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There has traditionally been a symbiotic link between new business ventures and new banking ventures. This article finds that the traditional link between small businesses and small banks – the small business loan – has weakened in recent years. While new banks have intensified their reliance on small business customers, small business borrowers have become less reliant on small banks for their credit needs. These findings are consistent with rapid changes in the structure of the banking industry, financial instruments and markets, and communications and information technology over the past two decades.

Introduction

Entrepreneurs running small businesses, and especially entrepreneurs starting up a new business, have limited financing options. The cornerstone financing, equity capital, typically comes from the personal savings of the entrepreneur that organized and manages the firm, or from outside investors who know the entrepreneur. As time passes, however, successful business start-ups become increasingly able to complement their equity capital with debt. For most small business start-ups, the primary provider of this debt financing is a small, locally based, community bank.

Community banks have traditionally been well-suited to evaluate the risks of lending to small businesses. Because of its local geographic focus, the typical community bank has at least two potential advantages over large banks headquartered outside of the local market. First, the very nature of its daily business – monitoring local business loans, talking with local government officials, observing activity in the checking accounts of local businesses and consumers – keeps the community bank in continuous contact with a web of local economic players, and provides the community bank with a storehouse of knowledge in real time about local business conditions

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and prospects. Second, by virtue of its business strategy, a community bank has a financial stake in the local community, which creates an incentive to build long-lasting relationships with its local clients. When a community bank makes a loan to a small local business, it leverages its stock of information about the local economy during the underwriting process; it adds to that stock of information as it monitors the activity of these borrowers; and it establishes a relationship with a client which may purchase additional financial services from the bank in the future.

Two broad sets of forces are threatening to erode community banks' traditional advantages at small business lending. First, recent advances in financial, information, and communications technologies are allowing large banks, thrifts, and finance companies with little specialized knowledge of the local economy to profitably underwrite loans to small businesses. Essentially, these lenders are substituting information technology for local information: they can use the Internet to inexpensively generate loan applications; they can evaluate those applications using credit scoring models; and they are large enough to diversify away idiosyncratic credit risk by making large numbers of loans in many different geographic markets. Second, deregulation of the banking industry has allowed large out-of-state banks to physically enter any local market in the country, typically by acquiring a local bank. Being "on the ground" in the local market arguably gives these large, out-of-state banks access to the same local information as the community banks.

But not all large acquisitive banks choose to compete head-to-head with local banks for small business customers. It is not unusual for large bank entrants to de-emphasize the small business part of the banks they acquire – either not renewing these loans or unfavorably altering the terms of these loans – in favor of using the acquired bank mainly as a retail outlet. These small businesses are left to search for new credit relationships, and this has been an important factor driving the increase in new bank start-ups in the U.S. since the mid-1990s. These new start-up banks are too small to make large loans, and they are typically run by refugee officers from acquired banks whose comparative advantage is their knowledge of the local business environment. Hence, out of necessity, new start-up banks are typically launched with small business lending strategies.

The relationship between small banks and small businesses – and especially between new bank start-ups and new businesses start-ups – can be characterized as symbiotic. But this symbiosis may be sensitive to advances in information processing and financial technologies. This article analyzes data on small business lending between 1993 and 2001, and finds evidence that the nature of the symbiotic credit link between new banks and small businesses has deteriorated in recent years. Both new banks and small banks have grown more reliant on small business clients, but small business borrowers have become less reliant on these banks for their credit needs. These findings are consistent with the evolving structure of the banking industry, the development of new financial instruments and markets, and advances in communications and information technology over the past two decades.

I. The Symbiotic Relationship Between Business Ventures and Banking Ventures

This section provides some expanded background information on the symbiotic lending relationships discussed above. Section I.A summarizes the findings of Berger and Udell (1998) on the financing mix at small businesses. Section I.B reviews the reasons that community banks tend to focus on small business lending. Section I.C discusses the entry strategies of newly chartered commercial banks.

I.A Financing new business start-ups

Small businesses in the U.S. receive a substantial part of their financing from commercial bank loans, and this credit is especially important for new businesses that survive beyond their first two years of operation. Using data from the 1993 National Survey of Small Business Finance, which defines a small business as an enterprise with less than 500 full-time employees, Berger and Udell (1998) showed that three distinctly different sources accounted for three-quarters of the financing at the typical U.S. small business. The primary owners of the firm provided about 35% of funding, mostly in the form of equity ownership (about 31%) with a small portion coming from personal loans and credit card debt. Loans from financial institutions provided about 25% of funding, mostly from commercial banks (about 19%). Suppliers provided about 16% of funding through trade credits.

The financing mix at small businesses tends to vary with both the size of the firm and with the age of the firm. On average, very small firms (those with less than 20 FTEs and less than $1 million in annual sales) relied more heavily on insider funds, receiving 51% of their funding from their primary owners, compared to only 21% from financial institutions and 12% from trade credit. Small businesses above this size threshold used relatively more outsider funding, receiving only 31% of their funding from their primary owners, but 28% from financial institutions and 17% from trade credit.

These size-based differences in financing mix are consistent with the life cycle of small businesses. As a new business grows older it also tends to grow larger. Because older, larger businesses are less informationally opaque they are better credit risks than younger, smaller businesses, and as a result they are better able to secure financing from third parties. Older and larger firms make more frequent transactions with an expanded set of venders and customers; they have longer and more complete financial track records; and the very fact that they did not fail early in their lives suggests that they are (relatively) good risks to survive into the future. Having access to debt financing through bank loans or trade credit makes it easier for owners to grow their firms without having sell a portion of their equity stakes.

Bank loans are especially important as new businesses mature from their infancy through their adolescence. Commercial bank loans comprised only about 16% of total financing for small firms that were less than 2 years old; 31% for small firms that were between 2 and 4 years old; and 18% for small firms that were more than 4 years old. The increase in loans up to year 4 is consistent with reduced informational opaqueness as new firms grow older. The decline in loans after year 4 suggests that successful business start-ups are able to reduce their financial leverage (and their financial risk) as they mature. Less than half of all new businesses survive beyond their fourth year – those that survive beyond that are likely to be profitable firms with lots of retained earnings, which can be used to reduce debt financing.

I.B Small business lending at community banks

The typical small business is closely held, does not issue publicly traded securities, and tends to do business with a limited number of suppliers and customers. As a result, the financial information needed to make and monitor a small business loan must be gleaned from a first hand relationship with that firm. Community banks have a number of comparative advantages over larger banks at forming these relationships, and this is reflected on community bank balance sheets where a disproportionate amount of commercial loans are made to small businesses.

Community banks tend to have a very tight geographic focus. Although this limits opportunities for diversification and growth, this localness has advantages for small business lending. Community banks gather most of their deposits locally and make most of their loans to local borrowers, so they benefit from informational synergies – that is, they acquire substantial amounts of useful information simply because their local business and retail customers make transactions with each other. In addition, community banks can monitor their business loans more frequently because they are located relatively close to their customers. Finally, the decentralized organizational structure of the typical community bank encourages relationships to grow between loan officers and small business clients; in contrast, large banks with extensive branching networks often used a centralized decision-making process, and branch managers are frequently rotated from branch to branch.

Government regulations reinforce community banks' informational, locational, and organizational advantages at making small business loans. Federal bank regulators have historically prevented national banks from extending unsecured loans to individual business borrowers in amounts that exceed 15% of bank capital.[1] To make a $1 million business loan (the largest loan recognized by regulators as a small business loan) to a single borrower, a community bank with a fairly typical 8% ratio of equity capital-to-assets would have to have total assets of at least $83 million. This is a binding threshold for new start-up banks. Furthermore, this regulation precludes most established community banks from making loans to large business customers: for example, a bank has to have over $400 million of assets to make a single loan of $5 million.

Community banks can avoid loan concentration limits simply by growing larger. A number of studies find strong negative relationships between bank size and the proportion of bank assets invested in small business loans.[2] The quickest way for a community bank to grow is to acquire another community bank. Note, however, that small business lending does not always decline after two banks merge. These studies find that small business lending is unlikely to decline when both merger partners are small banks, and regardless of bank size, small business lending is unlikely to decline when it is an important part of the acquiring bank's pre-merger business strategy.

I.C Small business lending at start-up banks

Over the past forty years there have been three major surges in bank chartering activity in the U.S. The first wave came in the early 1970s, a second wave followed in the mid-1980s, and a third wave occurred in the late-1990s. At their peaks, each of these 'de novo' bank waves was increasing the population of commercial banks by about 2.5% per year (DeYoung 1999).

The timing of the waves coincided with changes in economic conditions, financial regulations, and industry structure over time. For example, the second and third waves correspond roughly with economic expansions, and the trough that separates them corresponds roughly with the banking crisis of the late-1980s and a macroeconomic recession in the early 1990s. In addition, the second and third waves correspond roughly with the deregulation of

[1] State regulatory authorities have similar restrictions in place for state-chartered banks. In 2001 the Office of the Comptroller of the Currency relaxed the 15% loan concentration guideline somewhat for small, financially sound national banks.

[2] These studies include Nakamura (1993), Keeton (1995), Berger, Kashyap, and Scalise (1995), Levonian and Soller (1995), Berger and Udell (1996), Peek and Rosengren (1996), Strahan and Weston (1998), and DeYoung, Goldberg, and White (2000).

interstate banking: a large number of state governments repealed unit banking laws and formed interstate banking compacts during the 1980s, and in the mid-1990s the federal government passed and implemented the Riegle-Neal Act which allowed banks to branch across state lines anywhere in the country. These deregulations resulted in thousands of geographic-expansion mergers in which large banking companies acquired smaller, more locally focused banks in other states.

As alluded to above in Section 1, geographic-expansion mergers can be good predictors of new bank start-ups. Berger, Goldberg, and White (2001) and Keeton (2000) both find systematic evidence that new banks are significantly more likely to start up in local markets that have recently experienced entry by acquisition. It is not unusual for an acquiring bank to institute changes in lending policies at the bank it acquires, or to institute cost-cutting programs to improve the performance of the target bank. It is also not unusual for loan officers at the acquired local bank (who have specialized knowledge of the local business community) to become unhappy with the new lending policy, for these lending officers to get terminated as part of the cost-cutting program, or for the clients of the acquired bank to become disenchanted. Under these circumstances it is relatively easy for new start-up banks to enter the market, because loan officers with valuable connections to the local business community are available for hire, and profitable small business accounts are looking to switch to a new bank. Hence, new banks often enter the market with ready-made connections with small business clients, and as a result their initial loan portfolios are more heavily weighted toward small business loans than at established community banks.

The magnitude of this effect was illustrated in a study by DeYoung (1998), who examined the lending behavior of relatively young U.S. commercial banks during the mid-1990s. Figure 1 is constructed using data from the original study. For the typical 1-year old commercial bank, the ratio of small business loans to total loans was about 27%, while at small established banks this ratio was only about 13.5%. These data indicate a relatively long-lasting difference, not just a short-run entry strategy. As late as 14 years after start-up, the intensity of small business lending at the average start-up bank was still 50% higher than at the typical small established bank. DeYoung (1998) and DeYoung, Goldberg, and White (1999) ran more rigorous tests of the data in Figure 1 that carefully accounted for the effects of bank age, bank size, and other determinants of lending strategies. Both studies confirmed the basic result – as in the raw data, the intensity of small business lending at de novo banks starts out high, and decreases very slowly over time as these new banks mature.

II. A Changing Environment for Lending to Small Businesses

This section provides a brief analysis of ongoing changes in the banking industry that are likely to affect the relationships between banks and small business customers, and by extension the supply of credit to small businesses. These changes affect the geographic structure of the banking industry, the competitive conditions faced by banks, the information and communications technologies used by banks, and the business strategies used by banks. The discussion draws in part on earlier analysis by DeYoung (2000), Hunter (2001), and DeYoung and Hunter (2001).

II.A Geographic change

The repeal of federal and state restrictions on interstate banking eliminated the barriers to geographic mobility which had artificially limited the size of U.S. banking companies. Although

geographic expansion has proceeded more slowly than many had predicted (for example, as of 2002 there is still no truly 'nationwide' retail bank in the U.S.), many banks have grown substantially larger in a relatively short period of time by acquiring other banks.

The most visible bank mergers are 'megamergers' between two large and well-known institutions. In 1998 alone, Bank of America merged with NationsBank to create a $580 billion bank; Banc One merged with First Chicago to create a $231 billion bank; and Wells Fargo merged with Norwest to create a $190 billion bank. But megamergers are the exception to the rule: approximately 95 percent of the nearly 9,000 mergers and acquisitions involving U.S. banks since 1980 have involved at least one community bank. As a result, the number of large banks has remained relatively constant in the U.S., but the number of small community banks (less than $500 million in assets) has declined by nearly 50 percent.

Mergers have had two profound effects on behavior within banks. First, increasing the geographic reach of banking company can make it more difficult to manage. Berger and DeYoung (2001) show that the average distance between commercial bank affiliates with at least $100 million in assets and their holding company headquarters increased from about 160 miles in 1985 to about 290 miles in 1998. Moreover, their findings suggest that the increased distances between bank affiliates and their headquarters managers are associated with internal control problems. Solutions to these control problems – like imposing strong, centralized management structures – may hinder the ability of lending officers at the local affiliates of large banks to develop relationships with small business borrowers. Second, mergers have intensified competition in local markets. A number of recent studies conclude that local banks tend to operate at higher levels of efficiency after one of their local competitors is acquired by an out-of-market bank.[3] There are a number of potential explanations for this phenomenon. After the new owners take over, they often replace underperforming managers, reallocate assets to higher yielding investments, slash expenses, introduce new products and services, cut fees, raise deposit rates, or make numerous other changes that increase competitive rivalry in the local market. Local banks either respond in kind or lose market share to the new entrant.

II.B Technological change

Banks also face increased competition from a variety of relatively new non-banking institutions. For example, mutual funds have provided bank depositors with an array of alternative vehicles for savings and liquidity. Similarly, the commercial paper market has provided new financing options for banks' most creditworthy customers, and the junk bond market has provided new financing options for banks' riskier customers.

Faced with losing market share in their traditional lines of business, banks have responded with new business strategies based on new financial technologies. Banks have learned how to use their increasingly scarce funds more efficiently by securitizing their loans rather than holding them in portfolio. Banks have continued to earn revenues from business clients who switch from bank loans to commercial paper financing by selling them back-up lines of credit. And banks have made themselves relatively more attractive to depositors by offering the increased convenience of ATM machines, Internet banking, and access to a broader array of third-party mutual funds.

To a large degree, these competitive responses have shifted the composition of bank revenue away from interest income and toward noninterest income. A securitized lending

[3] See DeYoung, Hasan, and Kirchhoff (1998), Evanoff and Ors (2001), and Whalen (2001).

strategy generates little interest income because the loans are not held for long on the books, but it generates increased noninterest income (e.g., loan origination fees) because the volume of loans that are underwritten typically increases. Similarly, back-up lines of credit generate fee income, as do ATM networks from third-party access fees. These competitive responses are more pronounced at large banks, which have the capacity to originate large volumes of securitizable loans (e.g., mortgage loans, credit card loans) and the investment capital necessary to deploy widespread ATM networks.

Given their small size and local clientele, community banks are less able and/or less willing to embrace these new banking technologies. But the adoption of these new technologies by large banks may provide some opportunities for community banks. For example, the idiosyncratic nature of small business lending relationships is in many ways inconsistent with automated lending technologies. As a result, shifts in large bank strategies toward credit scoring and securitization may increase small community banks' advantages at traditional relationship-based lending.

II.C Strategic change

DeYoung (2000) and DeYoung and Hunter (2001) use a strategic map like the one shown in Figure 2 to analyze the past two decades of change in the banking industry. The unit costs of producing banking services is measured vertically, and the degree to which banks differentiate the (actual or perceived) quality of their products and services is measured horizontally. The circles represent individual banks: the circle positions indicate the combination of unit costs and product differentiation selected by the banks, and the circle sizes indicate bank size.

Prior to industry deregulation, both large banks and small banks were clustered together near the northeast corner of the strategy space. Large banks tended to have larger commercial accounts than small banks, but the differences in bank size weren't so much a strategic choice as a reflection of the size of the local market and the restrictiveness of local branching rules. Small banks tended to offer more person-to-person service than large banks, but this wasn't so much a strategic choice as a reflection of the difficulty of delivering high-touch personal service as an organization grows larger.

Deregulation and new financial technologies created incentives for large banks to become less like small banks. Banks used mergers to get larger, capturing economies of scale that drove down their unit costs and gave them access to the new production and distribution technologies. These changes drove a 'strategic wedge' between the large growing banks on one hand and the smaller community banks on the other hand. Large banks moved in a southwest direction on the map, sacrificing personalized service in exchange for large scale production of standardized financial products at low unit costs. Most community banks have remained relatively small and continued to operate at high unit costs, but their more personalized approach to financial services (e.g., small business lending) allows them to charge higher prices that offset their cost disadvantages.

III. Empirical analysis

This section presents new evidence that the symbiotic relationship historically enjoyed by new bank start-ups and small businesses has weakened in recent years. Section III.A presents the empirical model. Section III.B describes the data. Section III.C presents the test results.

III.A Empirical model

The tests performed here extend the analysis of DeYoung, Goldberg, and White (1999) on the small business lending behavior of newly chartered commercial banks. Equation (1) is a variant of the main regression equation estimated in that study:

$$\begin{aligned} SBL/ASSETS_{i,t} = {} & \alpha + \beta*AGE_{i,t} + \gamma*AGE_{i,t}*POST94_i + \lambda*ASSETS_{i,t} \\ & + \delta*ASSETS_{i,t}*POST94_i + \phi*POST94_i \\ & + \theta_1*LOANS/ASSETS_{i,t} + \theta_2*ASSETGROWTH_{i,t} \\ & + \theta_3*MBHC_{i,t} + \theta_4*YEAR1MBHC_i + \theta_5*HERFINDAHL_{i,t} \\ & + \theta_6*YEAR\ DUMMIES_t + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where the subscripts i and t are indexes for banks and time, respectively. The dependent variable SBL/ASSETS is the ratio of small business loans-to-total bank assets. As discussed above, previous research indicates that small business lending at newly chartered banks tends to decline as new banks mature (AGE) and also tends to decline as new banks get larger (ASSETS). The dummy variable POST94 is included to test whether these age and size effects were different for the generation of new bank start-ups chartered after 1994, described above in Section 2 as the "third wave" of de novo banks. These banks began their lives in an environment where new technology, deregulated markets, and intensified competition may have eroded the symbiotic relationship between new banks and small businesses.

The remainder of the right-hand-side variables are included as controls. The coefficient on the ratio of loans-to-assets (LOANS/ASSETS) is expected to be positive, because when a new bank expands its investment in loans (as opposed to its investments in securities), a substantial portion of these loans are likely to be small business loans. Similarly, the coefficient on annual asset growth (ASSETGROWTH) is expected to be positive. The coefficient on the multibank holding company dummy (MBHC) is expected to be negative, because banks that are affiliates in large multibank organizations are less likely than independent banks to make small business relationship loans. Similarly, banks that began their lives as affiliates in multibank holding companies (as opposed to becoming affiliates via acquisition later on) are expected to make fewer small business loans. The coefficient on local market concentration (HERFINDAHL) is expected to be negative, based on the Petersen and Rajan (1995) finding that banks are more likely to invest in a new loan relationship when the probability of the borrower switching to a different bank in the future is low. The equation also includes a vector of fixed effect YEAR dummies to control for the effects of general economic conditions on small business lending.

Alternative versions of equation (1) are estimated using slightly different definitions for two of the regression variables. The dependent variable SBL/ASSETS is replaced by the ratio of small business loans-to-total loans (SBL/LOANS) in some regressions, and the dummy variable POST94 is replaced by the dummy variable POST89 in other regressions. All regressions are estimated using ordinary least squares.

III.B Data

The data used in this study come from the Statements of Condition and Income (the call reports). Starting in 1993, the call reports began to include data on the number and volume of small business loans made by all commercial banks. The call reports include several alternative definitions for small business loans – this study defines a small business loan (SBL) as a commercial and industrial loan with an original principal of less than $1 million. Using this definition, the call reports indicate that there has been a striking change in the distribution of small business lending across different sizes of commercial banks since 1993. In 1993, about 63% of all small business loans were held by banks with less than $10 billion in assets. By 2001, about 60% of all small business loans were held by banks with *greater* than $10 billion in assets. (These figures exclude loans held by rural banks, and are corrected for inflation.) This simple comparison may be evidence that the comparative advantage of community banks in gathering information on small business borrowers has eroded over time, and that larger banks have been able to use their access to new information technologies to increase their market share of small business loans.

Although increasing numbers of small business borrowers were turning to large banks for credit, small banks were becoming *more* reliant on small business loan customers. In 1993, the average values of SBL/ASSETS and SBL/LOANS for banks with under $500 million in assets were, respectively, about 6% and 10%. By 2001, these percentages had increased to about 10% and 15%, respectively. (The comparable percentages for banks with over $10 billion in assets remained relatively flat over this time period, at about 3% and 5%, respectively.)

The factor that reconciles these two phenomena is the declining number of small banks. Between 1993 and 2001, the number of small community banks (i.e., banks with less than $500 million in assets) in the U.S. declined by one-third, from almost 7,500 banks to around 5,000 banks.

Equation (1) is estimated using an unbalanced panel of annual data drawn from the call reports between 1993 and 2001. To be included in this data panel, a bank had to be located in a Metropolitan Statistical Area (MSA), had to be between 1 and 20-years old, had to have positive amounts of loans and assets, and complete data for all of the regression variables had to be available for the bank. All variables are observed as of the end of the second quarter, and are expressed in 2001 dollars. The panel contains 13,424 annual observations, and is an unbalanced panel because: (a) many new banks started up during the sample period, and (b) many banks exited the data set by failing, being acquired, or reaching the age of 21. Table I shows summary statistics for the data set used in the regression tests.

III.C Regression results

Table II displays the regression estimates. There is significant evidence that the relationship between start-up banks and small business borrowers has evolved with recent changes in the banking environment. Consistent with the findings of DeYoung, Goldberg, and White (1999), the coefficient on AGE is negative and significant in all four regressions, evidence that small business lending gradually declines in importance for newly chartered banks as they mature. For the new banks in the entire sample – which were chartered anywhere between the years 1973 and 2000 – the ratio of small business loans-to-assets declines by about 10 basis points, and the ratio of small business loans-to-total loans declines by about 20 basis points, when the average bank grows one year older.

However, there is clear evidence that small business lending declined even more rapidly with age for new banks chartered during the 1990s. The coefficients on the AGE*POST interaction variables are generally negative and significant. SBL/ASSETS fell about twice as fast with bank age (for example,
-.0014 plus -.0011 in regression [2]), and SBL/LOANS fell about three times as fast with bank age (for example, -.0018 plus -.0036 in regression [3]) for banks chartered in the 1990s. Furthermore, the positive and significant coefficients on the POST dummy variables indicate that small business lending has become a more important entry strategy for banks chartered during the 1990s. Setting AGE=0 and POST94=1 in regressions [1] and [3] shows that the typical new bank chartered after 1994 started out with 187 basis points higher SBL/ASSETS, and 474 basis points higher SBL/LOANS, than the typical new bank chartered before 1995. This effect is similar, though less dramatic, in regressions [2] and [4] for POST89.

The coefficients on ASSETS and ASSETS*POST reveal similar patterns for the relationship between small business lending and bank size. Consistent with previous research findings, small business lending declines at the average new bank in the sample as it gets larger; for example, in regression [1] the coefficient on ASSETS indicates that SBL/ASSETS declines by about 50 basis points when the assets of the average bank grow by $1 million. But for new banks chartered after 1994, the coefficient on ASSETS*POST94 indicates that the size-based decline in small business lending is five times faster (that is, -.0248 versus -.0049).

IV. Conclusions

The analysis performed here suggests that small business lending has become a more important entry strategy for new banks that started up during the 1990s. This is likely a reflection of the massive consolidation and restructuring of the banking industry during the past decade, and the opportunities that this has created for new entry – i.e., the displacement of small depositors, small business credit relationships, and small bank credit officers in the aftermath of geographic-expansion mergers. Put simply, small business lending became an easier entry strategy for new banks during the 1990s as the ready supplies of these three crucial inputs increased.

The analysis also suggests that new banks that started up during the 1990s moved away from their small business lending strategies more quickly than start-up banks in the past. This is likely because deregulation (which increased banks' abilities to expand geographically) and new banking and information technologies (e.g., Internet banking, credit scoring) have allowed banks of all sizes to grow faster. As new bank start-ups grow faster, they can more quickly escape the constraints that had previously limited their commercial lending opportunities to small firms.

Against this backdrop, it is instructive that large banks have substantially increased their market share of small business loans over the past decade, while the market share held by community banks has substantially decreased. This suggests that community banks' traditional comparative advantage at gathering information from small local businesses is eroding, at least to some extent because of large banks' use of new information technologies and financial techniques.

Considering all of this evidence together suggests that the traditional symbiotic relationship between new banking ventures and small business ventures is weakening. New banking ventures are depending more on small business loans as an entry vehicle, but are abandoning their small business strategies earlier in their lives. On the other side of the relationship, small business borrowers are depending more on large banks for credit.

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TABLE I

Summary Statistics. Data is an unbalanced panel of 13,424 annual observations of U.S. commercial banks during the 1993 through 2001 time period. For an annual observation to be included in the data set, the bank had to be located in a Metropolitan Statistical Area (MSA), had to be between 1 and 20-years old, had to have positive amounts of loans and assets, and complete data for all of the regression variables had to be available. All variables are observed as of the end of the second quarter, and are expressed in 2001 dollars. SBL = commercial and industrial loans with original principal less than $1 million. ASSETS = total bank assets. LOANS = total loans and leases. (Note: LOANS/ASSETS can be greater than 1.0 because LOANS is measured prior to deductions for expected loan losses.) AGE = bank age in years (e.g., AGE = 1 for banks that are between 6 and 18 months old). ASSETGROWTH = percent change in ASSETS from year earlier levels. (Note: The values of ASSETGROWTH are truncated at the 0.5th and 99.5th percentiles of the sample distribution.) MBHC is a dummy variable equal to 1 if the bank is an affiliate in a multibank holding company in the year of observation. MBHCYEAR1 is a dummy variable equal to 1 if the bank began its life as an affiliate of a multibank holding company. HERFINDAHL = the deposit-based Herfindahl index in the bank's home MSA. YEAR93 through YEAR01 are dummy variables equal to 1 for observations from the years 1993 through 2001, respectively.

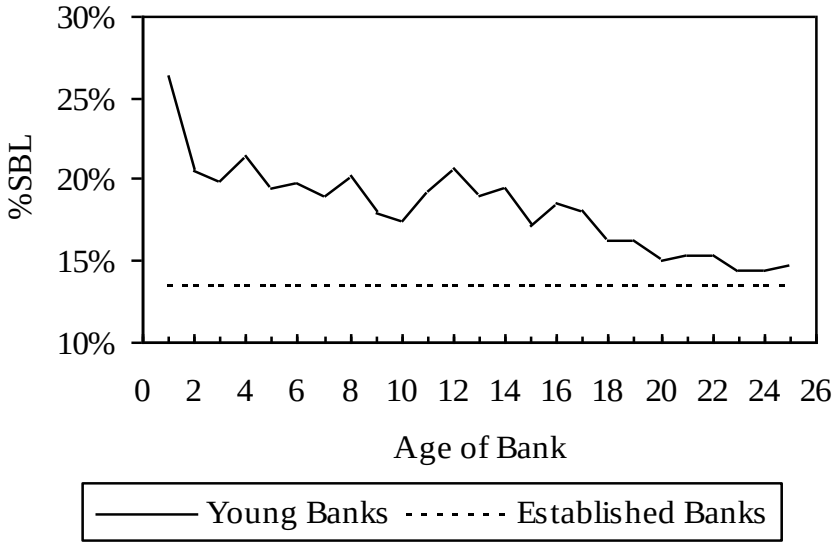
	mean	**std. dev.**	**minimum**	**maximum**
SBL/ASSETS	.1022	.0913	0.0000	.6938
SBL/LOANS	.1653	.1435	0.0000	1.0000
AGE (in years)	9.56	5.45	1	20
ASSETS ($ millions)	$325.76	$1,707.13	$2.12	$49,093.71
LOANS/ASSETS	.6164	.1572	.0001	1.0369
ASSETGROWTH	.2022	.4021	-.2900	2.4600
MBHC	.2186	.4133	0	1
MBHCYEAR1	.0114	.1062	0	1
HERFINDAHL	.1128	.0504	.0247	.3514
YEAR93	.1383	.3452	0	1
YEAR94	.1249	.3306	0	1
YEAR95	.1133	.3170	0	1
YEAR96	.1056	.3074	0	1
YEAR97	.1021	.3027	0	1
YEAR98	.1025	.3033	0	1
YEAR99	.1015	.3019	0	1
YEAR00	.1053	.3070	0	1
YEAR01	.1066	.3086	0	1

TABLE II

OLS Estimates of Equation (1). Data is an unbalanced panel of 13,424 annual observations of U.S. commercial banks during the 1993 through 2001 time period. POST89 and POST94 are dummy variables equal to one for banks that were chartered after 1989 and 1994, respectively. All other variables are defined in Table I. The superscripts ***, **, and * indicate the estimated coefficients are statistically significant at the 1%, 5%, and 10% levels, respectively. The standard errors of the coefficient estimates appear in parentheses. (Note: The estimated coefficients for the YEAR fixed effects variables are suppressed.)

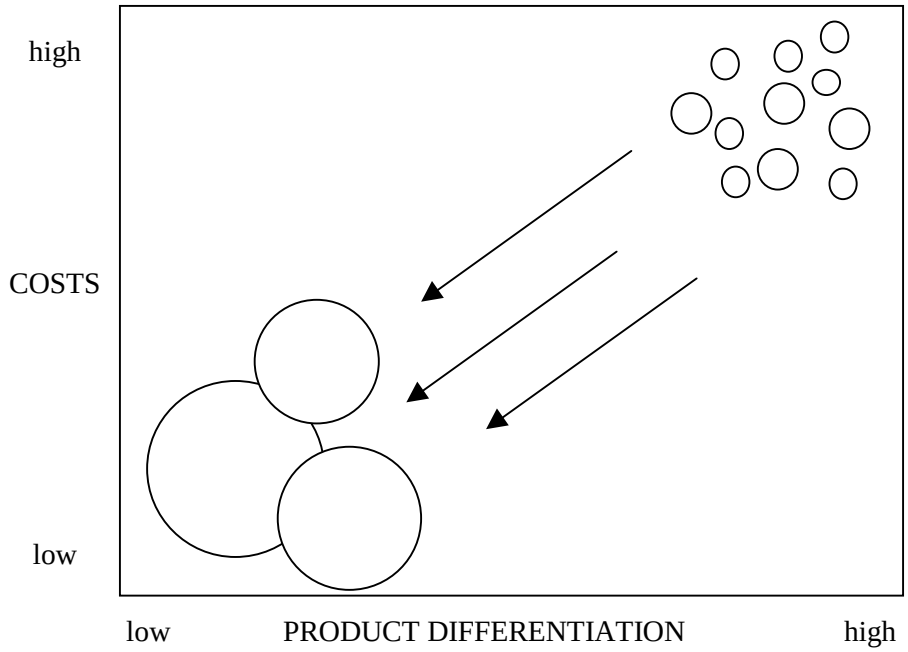
	[1]	[2]	[3]	[4]
dependent variable:	**SBL/Assets**	**SBL/Assets**	**SBL/Loans**	**SBL/Loans**
INTERCEPT	.0396***	.0520***	.1954***	.2126***
	(.0052)	(.0056)	(.0084)	(.0090)
AGE	-.0010***	-.0014***	-.0018***	-.0023***
	(.0002)	(.0002)	(.0003)	(.0004)
AGE*POST94	.0019	--	-.0036*	--
	(.0014)	--	(.0020)	--
AGE*POST89	--	-.0011*	--	-.0037***
	--	(.0006)	--	(.0009)
ASSETS	-.0049***	-.0044***	-.0068***	-.0058***
	(.0004)	(.0005)	(.0007)	(.0008)
ASSETS*POST94	-.0248***	--	-.0325***	--
	(.0030)	--	(.0048)	--
ASSETS*POST89	--	-.0052***	--	-.0083***
	--	(.0011)	--	(.0018)
POST94	.0187***	--	.0474***	--
	(.0046)	--	(.0075)	--
POST89	--	.0097**	--	.0257***
	--	(.0041)	--	(.0066)
LOANS/ASSETS	.1352***	.1328***	.0077	.0031
	(.0048)	(.0048)	(.0078)	(.0078)
ASSETGROWTH	.0023	.0029	-.0008	.0001
	(.0020)	(.0020)	(.0032)	(.0032)
MBHC	-.0205***	-.0218***	-.0364***	-.0384***
	(.0019)	(.0019)	(.0030)	(.0030)
MBHCYEAR1	-.0066	-.0095	-.0183	-.0183
	(.0076)	(.0075)	(.0122)	(.0120)
HERFINDAHL	-.0339**	-.0294**	-.0683***	-.0601**
	(.0150)	(.0151)	(.0243)	(.0244)
R-square	.1205	.1152	.0666	.0629

Figure 1
Percentage of Loans made to Small Businesses (%SBL)
at Small Urban Commercial Banks, 1994-1996.
Source: DeYoung (1999).



SOURCE: Reprinted from the *Journal of Banking and Finance,* volume 23, Robert DeYoung, Lawrence G. Goldberg, and Lawrence J. White, "Youth, Adolescence, and Maturity of Banks: Credit Availability to Small Business in an Era of Banking Consolidation," pages 463-492, Copyright (1999), with permission form Elsevier Science.

Figure 2
Strategic Map of the Banking Industry.



SOURCE: DeYoung, Robert, and William C. Hunter, "Deregulation, the Internet, and the Competitive Viability of Large Banks and Community Banks," in The Future of Banking, pp. 173-202, ed. Benton Gup, Westport, CT: Quoram Books, 2003.