-traditional sources of financing (especially, the owners' loans and personal credit cards); more likely to use business credit

TABLE I
Proportion of all small businesses acquiring additional equity capital

Characteristics	Internal equity	External equity
All firms	0.123	0.006
Age of the Business		
Less than 4 years	0.155	0.014
4 years or more	0.119*	0.005*
Number of employees		
0[1]	0.100	0.000
1–4	0.124*	0.004
5–9	0.141*	0.011
10–19	0.152*	0.010
20–99	0.111	0.013
100–499	0.137	0.023
Sales growth		
Decreasing sales	0.126	0.005
Stable or Increasing sales	0.115	0.008*
Profit margin		
0 % or less	0.183*	0.011*
0 %–10 %	0.131*	0.006
10 %–30 %	0.111*	0.005
30 %–50 %	0.108*	0.002
Greater than 50 %[1]	0.060	0.003
Firm quality		
Lowest 25 %[1]	0.219	0.009
Middle (25 %–75 %)	0.130*	0.008
Highest 25 %	0.078*	0.002*
Owner loans, yes/no		
No	0.098	0.004
Yes	0.256*	0.016*
Uses personal credit cards, yes/no		
No	0.102	0.005
Yes	0.152*	0.007
Uses business credit cards, yes/no		
No	0.115	0.004
Yes	0.142*	0.009*
Approved by a traditional institution for recent loan		
No	0.107	0.005
Yes	0.182*	0.008
Approved by a non-traditional institution for recent loan		
No	0.122	0.006
Yes	0.260*	0.007
Standard industrial classification		
Mining and construction	0.122	0.003
Manufacturing	0.138*	0.005
Transportation	0.142*	0.001
Wholesale trade	0.138*	0.023*
Retail trade	0.152*	0.006
Insurance agents and real estate	0.113	0.008
Services[1]	0.104	0.003

TABLE I
Continued

Characteristics	Internal equity	External equity
Regular corporation		
No	0.118	0.004
Yes	0.140*	0.012*
Women-owned business		
No	0.125	0.006
Yes	0.117	0.006
Minority-owned business		
No	0.124	0.006
Yes	0.116	0.004
Census region		
Northeast	0.114	0.003
Northcentral	0.148*	0.009
South	0.118	0.007
West[1]	0.124	0.004
Location		
Rural	0.109	0.002
Urban	0.127*	0.007*

[1] Reference category for the statistical comparisons.
* Level of significance is 5 percent.

cards; and more likely to have acquired a recent loan from a traditional or non-traditional lender. The results generated from the combined the data set were quite robust across the 2 years (1993 and 1998) and supported all but one of our hypotheses. The growth in sales variable was statistically significant in the 1998 data, indicating that higher growth firms were less likely to have acquired additional internal equity capital. The firm quality and use of business credit cards variables were not significant in the 1998 data. The year variable (data from 1998 NSSBF) was highly significant indicating that separate regression estimates for the individual years was warranted. The results for 1993, a year of weak recovery from the severe recession of 1990–1991, indicated the prominence of internal equity capital acquisition by financially weaker firms. The results for 1998, a fairly prosperous year with heightened activity in new venture financing, indicated that firm quality was not a statistically significant factor in acquiring additional internal equity. The most unstable variables were the net profit margin categories, which were not significant in the 1993 data. The control variables suggest that external factors, such as being engaged in retail trade, organized as a regular corporation, located in the Southern Census Region and residing in an urban location, are important determinants of additional internal equity capital acquisition.

The second analysis utilizes a rare events logistic regression to examine various factors that influence the firms' acquisition of additional external equity capital (Table III). Younger and larger firms were more likely to acquire additional external capital than other firms in this study. The age variable was statistically significant in the combined and 1998 data regressions, but not in the 1993 regression. Using only the 1998 data, it appears that firms acquiring a recent loan from a non-traditional lender were more likely to have acquired additional external equity capital. The control variables suggest that firms engaged in wholesale trade are more likely to acquire additional external equity than firms engaged in the service industry.

6. Conclusions

Only a very small number of small firms acquired additional external equity capital.

TABLE II
Logistic regression summary of the determinants of internal equity use

Variables	Combined		1993 Only		1998 Only	
	Parameter estimate	*p*-value	Parameter estimate	*p*-value	Parameter estimate	*p*-value
Intercept	–2.4474	0.0001	–2.3465	0.0001	–3.7846	0.0001
Young, less than 4-years old	0.3893	0.0002	0.2915	0.0246	0.5678	0.0011
Number of employees	–0.0012	0.4661	–0.0029	0.1576	0.0029	0.2620
Growth in sales	–0.1136	0.1686	–0.0343	0.7149	–0.4005	0.0336
Net profit 0 or less	0.5338	0.0003	0.2706	0.1135	1.2018	0.0001
Net profit 0–10%	0.2452	0.0908	0.1163	0.4884	0.3664	0.2302
Net profit 10–30%	0.3137	0.0237	0.1041	0.5229	0.7902	0.0037
Net profit 30–50%	0.3161	0.0293	0.2403	0.1471	0.4106	0.2003
Quality of firm (Altman Z)	–0.0537	0.0041	–0.0657	0.0024	–0.0360	0.3551
Uses owner loans	0.9592	0.0001	1.0086	0.0001	0.8185	0.0001
Uses personal credit cards	0.4500	0.0001	0.3776	0.0001	0.6697	0.0001
Uses business credit cards	0.2103	0.0045	0.2555	0.0028	0.1984	0.2160
Recent loan from traditional lender	0.3817	0.0001	0.3507	0.0001	0.4898	0.0044
Recent loan from non-traditional lender	0.8167	0.0020	0.6131	0.0489	1.1364	0.0157
Control variables						
Mining and construction	0.0998	0.3734	0.1696	0.1796	–0.1422	0.5727
Manufacturing	0.0864	0.5131	0.0855	0.5814	0.0861	0.7309
Transportation	0.2825	0.1389	0.5430	0.0145	–0.4340	0.2969
Wholesale trade	0.0526	0.6915	0.0997	0.5076	0.0025	0.9930
Retail trade	0.3297	0.0004	0.4275	0.0001	0.0676	0.7301
Insurance agents and real estate	0.0266	0.8568	0.1938	0.2302	–0.6896	0.0980
Corporation, regular	–0.2625	0.0015	–0.2843	0.0022	–0.2167	0.2518
Woman-owend business	0.0140	0.8659	–0.0001	0.9991	0.0721	0.6543
Minority-owned business	0.0225	0.8599	0.1298	0.3801	–0.1825	0.4836
North east region	0.1709	0.1065	0.2348	0.0479	–0.1384	0.5659
North central region	0.1919	0.0758	0.2675	0.0224	–0.2217	0.4434
Southern region	0.2423	0.0145	0.3079	0.0054	–0.0536	0.8187
Urban location	0.2393	0.0079	0.3082	0.0027	0.0648	0.7363
Data from 1998 NSSBF	–1.2694	0.0001				
McFadden *R*-squared		0.113		0.070		0.089
Number of observations		8,198		4,637		3,561

Information on the uses of venture capital (equity capital from external sources) from the national surveys are too limited, however this study utilizes standard logistic regression to examine the acquisition of additional internal equity and employs rare events logistic regression to examine the acquisition of additional external equity.

The significance of these variables in identifying the internal equity users exemplifies the importance of internal financing as an integral part of the overall financing decision by most small firms. In fact, excluding sole proprietors whose business finances are difficult to understand because the intermingling of business finances and personal finances, some 38 percent of small firms acquired additional internal financing as compared with some 50 percent for the users of financing from commercial banks.[10] The combined source, internal equity and owner's loans, is one of the two most important sources of financing for most small firms, far surpassing all other sources of financing and even rivaling the financing provided by commercial banks.[11]

Internal financing had been used in conjunction with different external financing sources for two different financing situations. The uses of internal equity and owners' loans in combination with the uses of such non-traditional

TABLE III
Logistic regression summary of the determinants of external equity use

Variables	Combined		1993 Only		1998 Only	
	Parameter estimate	*p*-value	Parameter estimate	*p*-value	Parameter estimate	*p*-value
Intercept	–7.7266	0.0000	–7.2041	0.0000	–8.3889	0.0000
Young, less than 4 years old	1.3444	0.0010	0.9791	0.0850	1.7096	0.0030
Number of employees	0.0079	0.0000	0.0081	0.0000	0.0116	0.0000
Growth in sales	0.6642	0.0580	0.7408	0.1110	0.2758	0.7220
Net profit 0 or less	0.4582	0.5510	–0.2934	0.7470	1.7263	0.1550
Net profit 0 –10%	–0.0529	0.9460	–0.5940	0.5290	0.4082	0.7670
Net profit 10–30%	0.0454	0.9530	–1.1459	0.2360	1.6360	0.1730
Net profit 30–50%	–0.3966	0.6490	–0.7462	0.4290	–	–
Quality of firm (Altman Z)	–0.0063	0.9390	0.0015	0.9900	–0.0098	0.9350
Uses owner loans	0.8171	0.0540	0.7346	0.1560	0.9644	0.2380
Uses personal credit cards	0.4592	0.1750	0.4141	0.2750	0.7564	0.2710
Uses business credit cards	0.5437	0.1280	0.3321	0.3750	0.9835	0.1970
Recent loan from traditional lender	–0.0147	0.9680	–0.0980	0.8160	–0.1200	0.8930
Recent loan from non-traditional lender	0.6328	0.3600	1.0676	0.1920	3.0227	0.0130
Control variables						
Mining and construction	0.2394	0.6900	1.1685	0.1320	–	–
Manufacturing	0.1114	0.8480	1.0507	0.1780	0.3137	0.7160
Transportation	0.1258	0.8630	1.2394	0.1360	–	–
Wholesale trade	1.5613	0.0020	2.1341	0.0030	1.3808	0.0790
Retail trade	0.5870	0.2770	1.2292	0.1050	0.3365	0.6890
Insurance agents and real estate	0.9122	0.1860	1.3861	0.1090	1.3808	0.2490
Corporation, regular	0.5729	0.1690	0.6564	0.2020	0.2561	0.7340
Woman-owend business	0.3118	0.4410	0.7507	0.0980	–0.3922	0.6500
Minority-owned business	–0.3173	0.5340	–0.3300	0.5400	0.1361	0.8810
North east region	–0.2358	0.6880	–0.6279	0.3670	–	–
North central region	0.7854	0.1400	0.6119	0.2490	–	–
Southern region	0.6208	0.2000	0.2817	0.6010	–	–
Urban location	0.7012	0.2040	0.6016	0.3360	0.4470	0.6840
Data from 1998 NSSBF	–0.4335	0.2510				
McFadden *R*-squared		0.158		0.172		0.268
Number of observations		8,198		4,637		3,561

sources as personal credit cards and lending from non-commercial institutions by companies in poor financial condition implies that internal equity is often a last resort to relieve financial stress confronting small firms. That is, many small firms, especially younger firms and firms in financial distress, had acquired additional internal equity to meet the emergency needs for cash. Internal financing is used in conjunction with the uses of other sources from non-traditional sources because of the unavailability of traditional sources from financial institutions.

It is the internal equity capital, not external equity, which is one of the two major financing sources for most of small firms in the U.S.A majority of small firms relied on internal sources of capital (owner's capital and owner's loans) and external borrowing from commercial institutions to finance their business operation and business growth. Younger firms were more likely to acquire additional internal equity than older firms; and lower quality firms were more likely to acquire additional internal equity than higher quality firms. There were indications of the pecking order of uses of different financing sources – from internal sources, to borrowing from traditional institutions and non-traditional lenders. There is also indication of the complementary of uses between internal sources and the borrowing from commercial lenders.

The study provides more evidence of the importance of internal financing – internal equity, owners' loans, and business savings or retained earning, as the major source of financing of business operations for all small firms – large or small and young or old. An important policy implication of this study is that efforts to improve financing to promote growth of small businesses must include policies promoting owners' savings and business savings. While current policy for small business financing addresses debt financing primarily from commercial banks and other SBA approved lenders, other policy considerations must address such issues as improving business profitability and retained earnings.

Notes

[1] Estimates from the 1998 SSBF conducted by the Federal Reserve Board. See Charles Ou, ''Financing Patterns of Small Firms: Findings from the 1998 SSBF'' an unpublished manuscript (1993). Table I. 6aa–1.

[2] As one venture capitalist put it, ''Only 3–5 percent of America's business founders survive to become CEOs of the mature company.''

[3] Aside from high risk, other factors also contribute to the high costs of borrowing/lending venture capital. They include: information costs–costs involved in performing due diligence by the investors, and the transaction costs of negotiating the deals. An investor's knowledge of the firms/industry would affect the costs and risk incurred in investing, thus reducing the ''required'' rates of return on investment.

[4] The estimates are derived from data from the Bureau of Census on high growth firms with at lease five or more employees in mid-1990s.

[5] The high agency costs of business financing to small firms can be reduced by providing collateral, owners' guarantees as well by establishing enduring banking relations. The costs of borrowing from financial institutions decline significantly as the banking relationship is established and grows.

[6] Almost no external equity financing can be expected for this type of financing. External equity is possible in the case of an leveraged buyout (LBO) financing packages used to salvage an asset-rich money-losing business.

[7] See Wolken and Cole, ''Financial Services Used by Small Businesses: Evidence from 1993 Survey'' (FR Bulletin 1995) and Wolken, Bitler, and Robb, ''Financial Services Used by Small Businesses: Evidence from the 1998 SSBF'', FR Bulletin, April 2001. For other studies using the SSBF see http://www.federalreserve.gov/pubs/oss/oss3/abstract.html

[8] Legal form of organization is included because only corporation can take in new investors. Moreover, since sole proprietors do not use ''owner's loans'', internal equity is the only source of owner's financing.

[9] However, the data problem does point to the need for changes in survey approach regarding the future collection of information on the uses of external equity capital by the Federal Reserve Board.

[10] Combined with the uses of the third source of internal financing, the retained earnings, the importance of internal financing shall rival the use of financing from commercial banks.

[11] This is especially true when the third important source of internal financing – retained earnings, is included. No data is available for this analysis.

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