

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Craig, Steven G.; Hardee, Polly T.

### Article Subchapter S, an entrepreneurial survival strategy for small banks

Journal of Entrepreneurial Finance, JEF

**Provided in Cooperation with:** The Academy of Entrepreneurial Finance (AEF), Los Angeles, CA, USA

*Suggested Citation:* Craig, Steven G.; Hardee, Polly T. (2002) : Subchapter S, an entrepreneurial survival strategy for small banks, Journal of Entrepreneurial Finance, JEF, ISSN 1551-9570, The Academy of Entrepreneurial Finance (AEF), Montrose, CA, Vol. 7, Iss. 3, pp. 53-62

This Version is available at: https://hdl.handle.net/10419/56002

#### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

#### Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



### WWW.ECONSTOR.EU

### Subchapter S, An Entrepreneurial Survival Strategy for Small Banks

Steven G. Craig\*

and

#### **Polly T. Hardee\*\***

With the passage of the Small Business Job Protection Act of 1996, many small banks throughout the United States became eligible to reorganize as a Subchapter S corporation. This allows these banks to eliminate double taxation, and increase shareholder value. Consequently, employing this entrepreneurial survival tool extends "new life" to the small bank. Accompanying this strategy are differences in corporate governance, primarily more concentration of ownership. Thus, this paper examines the behavior of Subchapter S banks as compared to banks of similar size in order to determine significant performance differences. It also focuses on bank structure and small business lending activity, an area of high asset concentration in small banks. Overall, we find shareholder value appears to increase in a Subchapter S banking organization through higher earnings, larger dividend payout ratios, and similar risk measures. We find little differences in these banks in relation to small business lending. The implications are that a small bank's survival rate will be higher in the consolidation process by employing the Subchapter S strategy.

<sup>\*</sup> Steven Craig received his Ph.D. from the University of Pennsylvania, and has worked in a variety of applied microeconomic topics concerned with public policy, public sector behavior, and urban economic growth. Much of his work has policy implications, and has appeared in public policy outlets as well as prestigious academic journals. The empirical work has utilized a wide variety of data sets, including large survey data sources. Dr. Craig has been a Professor of Economics at the University of Houston since 1981, where he is currently Co-Director of the Institute for the Study of Political Economy.

<sup>\*\*</sup> Polly Hardee received her Ph.D. from the University of Houston in 1997, after a successful career in the banking industry working for independent banks. She has worked as an adjunct professor in the Department of Economics, teaching Money and Banking as well as International Monetary Policy Analysis. Dr. Hardee's research interests are in the area of banking and its effects on the economy, and especially small businesses. She is currently working on the small firm behavior using a national survey of small firms as well as a national banking and bank holding company data set.

#### Introduction

Passage of the Small Business Job Protection Act of 1996 was one of the few times a piece of legislation actually accomplished what its title implied--i.e., it protected or preserved the jobs of community bankers in the bank consolidation process. Through entrepreneurial loop-hole mining of the law, these bankers realized they could exploit an opportunity that would increase the likelihood of survival, in an otherwise rather dismal outlook for many small banks. The sponsors of this Act, as an unintended consequence, allowed small banks throughout the United States to become eligible to reorganize as a Subchapter S corporation. This created value for the banks' owners by avoiding double taxation of earnings, thereby making ownership of the small bank more lucrative relative to the alternative of merger into a larger financial institution. Thus, it slowed the consolidation process.

In a Subchapter S reorganization the shareholders are limited partners for tax purposes, and the bank or bank holding company is the general partner. Although the legal liability of the owners remains the same, the tax status changes greatly. In effect, the pretax corporate earnings are allocated to the owners according to their pro-rata share, with these earnings taxed at the individual level only. This allows these banks to eliminate the taxation of earnings at both the firm level via corporate rates, and the individual level via marginal rates on bank dividends. Therefore, in a Subchapter S bank, what was previously paid in bank taxes, is now eligible to be distributed to owners, thereby increasing shareholder pre-tax cash receipts. Thus, if funds a bank previously paid in taxes are now distributed to the owners, and the shareholder's allocated portion of corporate taxable earnings is less or equal to the cash distributions received, shareholder value is unambiguously increased.<sup>1</sup> That is, greater after tax "dividends" result.

In order to qualify for a Subchapter S bank, no more than 75 shareholders are allowed. Consequently, small banks with many shareholders need shareholder approval to convert, and with that approval require shareholders in excess of 75 to relinquish their shares.<sup>2</sup> This can be an arduous process. However, for financial institutions that did effectively reorganize their ownership structure to meet the Subchapter S criteria, "new life" was extended to the small bank. Previous to the Act, many small banks were being consolidated into larger banking organizations in order to exploit economies of scale. Accordingly, many banks converted to this new type of ownership, rather than merging into a larger organization or exiting the industry (Harvey and Padget, 2000). As of June 2000 over 18% of small banks were classed as Subchapter S.

Small banks, due to capital and local market constraints devote higher percentages of their commercial lending portfolios to small businesses (Jayaratne and Wolken, 1999; Peek and Rosengren, 1998). Prior research has shown they have a comparative advantage in that market (Craig and Hardee, 2000, 2001; Keeton, 1996, 1995). This raises the question, "Does this new type of structure, with more concentrated ownership, result in significant behavioral differences in these community banks, particularly in relation to small business lending? This question becomes even

<sup>&</sup>lt;sup>1</sup> Subchapter S banks may limit its distributions to less than its taxable income. If the bank has grown, it may have to retain some taxable earnings to build capital. That is, the owner is taxed on earnings of the bank for which he did not receive a distribution. Thus it is possible that a shareholder can be taxed on bank earnings without receiving commensurate distributions, resulting in lower after tax returns than prior to the Subchapter S conversion. Although this is unlikely, (since it destroys the incentive to convert structures), the equality of taxable income to distributions received eliminates the ambiguity.

<sup>&</sup>lt;sup>2</sup> Legislation is pending to increase that number to 150 shareholders (Harvey and Padget, 2000).

more germane, considering the concern that small firms, a major engine of growth for the U.S. economy, will continue to have adequate access to credit as the banking sector progresses through its consolidation process (Berger & Udell, 1995). Since theory does not serve as a guide, empirical research is necessary to explore if this change in corporate governance is accompanied by changes in bank behavior. Thus this paper examines Subchapter S banks, as compared to banks of similar size in order to determine significant performance differences, including small business lending--an area of high asset concentration in small banks.

We investigate this issue using univariate financial ratio analysis relating primarily to earnings, leverage and capital adequacy across the two bank groups. In addition to financial variables in a multivariate framework, we also focus on the bank structure and activity of small business lending, an important asset component of small banks. The majority of banks are under a holding company structure. Thus the banking organization at the holding company level is examined where appropriate.<sup>3</sup> Our analysis proceeds with a section establishing our conceptual framework and methodology, followed by our data description, and finally, our results. Overall we find that Subchapter S banks do have much stronger financial performance than their counterpart, but have no significant differences in small business loan behavior. Thus, reorganization under this tax loophole, appears to have created added value and life to the small bank.

#### I. Conceptual Framework and Methodology

#### A. Univariate Analysis

A shareholder would be inclined to maintain his investment in a small bank if his returns were greater than a substitute investment without incurring greater risk. Accordingly, through univariate analysis, we compare return and risk variables across the two banking groups. We measure increased shareholder value by testing differences in means on specific financial performance ratios. Profitability measures include return on assets and return on equity, before and after tax, at both the bank and holding company level. Dividend payout ratios are also compared as well as bank and holding company taxes. Risk measures include loan quality, debt-to-equity and capital adequacy. These provide some indication of the soundness of the bank's primary earning asset, its leverage exposure, and its capital cushion in the event of losses. Balance sheet asset ratios are also included to test differences in primary and secondary sources of liquidity, as well as investment in loans and deposit funding sources. Bank structure variables, though examined in greater detail in relation to small business lending (SBL), are also included in this univariate setting.

#### B. Multivariate Analysis

Analysis of SBL is based on multivariate regression analysis under a private information versus diversity hypothesis. That is, small, more simply structured banking organizations may experience a comparative advantage in SBL due to their relative ease in obtaining and processing private information inherent in this market (Nakamura, 1994). Conversely larger, more complex

<sup>&</sup>lt;sup>3</sup> The holding company is not required to be a Subchapter S corporate structure if its member bank(s) is so organized. Nevertheless, most holding companies having Subchapter S member banks are also organized as Subchapter S corporations.

structured banks may be in a position to take more risk investing in SBL due to their diversity advantage (Strahan and Weston, 1998). Furthermore, advanced technologies such as credit scoring have strengthened this advantage (Mester, 1997). Our empirical work, therefore, seeks to explain SBL both as a function of the attributes that affect a bank's ability to process private information, and its diversification improving its ability to tolerate risk. Our hypothesis is that larger banks and/or those with more complex structures will process private information less well but nonetheless will have a greater ability to diversify. Small, simple banks may be able to better process private information, but clearly will not have the relative ability to diversify risk. Regarding Subchapter S banks, we are unclear as to the role of our competing hypotheses. On the one hand, fewer shareholders may imply less involvement in the community, thus a smaller private information pool dampening SBL. On the other hand, the improved tax position may generate a greater emphasis on the higher earnings in this market (versus investment in less risky assets such as bonds) encouraging the building of long-term customer relationships with small business firms. Our reduced form specification is:

#### SBL = f (bank size, holding company organization, extent of branching, location )

The first three sets of variables--bank size, holding company organization and extent of branching--capture larger size and complexity of structure, thereby implying greater diversification; whereas small size and simplicity of structure imply better private information. Location of the main banking office in urban versus rural markets control for differences in demand and growth. The state in which the bank is domiciled is also used in order to control for differences in market and operating conditions across state boundaries. Included in our general category of location are variables for bank age, to control for performance differences inherent in newly formed banks (Goldberg and DeYoung, 1999; Goldberg and White, 1998; Sullivan, 2000). Bank age also controls for length of time to establish a reputation and to gather information in the community. Additionally, a variable measuring the effect of transactional Internet Web sites is part of location, since this technology transcends local market boundaries.

#### C. Multivariate Dependent SBL Variables

Our tests use two alternative measures of lending activity to illustrate the extent to which the institutional variables described above alter banks' participation in a market that is presumably bank dependent for credit. Since most of these banks have no business loans over \$100,000, we use the natural log of SBL not exceeding \$100,000 as our standard dependent variable [Ln (SBL100)].<sup>4</sup>

The second measure of SBL activity in our view presents a clearer test of bank size as a determinate in our competing hypotheses. Small banks may specialize in SBL because capital constraints limit these banks' participation in the large loan market. The default of a large loan can render a small bank insolvent. Thus in our second measure we put capital constraints aside by

<sup>&</sup>lt;sup>4</sup> Results for SBL of \$1,000,000 and below, the largest small business loan category, are qualitatively the same. In order to avoid undue reporting burdens upon the banks, small businesses are defined by the size of their original loan amount, rather than the size of the firm. Size of the business rather than size of the loan is a preferred measure. However, Scanlon (1984) has indicated that original loan size serves as a good proxy for borrower size.

disaggregating SBL into the difference between the natural log of small commercial and industrial (SCI) loans and small commercial real estate (SCRE) loans [Ln (SCI/SCRE)]. This last distinction is particularly important, since assessing credit risk may be more difficult in SCI loans as compared to SCRE. Real estate collateral is generally straightforward to appraise, improves loan liquidity, and allows for easier assessment of risk exposure. Under conditions of stable or rising real estate prices SCRE loans require less monitoring. So, real estate may be obtained as collateral perhaps to overcome information gaps; whereas SCI loans include unsecured loans, or monitor-intensive loans made in some cases solely on the character of the borrower. Hence, they encompass relationship driven credits. Thus, the more information sensitive subset of small business loans are SCI as opposed to SBL secured by commercial real estate.

#### D. Economies of Scale

We also test economies of scale by using our multivariate framework to determine if earnings improve across our two banking sectors as the bank or the holding company increases in size, while controlling for our remaining structure variables<sup>5</sup>. Our measures are before tax earnings on assets and equity at both the bank and holding company levels. We use before tax earnings, since this is a more realistic measure of profitability across the two banking sectors. After tax earnings, though not reported, produce qualitatively the same results. However, due to the favorable tax treatment of the Subchapter S banks, mean after tax returns are substantially higher.

#### **II.** Data Description

At the holding company level, data for this research are extracted from the Federal Reserve Bank Holding Company file. We use the direct holder, rather than the highest holder of the bank, since the direct holder, if different from the highest holder, generally has a much larger percentage of ownership. At the bank level data come from the Federal Deposit Insurance Corp.'s Bank Call report file. Both are as of June 30, 2000, the annual reporting date for SBL. Holding company and bank data are merged into one data set. For purposes of standardization, the holding company unconsolidated parent financial statements are used, since small holding companies submit only these types of statement. Specifically, the statements include balance sheets, income statements and changes in equity capital. Banks with total assets of \$100 million and less are used, since average assets across the two banking sectors are essentially the same, and are unarguably small banks.<sup>6</sup> Banks not having any business lending or which make only large business loans are eliminated. This results in approximately 5100 banks (over half of the total banking population) across the U.S. and its protectorates.<sup>7</sup> We employ a semi-logarithmic OLS model in our multivariate specification. Where the OLS regression errors are heteroscedastic (as determined by the White test), we report the robust errors as taken from the White heteroscedasticity-consistent variance-covariance matrix. Definitions of all the dependent and independent variables are presented in Table I.

<sup>&</sup>lt;sup>5</sup> Admittedly, the most desirable test for economies of scale is to estimate a long run average cost curve, which exceeds the scope of this paper.

<sup>&</sup>lt;sup>6</sup> Including all Subchapter S banks involve 41 banks that have assets in excess of \$300 million--a size outside of small bank parameters. However, results on this larger sample size are similar.

<sup>&</sup>lt;sup>7</sup> Banks having no small business lending are primarily foreign bank branch offices and credit card banks.

#### **III.** Empirical Results

Our results indicate significant differences in means of the financial variables across the two banking groups, with Subchapter S banks having a stronger performance. Small business lending activity does not differ greatly between the sectors, but as in previous research (Craig and Hardee, 2000, 2001) evidence weighs more towards the private information hypothesis, though elements of diversity do exist. Economies of scale are experienced as the bank size grow larger, more particularly when measured at the bank level versus the holding company level. And, in support of the stronger financial performance of the Subchapter S banks, mean earnings are higher at both the bank and holding company levels, when controlling for other structural differences. All of this taken together, indicate added shareholder value in the Subchapter S structure, thereby postponing their demise in the consolidation process. The specific findings are presented below.

#### A. Univariate Analysis

As reflected in Table II, the Subchapter S banks and holding companies (HC) predictably, show much higher dividend payout ratios and lower taxes.<sup>8</sup> Additionally, these organizations have higher earnings than their counterpart. Profitability measures reflect higher mean earnings with differences statistically significant at the 1% level. Both bank and HC return on assets (ROA) and return on equity (ROE) are more favorable in the SubS sector. This is true not only after tax, but before taxes (BT) as well. Net interest margins are also more favorable.

Risk measures, as captured by leverage in the debt-to-equity ratios, capital adequacy and loan quality are more weighted towards SubS banks, though with some differences, primarily in lower capital at the bank level. Capital adequacy, or bank capital as a percentage of assets, is 1.03% lower at SubS banks at the 1% significance level. Presumably this is attributable to capital expended in shareholder buy out to qualify for SubS conversion, as well as lower retained earnings due to higher dividend payouts. However, the ratio of 10.1% for these banks is still ample. A 10% capital adequacy ratio for a small bank is deemed ample by regulatory standards (Harvey and Padget, 2000). While capital adequacy is lower at the bank level, it is significantly higher at the holding company level. Accordingly, debt-to-equity at the bank level is higher for the SubS structure, but is lower at the holding company level.

A final measure of risk is loan quality, as represented by the allowance for loan losses (a reserve account) as a percentage of total loans, the provision for loan losses (addition to the reserve account) as a percentage of total loans, and net charged off loans as a percentage of total loans. The higher these ratios, the lower the loan quality. In all three measures, the ratios were lower at SubS banks, and the difference statistically significant, implying better credit quality in the loan portfolios.

<sup>&</sup>lt;sup>8</sup> We expected assets allocated to tax free municipal bonds to be higher at Subchapter S banks, perhaps motivated by the bank's desire to allocate more tax free income to the shareholder. That is, if a SubS bank is to retain some of its earnings to meet capital adequacy requirements, it may withhold its income from municipal bonds, and distribute only its taxable income to the shareholders. Thus the owners do not experience a lower after tax return by being taxed on bank earnings on which no cash distribution is received. Although the mean MUNI/TA ratio is higher at SubS banks, it is not statistically significant.

In terms of balance sheet structure, cash-to-assets is lower for the SubS sector at both the bank and holding company level. This could be due to the buy out of the smaller shareholders in the reorganization process. However bonds-to-assets, a secondary source of liquidity is significantly higher (perhaps to account for lower cash liquidity). Bank loans-to-assets are about the same across the two sectors, indicating equal participation in this higher earning portfolio investment, while deposits-to-assets, a cheaper funding source, is higher for the SubS sector.

Small business lending in lower loan levels is higher in SubS banks. That is, a higher percentage of total assets are devoted to SBL \$100,000 and less (SBL100/TA). As these loans become larger, the non SubS banks ratio becomes greater. Additionally, more informationally sensitive C&I lending is done in both small and larger SBL loans in the SubS group.

In terms of holding company (HC) structure, SubS banks have a more HC organizations than their counterpart, with these HCs having much smaller asset size. They are typically one bank holding companies, as opposed to multi-bank holding companies (MBHC) or those holding companies domiciled out of state (OUTSIDE BHC). Ostensibly, the one bank holding company eases the burden of converting multiple banks to a SubS organization. Tiering or layering of HC organizations (MULTI-LAYERED) are statistically no different across the two sectors. No SubS banks have holding companies owned by a majority of foreign investors and significantly fewer are publicly traded.

SubS banks are located more in rural areas, are longer established relative their counterpart, and offer fewer Internet banking capabilities--(although this difference is only about 1%). SubS banks have about as many unit banks (a bit more than half), but if organized as a branch bank, do not differ significantly in the average number of branch offices.

#### B. Multivariate Analysis--SBL

In the small business lending regression results (Table III), Subchapter S banks, while controlling for other structural differences of size, holding company organization, branching and market do not reveal statistically significant differences. Thus, smaller shareholder numbers appear not to affect the degree of activity in SBL. However, as with previous research (Craig and Hardee, 2000, 1999) the private information hypothesis does appear to dominate, although diversity does come through on some variables. This holds even though our prior research included the entire banking population, whereas this sample is limited to smaller sized small banks.<sup>9</sup> Predictably, as banks grow larger (as measured by the natural log of total assets--Ln ta), they do increase their investment in SBL. However, as rural banks grow larger they are participating less in the informational sensitive SBL over those secured by real estate, perhaps to overcome informational disadvantages. Banks in a holding company organization have higher investment in SBL over the no holding company bank (the omitted dummy variable). Although this appears to support the diversity hypothesis in that these organizations may be more complex, as the holding company grows in size (Hclogta), the effect is negative. Also in support of private information is the negative and

<sup>&</sup>lt;sup>9</sup> A small bank may be considered to be \$300 million or less in asset size. Thus, this research is confined to the smaller subset of small banks.

significant outcome on the majority of foreign ownership and publicly traded holding companies. Presumably banks with foreign owned holding companies may be more complex and be less inclined to be community oriented, thus gathering less private information inherent in SBL. Additionally, a publicly traded holding company adds another layer of complexity. Foreign owned entities do take less commercial real estate as collateral, but it can be argued that the nature of their lending may be more biased toward international business and trade, and would fall under the C&I category. Notwithstanding, the diversity hypothesis does gain support in that the branch bank dummy variable is positive and significant. However, overall, we feel the private information does outweigh diversity, though elements of the latter do exist.

#### C. Multivariate Analysis--Economies of Scale

Table IV reflects the dependent variables of before tax bank return on assets (BT--bkroa) and return on equity (BT--bkroe) whereas Table V reflects these same measures at the holding company level (BT--HCroa and BT--HCroe). The right hand side, or bank structure variables are the same as in the SBL regressions. Here, we see that as the banks grow in size, returns to the banks improve as well as the holding company, with the exception of BT--HCroe in rural banks. As the holding company grows in size, it makes no difference to bank returns, but yields mixed results to the holding company returns--negative and significant in the BT-HCroa regression while positive and significant in the BT-HCroe regression. Since the performance of SubS banks is the main interest in this paper, we focus more on the bank returns. Thus, this rather simplistic measure of economies of scale does seem to hold at the bank level. In addition, on all four regressions, the dummy variable for SubS banks is positive and significant, indicating even in a multivariate environment controlling for structural differences, the more favorable earnings of these banks hold.

#### IV. Conclusion

In summary, shareholder value appears to increase in a Subchapter S bank through higher earnings, larger dividend payout ratios, and stronger loan quality. Although capital adequacy is lower at the bank level, it remains ample; and is higher at the holding company level. In terms of small business lending as tested via the information versus diversity hypothesis, mixed results are obtained. On balance private information dominates diversity, with no major differences between SubS banks and their counterpart under the two hypotheses. Thus, smaller, more simply structured banks appear to have a comparative advantage in small business lending, even when the sample is relegated to smaller-sized small banks. Taken as a whole, the stronger financial performance of SubS banks coupled with similar participation in SBL relative to their counterpart, bodes well for these institutions. Therefore, implications of this research are that many smaller banks are likely to survive the consolidation process over the long run, given the Subchapter S tax advantage remains a legislative option.

#### REFERENCES

- Berger A. N. and G. F. Udell, 1995, "Universal Banking and the future of small business lending", paper in the Finance and Economic Discussion Series, number 95-21, Division of Research and Statistics, Division of Monetary Affairs, Federal Reserve Board, Washington, D.C., May.
- Craig, Steven G. and Polly Hardee, 2000, "The Impact of Bank Structure on Small Business and Farm Lending", Journal of Entrepreneurial Finance, 6, 59-83.
- Craig, Steven G. and Polly Hardee, 2001, "The Internet, Bank Structure and Small Business Lending", Journal of Entrepreneurial Finance, Vol 1, Issue 1, pp.77-96.
- DeYoung, Robert, 1999, "Birth, Growth, and Life or Death of Newly Chartered Banks", Federal Reserve Bank of Chicago, <u>Economic Perspectives</u>, Third Quarter, pp. 18-35.
- Jayaratne, J. and John Wolken ,1999, "How important are small banks to small business lending? New evidence from a survey of small firms", <u>Journal of Banking & Finance</u>, 23, Feb., pp 427-459.
- Goldberg, L.G. and L. J. White, 1998, "De nova banks and lending to small businesses: an empirical analysis", Journal of Banking & Finance, 22, August, pp.851-867.
  - and R. DeYoung 1999, "Youth, adolescence and maturity at banks: Credit availability to small businesses in an era of banking and consolidation", <u>Journal of Banking & Finance</u>, 23, Feb., pp.463-492.
- Harvey, James and Jane Padget, 2000, "Subchapter S--A New Tool for Enhancing the Value of Community Banks", <u>Financial Industry Perspectives</u>, Dec., pp.17-25.
- Keeton, W. R., 1995, "Multi-office bank lending to small businesses: Some New Evidence", Federal Reserve Bank of Kansas City <u>Economic Review</u>, (second quarter).
- Keeton, W. R., 1996, "Do bank mergers reduce lending to businesses and farmers? New evidence from Tenth District states", Federal Reserve Bank of Kansas City <u>Economic Review</u>, (3rd).
- Mester, L., 1997, "What's the point of credit scoring?" Federal Reserve Bank of Philadelphia <u>Business Review</u>, Sept/Oct., pp. 3 - 16.
- Nakamura, L. I., 1994, "Small borrowers and the survival of the small bank: Is mouse bank Mighty or Mickey?" Federal Reserve Bank of Philadelphia <u>Business Review</u>, Nov-Dec., pp. 3 16.

- Scanlon, M., 1984, "Relationship between commercial bank size and size of borrower", Small Business Finance, Horvitz, Paul M., and R. Richardson Pettit, eds., JAI Press, inc. Greenwich, Connecticut; London, England.
- Strahan, Phillip E. and Weston, James P. 1998, "Small business lending and the changing structure of the banking industry", Journal of Banking & Finance, 22, August, pp.821-845.
- Sullivan, Richard J., 2000, "How has the adoption of Internet Banking affected performance and risk in banks?", <u>Financial Industry Perspectives</u>, Dec., pp.1-16.

## TABLE I EXPLANATORY VARIABLE DEFINITIONS

RHS VARIABLES	DEFINITION
Size Variable	
Ln ta	the natural log of the bank's total assets
Ln ta Urban	the natural log of the bank's total assets interacted with an urban dummy variable
<u>Holding Company</u> <u>Variables</u>	The omitted variable is unaffiliated banksi.e., banks without any holding company structure, or "No-Holding- Company-Banks"
Bhc1bank	a dummy variable for membership in a single bank holding company domiciled in the same state as the member bank
Instate-mbhc	a dummy variable for membership in a multibank holding company domiciled within the state of the member bank
Outside bhc	a dummy variable for membership in a bank holding company located outside the state of the member bank
HClogta	the natural log of (total assets of the highest holding company less the equity share*bank' s assets)
Multilayer	a dummy variable for a tiering relationship in a bank holding companyB multiple holding company levels
Publicly traded	a dummy variable a bank holding company whose equity shares are publically traded in the capital markets.
Majforeign	a dummy variable for over 50% foreign ownership at the holding company or bank level
Branching Variables	For the dummy variable, unit banks (banks having no branches) is the omitted variable
Branchbank	a dummy variable if the bank has at least one banking office in addition to its main location.
Ln office number	the natural log of number of branches of a particular bank

## TABLE I (CONT.)EXPLANATORY VARIABLE DEFINITIONS

RHS VARIABLES	DEFINITION
Location, Age	
Urban	a dummy variable equaling one for an urban location of the main office of the bank, zero otherwise
Lnbankage	the natural log of the time in years since the bank was chartered
<b>Lnbankage</b> Urban	the natural log of the time in years since the bank was chartered interacted with an urban dummy variable
INET Bank	a dummy variable equaling one for banks having transactional internet web site, zero otherwise
SubS Bank	a dummy variable equaling one for banks classed as a Subchapter S corporation, zero otherwise

TABLE IIDIFFERENCE IN MEANS

Variable	MeanBSub S Bank N=1077	MeanBNon Sub S Bank N=4041	Difference of Means	
BANK SIZE				
Total Assets (Mill.)	47,876	47,550	326.8	
DIVIDEND PAYOUT	54.07%	15.94%	38.03%***	
TAXES				
Bank TAXES (000's)	18.981	97.160	-78.179***	
Taxes/TABank	0.04%	0.18%	-0.14%***	
HC TAXES (000's)	14.045	904.85	-890.81***	
Taxes/EquityHC	0.07%	0.36%	-0.29%***	
Bank MUNIS/TA	4.48%	4.27%	0.21%	
PROFITABILITY				
Bank <b>ROA</b>	0.79%	0.36%	0.43%***	
Bank <b>ROABT</b>	0.83%	0.54%	0.29%***	
HC ROA	7.90%	4.20%	3.70%***	
HC ROABT	7.21%	3.31%	3.90%***	
Bank <b>ROE</b>	8.52%	4.00%	4.52%***	
Bank ROEBT	8.95%	5.88%	3.07%***	
HC ROE	8.62%	4.43%	4.19%***	
HC ROEBT	8.69%	4.79%	3.90%***	
NET INTEREST MARGINS (NIM)				
Bank NIM/TA	2.09%	2.02%	0.07%***	
Bank NIM/Equity	22.35%	19.95%	2.40%***	

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level.

## **TABLE II (CONT.)**DIFFERENCE IN MEANS

Variable	MeanBSub S Bank N=1077	MeanBNon Sub S Bank N=4041	Difference of Means	
DEBT/EQUITY				
Bank <b>D/E</b>	55.06%	47.07%	7.99%***	
НС <b>D/E</b>	7.59%	9.53%	-1.94%***	
LOAN QUALITY				
Allowance for Losses/Loans	1.41%	1.51%	0.10%***	
Provision for Losses/Loans	0.14%	0.22%	0.08%***	
Actual Losses/Loans	0.07%	0.11%	0.04%**	
BALANCE SHEET STRUCTURE				
Bank Cash/TA	4.81%	5.13%	-0.32%**	
HC Cash/TA	1.94%	2.25%	-0.31%*	
Bank BONDS/TA	28.37%	26.23%	2.14%***	
Bank <b>LOANS/TA</b>	59.86%	60.03%	-0.17%	
DEPOSITS/TA	84.65%	83.48%	1.17%***	
Bank CAPITAL/TA	10.59%	12.00%	-1.41%***	
HC CAPITAL/TA	76.37%	63.08%	13.29%***	
SBL				
SBL100/TA	10.23%	9.11%	1.12%***	
SBL1MILL/TA	16.73%	17.77%	-1.04%***	
(SCI-SCRE/TA) \$100,000 or less	3.09%	2.69%	0.40%***	
(SCI-SCRE/TA) \$1 million or less	2.39%	1.34%	1.05%***	

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level.

# TABLE II (CONT.)DIFFERENCE IN MEANSAll banks with Ta's <=100,000,000 and SBL>0

Variable	MeanBSub S Bank N=1077	MeanBNon Sub S Bank N=4041	Difference of Means	
HC STRUCTURE				
HC Total Assets	37,048	308,240	-271,192**	
BHC BANK	82.92%	68.99%	12.93%***	
ONE BANK HC	63.33%	45.43%	17.90%***	
IN STATE MBHC	17.27%	19.40%	-2.13%***	
OUTSIDE BHC	3.15%	4.73%	-1.58%***	
MULTI-LAYERED	13.18%	11.48%	1.70%	
FOREIGN OWNED	0.00%	0.47%	-0.53%**	
PUBLICLY TRADED	7.52%	11.16%	-3.54%***	
BRANCHING				
BRANCH BANK	53.02%	52.34%	0.68%	
OFFICE NUMBER	1.90	2.00	-0.10	
URBAN	26.37%	36.15%	-9.78%***	
BANK AGE	72.90	62.18	10.72***	
INTERNET BANK	4.08%	5.15%	-1.07%	

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level.

# TABLE IIIMULTIVARIATE REGRESSIONSNATURAL LOG OF SBL

Dependent Variable:	<b>Ln SBL100</b> N=5118 R5=	.448	Ln(SCI100/ SCRE100)	N=5118 $R^{2}=.178$
=========			•	
Independent	All Banks		All Banks	
Variable	Coefficient	Robust	Coefficient	Robust
Name	Estimate	Error	Estimate	Error
=======			=====	
Intercept	-2.9586***	0.3495	4.6949***	0.6615
SIZE				
Ln ta	1.0250***	0.0332	-0.32361***	0.0634
Ln taurban <sup>10</sup>	0.9507***	0.0566	0.0723	0.1047
HOLDING CO.				
Bhc1bank	1.1364***	0.1654	0.1628	0.3446
Instate-mbhc	1.2181***	0.1920	0.0440	0.4004
Outside-bhc	1.0759***	0.2039	0.0383	0.4303
HClogta	-0.1120***	0.0197	-0.0113	0.0406
Multilayer	0.0609	0.0407	-0.0206	0.0769
Majority foreign	-1.1398***	0.2891	2.2614***	0.7045
Publicly traded	-0.1534***	0.0493	0.1097	0.0809
BRANCHING				
Branchbank	0.1776***	0.0498	0.0121	0.1047
Ln office number	0.0246	0.0475	-0.0197	0.0985
LOCATION				
Urban	0.2622	0.6179	-3.06477***	1.1141
Lnbankage	-0.0052	0.0148	-0.1033***	0.0264
LnbankageUrban	0.1077***	0.0207	-0.3072***	0.0380
INET Bank	-0.0195	0.0613	0.17431	0.1118
SubS Bank	0.0383	0.0280	-0.08514	0.0567

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level. State dummy variables are included in all regressions, but are not reported.

<sup>&</sup>lt;sup>10</sup>This variable is the interaction of Ln ta and urban. Thus, Ln ta represents size for rural banks, and this variable size for urban banks. The reported coefficient is the sum of the actual coefficients on the Ln ta variable and the interaction variable from the original regression. The robust errors have been adjusted to equal (Variance<sub>Lnta</sub> + Variance<sub>Ln ta urban</sub> +2\*Covariance)<sup>2</sup>. The remaining interaction variable has not been adjusted and is reported as the original regression.

## TABLE IVMULTIVARIATE REGRESSIONSBank ROA & ROE, Before Tax

DependentVariable	BT-bkroa	BT-bkroe		
	N=5112 R5=.449		N=5112 R5=.146	
Independent	All Banks		All Banks	
Variable	Coefficient	Robust	Coefficient	Robust
Name	Estimate	Error	Estimate	Error
		=====		=====
Intercept	-0.0173***	0.0042	-0.2457***	0.0773
SIZE				
Ln ta	0.0016***	0.0004	0.0250***	0.0070
Ln taurban <sup>11</sup>	0.0049***	0.0006	0.0243***	0.0076
HOLDING CO.				
Bhc1bank	-0.0041	0.0037	0.1264	0.0910
Instate-mbhc	-0.0037	0.0043	0.1578	0.1078
Outside-bhc	-0.0048	0.0043	0.1434	0.1063
HClogta	0.0005	0.0004	-0.0137	0.0110
Multilayer	-0.0007**	0.0003	0.0049	0.0062
Majority foreign	0.0012	0.0032	-0.0382	0.0277
Publicly traded	-0.0003	0.0004	0.0050	0.0063
BRANCHING				
Branchbank	0.0003	0.0004	0.0076*	0.0046
Ln office number	-0.0019***	0.0004	-0.0070	0.0054
LOCATION				
Urban	-0.0380***	0.0064	-0.0126	0.0800
Lnbankage	0.0025***	0.0002	0.0113***	0.0011
LnbankageUrban	0.0007**	0.0003	0.0058***	0.0016
INET Bank	-0.0014**	0.0006	-0.0145***	0.0048
SubS Bank	0.0013***	0.0002	0.0176***	0.0030

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level. State dummy variables are included in all regressions, but are not reported.

<sup>&</sup>lt;sup>11</sup> This variable is the interaction of Ln ta and urban. Thus, Ln ta represents size for rural banks, and this variable size for urban banks. The reported coefficient is the sum of the actual coefficients on the Ln ta variable and the interaction variable from the original regression. The robust errors have been adjusted to equal (Variance<sub>Lnta</sub> + Variance<sub>Ln ta urban</sub> +2\*Covariance)<sup>2</sup>. The remaining interaction variable has not been adjusted and is reported as the original regression.

TABLE V
MULTIVARIATE REGRESSIONS
Holding Company ROA & ROE, Before Tax

Dependent Variable	BT-HCroa N=3672		BT-HCroe N=3672	
	R5=.282	R5=.032		
Independent	All Banks		All Banks	
Variable	Coefficient	Robust	Coefficient	Standard
Name	Estimate	Error	Estimate	Error
=======		=====	=====	
Intercept	0.0124	0.0170	0.0511	0.0624
SIZE				
Ln ta	0.0063***	0.0022	-0.0116*	0.0068
Ln taurban	0.0103***	0.0028	0.0221**	0.0106
HOLDING CO.				
Bhc1bank	0.0111***	0.0023	-0.0060	0.0084
Instate-mbhc	n/a	n/a	n/a	n/a
Outside-bhc	0.0004	0.0028	-0.0036	0.0127
HClogta	-0.0058***	0.0017	0.0129***	0.0038
Multilayer	0.0058***	0.0024	0.0007	0.0084
Majority foreign	-0.0039	0.0087	-0.0130	0.0589
Publicly traded	-0.0007	0.0020	0.0023	0.0088
<b>BRANCHING</b>				
Branchbank	-0.0005	0.0026	0.0006	0.0113
Ln office number	0.0004	0.0025	-0.0009	0.0103
LOCATION				
Urban	-0.1366***	0.0284	-0.2601**	0.1125
Lnbankage	0.0042***	0.0010	0.0056*	0.0034
LnbankageUrban	0.0061***	0.0017	0.0072	0.0043
INET Bank	-0.0110***	0.0040	-0.0095	0.0128
SubS Bank	0.0317***	0.0017	0.0391***	0.0064

\*\*\* Significant at the 1% level;\*\*Significant at the 5% level;\*Significant at the 10% level. State dummy variables are included in all regressions, but are not reported.