

No. 10-3

Evidence of a Credit Crunch? Results from the 2010 Survey of First District Community Banks

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Abstract:

This policy brief summarizes the findings of the Survey of Community Banks conducted by the Federal Reserve Bank of Boston in May 2010. This survey seeks to understand how the supply of, and demand for, bank business loans changed in the period following the financial crisis. The survey design focuses on assessing how much community banks were willing and able to lend to local businesses that used to be customers of large banks but lost access to credit in the aftermath of the financial crisis. The survey responses provide some evidence that lending standards for commercial loans have tightened moderately at community banks since late 2008, with the tightening being more severe for new customers than for those that already had a relationship with the respondent bank. The survey also reveals that expansions of several SBA guarantee programs since the crisis have ameliorated possible credit constraints on small businesses.

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This brief, which may be revised, is available on the web site of the Federal Reserve Bank of Boston at http://www.bos.frb.org/economic/ppb/index.htm.

The views expressed in this brief are the authors' and do not necessarily reflect the official position of the Federal Reserve Bank of Boston or the Federal Reserve System.

Thanks very much to Mike Stewart, Dave McDonell and Janice Lamb of FIRO for administering the survey, to Kevin Foster for advice on design of the survey instrument, and to Mariclare Cheney for help in collecting and processing the responses. Jim Cunha, Anna Steiger, and DeAnna Green also contributed to the project.

This version: September 2010

Restricted access to credit, especially decreased availability of bank credit to small businesses, is often cited as a potentially important factor in amplifying the effects of the recent recession and contributing to the weakness of the subsequent expansion. In an effort to gather first-hand data to help assess how the supply of, and demand for, bank credit changed in the period following the financial crisis, the Research Department and Financial Institution Relations and Outreach (FIRO) group of the Federal Reserve Bank of Boston cooperated to conduct a survey of First District community banks in May 2010. The survey questions focus on business lending at community banks in the First District, especially changes in the demand for bank credit, bank lending standards, and realized volume of business loans since the onset of the financial crisis. The survey responses provide some evidence that lending standards for commercial loans have tightened moderately at community banks following the most acute phase of the financial crisis in late 2008, with the tightening more severe for new customers than for those that already had a relationship with the respondent bank.

The first section of this brief presents the descriptive statistics of the community banks that responded to the survey. The second section presents and discusses responses to a set of qualitative questions in the survey. The third section analyzes responses to a set of quantitative questions. The fourth section discusses responses to a set of questions on participation by the community banks in the Small Business Administration (SBA) lending programs. The concluding section of the brief discusses the economic implications of the survey findings.

I. Summary statistics

Of the 268 banks that received the survey questionnaire, 135 responded. Figure 1 shows the number of respondents by county. The response rate to each question varies substantially, depending on the type of the question asked. In particular, as would be expected, the response rate for quantitative questions is on average far lower than the response rate for qualitative questions. Ninety-two percent of the banks (that is, 124 banks) provided answers to at least one of the qualitative questions and, in fact, 90 percent of them (that is, 121 banks) consistently answered all of the qualitative questions. By comparison, only 62 percent of the respondents

(that is, 84 banks) answered one or more of the quantitative questions and, only 33 percent of them (that is, 44 banks) answered all of the quantitative questions. Figure 2 shows the distribution of responding community banks by asset size in December 2009. The modal category for total asset size is \$200 million to \$400 million and most of the banks (67 percent) have less than \$600 million in assets. The distribution of community banks by deposit balance (shown in Figure 3) presents a similar pattern: the modal category is \$200 million to \$400 million and 75 percent of the respondents have deposits of less than \$600 million. The distribution by total loan balance is skewed to the left as well (Figure 4). Thirty-seven percent of the respondents have total lending of \$200 million or less, and 63 percent fall into the category of \$400 million or less.

II. Responses to qualitative questions

The first set of survey questions pertains to changes in loan applications and originations during the fourth quarter of 2008—the height of the financial crisis. Figure 5 shows reported changes in the dollar volume of new originations of business term loans and business lines of credit. More than 40 percent of respondents reported that the amount of new originations remained essentially unchanged during the fourth quarter of 2008. On the other hand, more banks (slightly over 40 percent) reported that origination volume decreased than reported that originations increased (16 percent).

Figure 6 shows the responses to two questions asking banks to characterize the change in the total number of applications for business term loans and lines of credit along with the change in loan applications from new customers (that is, those without an existing relationship with the bank). The modal response (43 percent) was that overall applications were unchanged, although more bankers (41 percent) reported that applications decreased than reported that applications increased (16 percent). As one would expect, responses to the question about applications from new customers are highly correlated with the responses to the question about overall applications. However, a higher fraction (25 percent) of banks reported that applications from new customers increased than reported that overall applications increased (16 percent).

Similarly, a smaller fraction of banks (36 percent) reported that applications from new customers decreased than reported that overall applications decreased (41 percent).

The finding that business loan applications from new customers decreased less than overall applications suggests that businesses that had relied on large commercial banks for credit may have turned instead to community banks for credit as the large banks cut back on lending because of the serious capital constraint stemming from subprime-induced balance sheet losses. To investigate this, banks were asked why former customers of large banks turned to them for credit during 2009. Specifically, banks were asked to rank five possible reasons why new customers turned to the responding bank for credit rather than using their previous bank: (1) turned down as a result of covenant default; (2) turned down as a result of general deterioration of the borrower's qualifications; (3) turned down despite no evident deterioration in the borrower's qualifications; (4) the other bank's lending terms became relatively less advantageous; and (5) the respondent bank offered superior customer service or convenience. The rankings are summarized in Table 1.

Banks tended to rate their superior customer service as the most important factor (51 percent ranked it in the top two reasons). Nevertheless, being turned down for credit at the other bank despite no evident deterioration in qualifications is ranked in the top two reasons by 47 percent of respondents. In contrast, being turned down for credit at the other bank due to either covenant defaults or other deterioration in qualifications was ranked in the top two reasons only 30 percent of the time. This suggests either that deterioration in borrower qualifications was a relatively unimportant reason for being turned away by a large bank, or more likely, that previous customers of a large bank who lost access to credit as a result of worsened qualifications did not deem it worthwhile to apply for credit at a community bank.

The community banks were then asked to rank the importance of five possible reasons for denying credit applications: (1) insufficient or no collateral; (2) insufficient borrower income, cash flow, or credit score; (3) deterioration in the bank's capital or liquidity position; (4) increased scrutiny or pressure from regulators; and (5) unfavorable or uncertain general economic outlook. The respondents generally indicated that insufficient borrower qualifications

were the most important reason for turning down applications for credit in 2008 and 2009. The rankings are summarized in Table 2. Insufficient borrower income, cash flow, or credit score was ranked first by 74 percent of the banks, and either first or second by 90 percent. A majority (65 percent) of the banks ranked insufficient collateral as the second most important reason; 75 percent ranked it either first or second. Most banks (64 percent) ranked unfavorable or uncertain general economic conditions as the third most important reason for denying credit. Relatively few banks (24 percent) included either deterioration in their balance sheet or regulatory pressure in their top three ranked reasons.

Figure 7 shows the distribution of responses to a question about changes in the approval rate for business loan and line-of-credit applications in the fourth quarter of 2008. Although a slight majority of banks (55 percent) reported that the approval rate remained unchanged, substantially more banks (32 percent) reported that the approval rate decreased than reported that the approval rate increased (13 percent). At the same time, banks generally indicated that, everything else equal, in 2008 and 2009 they were more likely to grant credit to customers with an existing relationship with the bank than to those without (see Figure 8). So, the credit approval rates are likely to have fallen most sharply for new customers, including those who previously obtained credit from large commercial banks.

The banks were also asked a series of questions more specifically about how their loan underwriting standards today compare with those in place as of September 2008. Figure 9 shows responses to the questions about underwriting standards for renewing lines of credit for existing business customers versus granting lines of credit to new business customers. Figure 10 depicts answers to two similar questions pertaining to business term loans rather than lines of credit.

As Figure 9 shows, there has been modest tightening of underwriting standards for existing customers, and slightly greater tightening for new customers. Most (57 percent) of the responding banks indicated that standards for existing customers remained basically unchanged, with nearly all of the rest reporting that they had tightened standards somewhat (37 percent) or considerably (5 percent). By comparison, just 40 percent of respondents reported

that standards for new customers were unchanged, while slightly over half (51 percent) reported that they had tightened somewhat for new customers and 9 percent responded that they had tightened considerably.

The responses to the questions about underwriting standards for term loans (shown in Figure 10) are similar, but reflect somewhat less tightening. For example, only 32 percent of the banks responding to these questions reported that they had tightened standards for existing customers. Standards for new customers were also tightened less for term loans than for lines of credit. On the other hand, there was greater tightening for new customers than for existing customers.

Regarding changes in the scope of product offerings to business customers, the banks were asked which credit products they offered to business customers in September 2008 versus today (See Figure 11). The number of responding banks that offer business term loans, lines of credit for business operations, loans backed by real estate, and business credit cards, respectively, stayed essentially unchanged between September 2008 and today. However, the number of responding banks that offer loans for construction and land development fell by 12 percent from 110 to 98.

Overall, responses to the qualitative questions in the survey suggest that the supply of credit is now tighter than it was at the start of the financial crisis, with the tightening greater for new customers than for existing customers of the community banks surveyed. Tighter underwriting standards for new customers makes sense from an individual bank's point of view. The bank may have private information regarding the credit worthiness of existing customers as well as a vested interest in the relationship, so it may assign higher priority to existing customers to the extent that additional credit would increase the probability of repayment on outstanding loan balances. Banks do not have the same vested interest in potential new customers. They may also worry about adverse selection. From a community bank's perspective, it is difficult to ascertain whether a business line of credit was not renewed by another bank because that bank developed balance sheet problems, or if instead the other bank had private information indicating that the business was a poor risk.

Although tighter standards for new customers than for existing customers makes sense at any given time, it is less obvious why underwriting standards for new customers should have been tightened more than for existing customers during the last two years. One possibility is that the community banks believed that the information asymmetry problem had become more severe, since larger banks are likely to shed their most problematic customers. Another possible reason is that community banks wanted to slow the growth of their assets in the face of a rather uncertain economic outlook, while protecting their investment in relationships with existing customers.

New customers for a bank can be new firms or existing firms that are not able to tap additional credit at banks where they have been customers. The community banks generally did not report that balance sheet problems impeded their ability to lend. In contrast, many large commercial banks suffered graver losses during the financial crisis due to their greater exposure to subprime-based assets and as a result were more likely to be forced to restrict lending. The survey responses suggest that the customers of large banks who were denied additional credit would have faced a difficult time in obtaining credit from the community banks. To the extent that some larger banks restricted lending as a result of balance sheet problems, community banks appear to have been largely unable or unwilling to offset the resulting loss of credit.

III. Responses to quantitative questions

In the last section of the survey, we solicited detailed quantitative data on loan applications and originations in each year since 2006. Specifically, questions 17 through 21 ask the banks to provide the annual number of applications for business loans and lines of credit, as well as the number and dollar amount of originations of business term loans versus lines of credit. Moreover, we ask for the percentage of applications and originations accounted for by new customers. To answer these questions, a respondent bank would need to retrieve data from its financial statements since 2006. This seems to have proved too costly for many banks, for

there was a discrete drop in the response rate to these questions—down to an average of 84 responses from an average of 124 responses to the qualitative questions earlier in the survey.¹

Summarizing the pattern of growth in the number of applications and originations over the sample years, we show in Figure 12 that the number of applications rose from 2006 to 2007, and fell from 2007 to 2010. Growth rates of the number of term loans originated display a similar profile over these years, although the decline in term loan originations decelerated this year (through May) compared with 2009. By comparison, the number of line of credit originations started falling in 2008 and experienced steeper, and in fact accelerated, declines since then. This is consistent with our prior assumption that, during the economic downturn, banks were more reluctant to grant new or renew existing lines of credit than to originate term loans.

Figure 13 compares the growth rates of originations in terms of number and dollar volume for both lines of credit and term loans. One clear pattern emerges: for both lines of credit and term loans, the decline in the dollar amount of credit extended has been more severe than the decline in the number of originations. The deceleration is especially stark for the dollar volume of lines of credit granted. The healthy growth in 2007 and 2008 turned into a moderate decline in 2009 and plummeted in 2010 year-to-date (through May 2010 for most respondent banks). By comparison, the dollar amount of term loans originated fell more in 2009, but the pace of decrease has so far not accelerated in 2010. These patterns indicate that banks have become even more conservative about any expansion in the dollar volume of their risk exposure by downsizing the credit lines or loans they grant.

Comparisons of these annual flows of originations (amount through May for 2010) with the balance-sheet stock values in the Call Reports show that the annual growth rates of lending volume calculated using the two sources of data are positively correlated, although the correlation tends to be moderate or low in many cases. This may be the result of cross-bank heterogeneity in the time variation of average maturity of loans or lines of credit originated.

¹ This pattern in response rates was anticipated and was the reason we placed these questions at the end of the survey.

Specifically, in any particular year, a bank whose originations shifted toward loans with shorter durations would show a higher growth rate if measured using origination volume than if measured using balance of loans outstanding at year end, and vice versa.

To help gauge the extent to which borrowers who used to be customers of large banks but were declined credit by those large banks during this downturn may have turned to the community banks, questions 17 through 21 asked respondents to estimate the percentage of business loan originations accounted for by new customers. Figure 14 depicts the median fraction of loan applications from and originations of lines of credit and term loans to new customers. The percentage of applications from new customers remained fairly stable across the years except in 2007, when a noticeably higher percentage came from new customers. So, the aggregate behavior does not immediately suggest that there was an exodus of borrowers from large banks to community banks during the financial crisis and the continued downturn afterward. Simple correlation between the growth rate of lending volume and the change in the fraction of new customers indicates that, between 2006 and 2008, banks that increased the share of approval of new customers' credit applications did not experience faster loan growth. Faster growing community banks in 2009 and 2010 through May also tended to increase the share of their credit origination to new customers.

To examine the extent to which the new customers approaching community banks may face a greater risk of being turned down during the financial crisis and recession years, Figure 15 plots the median approval rate of applications for lines of credit and term loans. It shows that among the 41 banks whose answers are deemed coherent, the approval rates were nearly identical for new and existing customers between 2006 and 2008.² In fact, the overall approval

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² Answers to these questions reveal that there may be some inconsistencies or discrepancies in how the respondents interpreted the questions. Throughout the sample years, there are slightly fewer than a quarter of the answers where the reported number of originations of business lines of credit (Question 18) plus term loans (Question 20) exceed the number of applications for both types of contracts (Question 17). In fact, close to 90 percent of the responses show a greater than 100 percent approval rate, even if we consider only the number of term loans or lines of credit originated. Apart from respondent misunderstanding, such answers may reflect cases in which certain banks granted drawdowns under existing lines of credit or renewed existing lines of credit without counting them as applications for either term loans or lines of credit. One characteristic of banks that gave such inconsistent answers is that they tend to be smaller. Together with FIRO, we will be contacting some of these respondents to better understand their answers.

rates were slightly higher in 2007 and 2008 than in 2006. They then fell in 2009 and 2010 (through May) and, more importantly, especially for applications from new customers. This is consistent with the pattern, discussed above, of comparatively greater tightening of lending standards for new versus existing customers. In particular, it suggests that community banks became more stringent with new applicants after the shock of seeing Fannie Mae and Freddie Mac being taken into conservatorship in the fourth quarter of 2008—a shock that was identified by our representative community bankers as the most relevant shock to community banks emanating from the financial crisis.

Another dimension over which we can detect signs of greater tightening for new customers is the average size of loans. Figure 16 depicts the relative size of lines of credit and term loans originated to new versus existing customers. One clear pattern is that the size of credit lines to new customers is almost invariably smaller than the size of credit lines to existing customers. The sole exception is 2009, possibly because some borrowers from large banks, which tend, on average, to be established, bigger firms, turned to community banks for credit after being denied by large banks. In contrast, the size of term loans is invariably bigger for new than for existing customers. This may reflect the fact that banks are more willing to grant large requests for credit from new customers only in the form of term loans (possibly collateralized with equipment). Overall, there is little evidence that the community banks have constrained the size of loans to new customers more than to existing customers during this recession, even though they have on average reduced the size of all credit lines and term loans (as shown above).

Also as part of our effort to look for signs of credit constraint, question 22 asked each respondent to estimate the average utilization rate of outstanding lines of credit in each year from 2006 to 2010 (through May 2010). Table 3 lists the sample statistics of answers from the 65 banks that reported numbers for all the years. One striking pattern of these results is that the median, and to a slightly lesser degree the mean, utilization rates are remarkably stable over the years. There is a more pronounced increase at the right tail of the utilization rate—the 95th percentile had more elevated utilization in 2007-through-2009, especially in 2008. These data

suggest that, at least for the majority of borrowers who have been able to retain their lines of credit, banks have not cut the size of credit lines to any significant degree. It is certainly possible that borrowers are, in fact, constrained but are choosing not to draw down more on their outstanding lines because they fear having the lines cut.

IV. Responses to questions related to SBA lending programs

The survey also includes a set of questions on participation by New England community banks in the SBA lending programs. The vast majority of banks that responded (106 banks out of 135, or 78 percent) indicated that they participate in one or more of the SBA programs. In fact, slightly over one third of these banks (35 percent) are SBA preferred lenders. Figure 17 lists the number of banks that use each one of the SBA products. Not surprisingly, 7(a) regular loans and 504 programs are the most popular among the banks that use SBA programs (used by 86 percent and 90 percent of the banks, respectively).

In order to assess the role that the SBA has played in the economic recovery by improving access to credit for small businesses, we inquired further about the type of SBA programs used during the recession. Many SBA programs were expanded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) that was signed into law by President Obama on February 17, 2009. These expansions aim to facilitate lending to small businesses and thereby preserve as well as create jobs. Key provisions in the bill include the elimination of the upfront guaranty fee for loans with maturities greater than 12 months and the extension of SBA guarantees to lenders up to 90 percent of the loan value for most 7(a) loans.³ Additionally, thanks to permanent changes to the 504 Certified Development Company loan program, small businesses seeking to expand will be able to refinance existing loans used to purchase real estate and other fixed assets.

To assess the success of the expansion of SBA programs during the crisis, we asked the banks to estimate the percentage increase in the dollar value of business loans made since 2008 that were made possible by the availability of SBA programs. Figure 18 provides a histogram of

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³ SBA expanded the eligibility criteria for 7(a) loans in May 2009.

the responses. Among the banks that responded, 38 percent reported that the SBA programs made no difference. Not surprisingly, the more a lender has used SBA programs, the less likely it is to report no impact—34 percent of banks that use SBA programs and only 18 percent of those that are SBA preferred lenders reported that SBA programs made no difference.⁴ The median value of the percentage increase is 5 percent and the mean is 11.38 percent (Table 4, Panel A). Again, it is no surprise that those banks that are SBA preferred lenders attributed the most value to the SBA programs, with 24 percent of them reporting an increase in business loans of more than 25 percent owing to the SBA programs. One bank in particular attributed to the programs an increase in lending of 325 percent.

To estimate the overall dollar value of loans made possible as a result of the SBA programs, we multiplied the fraction reported in the above question by the dollar value of commercial and industrial loans (both lines of credit and term loans) originated by the surveyed banks from 2008 to 2010. The results are shown in Table 4, Panel B.⁵ On average, banks increased business lending by \$11.23 million as a result of the availability of SBA programs. As expected, this average increase was larger for SBA preferred lenders (\$22.69 million) than for non-preferred lenders (\$4.49 million). The median values are somewhat lower, given the skewness of the distribution depicted in Figure 18. Overall, these results suggest that the SBA programs were somewhat effective at promoting business lending among community banks in New England, especially among the SBA preferred lenders.

IV. Concluding comments

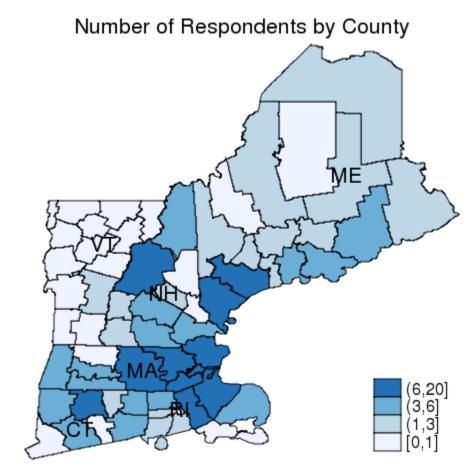
In summary, information gathered through this survey suggests that New England community banks have tightened their loan underwriting standards, especially for new customers, since the onset of the financial crisis. Nevertheless, deteriorating borrower qualifications and reduced demand for loans have also clearly played a role in the contraction of bank credit.

⁴ Though not many banks responded to this question with "zero," it is significant that some of them did, especially if we take into account that one might expect banks to over-report the percentage in this question if they anticipate that they can influence policy decisions by showing a big effect of SBA programs in their lending decisions in a survey run by the Fed.

⁵ To avoid biasing results, the outlier of 325 percent was not included in the calculations of mean values in Table 7.

The persistence of tighter standards is consistent with similar indications from the Senior Loan Officer Opinion Survey (SLOOS) of tightening of lending standards at both large and small banks. Our data suggest that businesses that were turned away from large banks would generally have found it difficult to get credit at community banks. Overall, community banks do not appear to have been able or willing to offset the contraction in the credit supply stemming from the actions of large banks. On the other hand, the survey responses provide some evidence in support of the efficacy of SBA lending programs in boosting the supply of credit to small businesses. This suggests that further expansion of the SBA programs could potentially be effective in increasing the supply of credit to small businesses, all else being equal. More data and analysis of this issue should prove useful.

Figure 1.



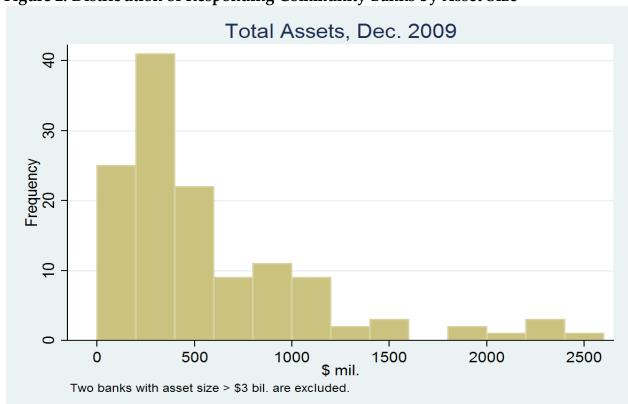


Figure 2. Distribution of Responding Community Banks by Asset Size

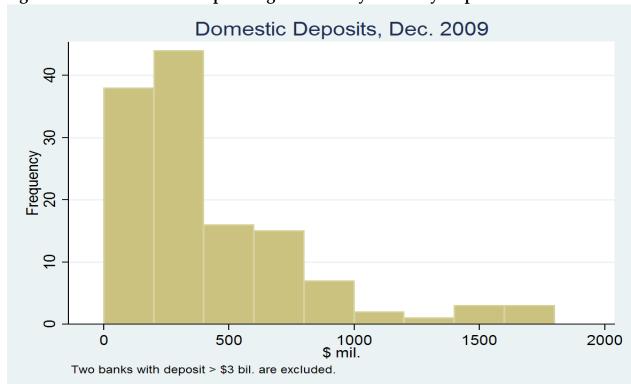


Figure 3. Distribution of Responding Community Banks by Deposit Balance

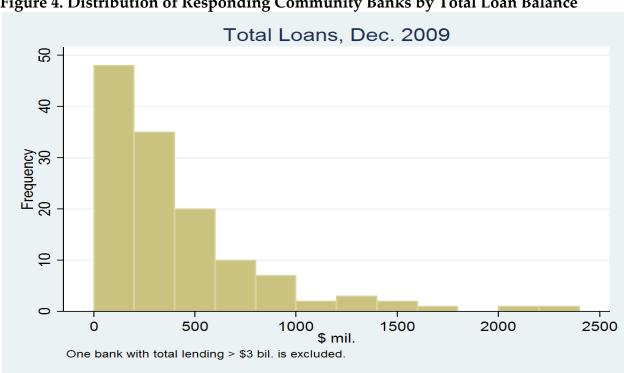


Figure 4. Distribution of Responding Community Banks by Total Loan Balance

Figure 5.

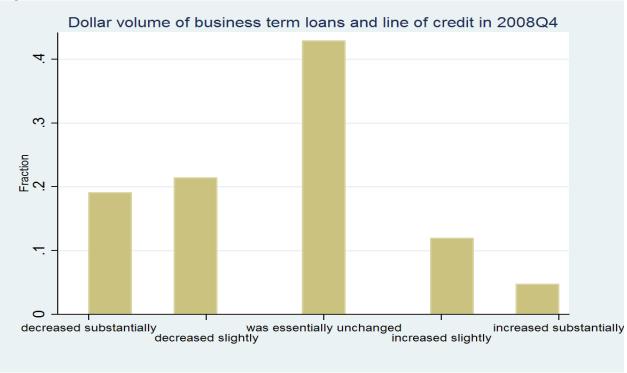


Figure 6.

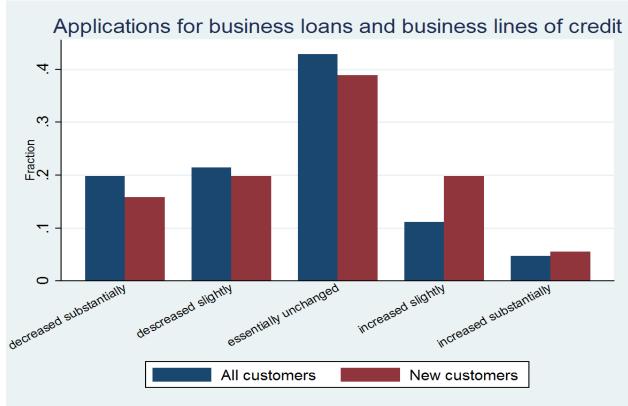


Figure 7.

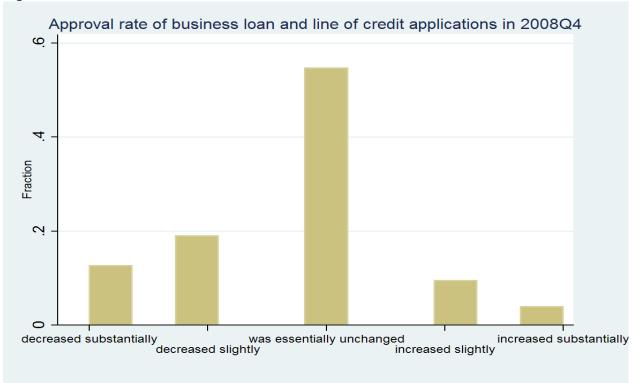


Figure 8.

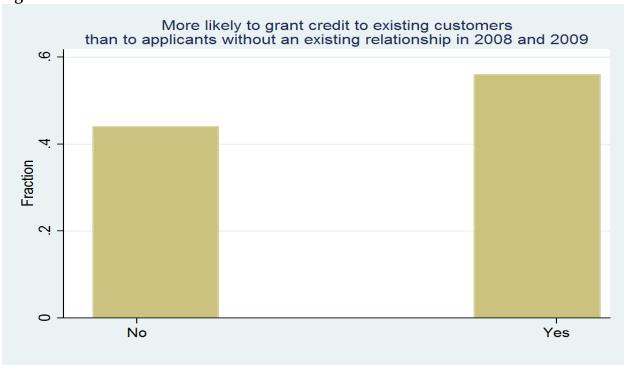


Figure 9.

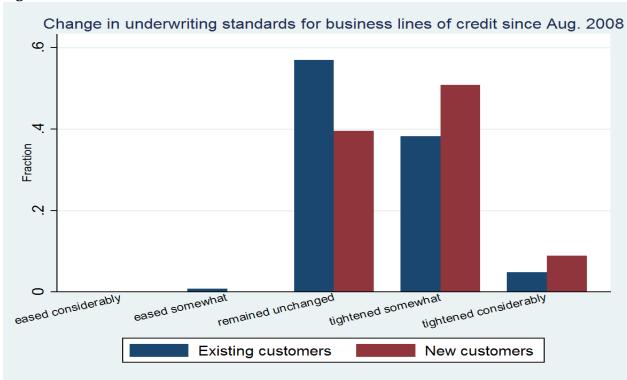


Figure 10.

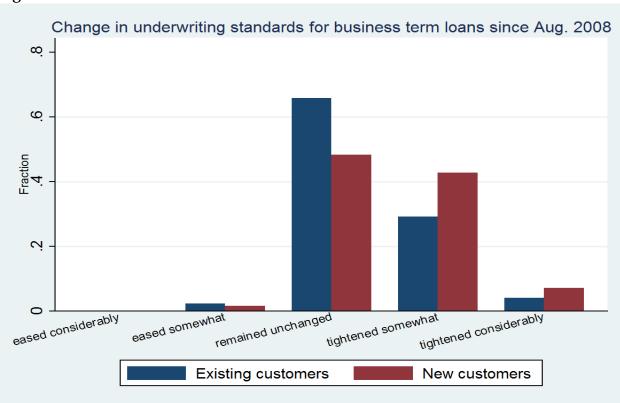
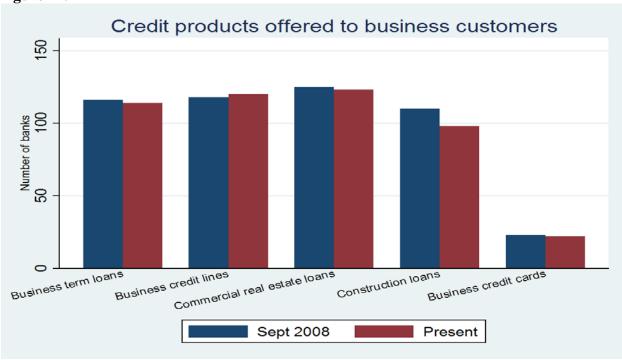


Figure 11.



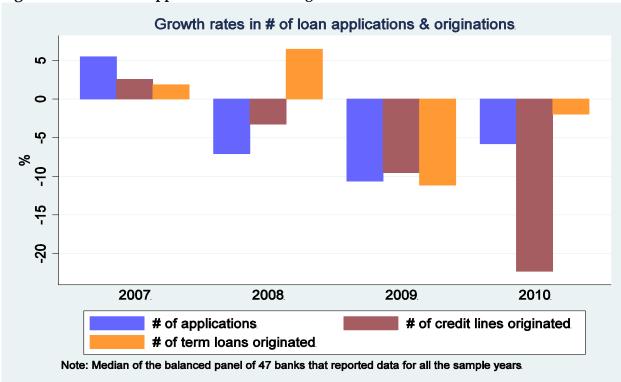


Figure 12. Growth in applications for and originations of lines of credit and term loans

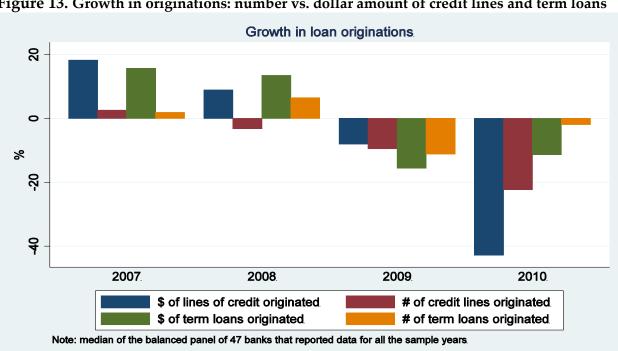


Figure 13. Growth in originations: number vs. dollar amount of credit lines and term loans

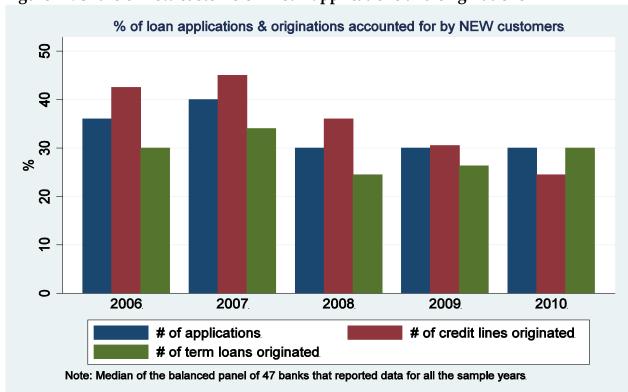


Figure 14. Share of new customers in loan applications and originations

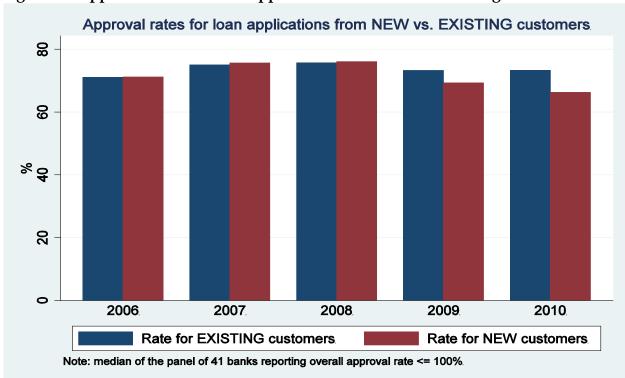


Figure 15. Approval rates for loan applications from new vs. existing customers

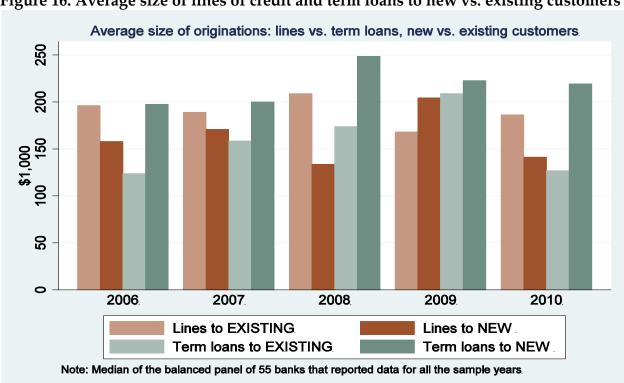


Figure 16. Average size of lines of credit and term loans to new vs. existing customers

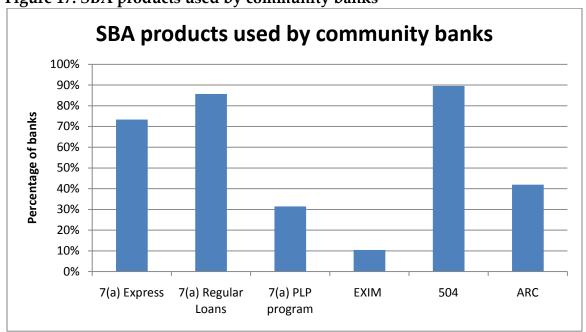


Figure 17. SBA products used by community banks

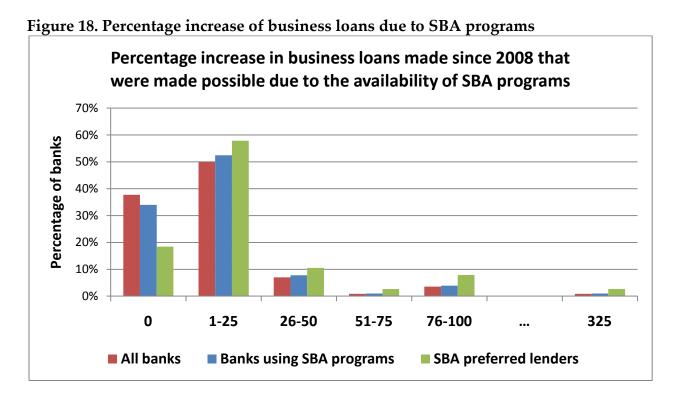


Table 1. Rankings of reasons new customers turned to the bank for credit

Reason	Percentage of respondents ranking this reason either #1 or #2
Turned down by other bank due to covenant defaults	14%
Turned down by other bank due to general deterioration of qualifications	30%
Turned down by other bank despite no evident deterioration in qualifications	47%
Other bank's terms of lending less advantageous	55%
Superior customer service or convenience	51%

Table 2. Why banks turned down applications for credit

Reason	percentage ranking 1 st	Percentage ranking 1 st or 2nd
Insufficient or no collateral	10%	75%
Insufficient borrower income, cash flow or credit score	74%	90%
Deterioration in bank's capital or liquidity position	4%	5%
Increased pressure or scrutiny from regulators	5%	10%
Unfavorable or uncertain general economic outlook	5%	17%

Table 3. Utilization rate of outstanding lines of credit

Year	Observations	Mean	Median	Bottom 5%	Top 5%
2006	65	49.3	50	32	76
2007	65	50.0	50	27	80
2008	65	52.3	50	32	85
2009	65	50.2	50	30	80
2010	65	48.1	48	0	77

Table 4. Percentage and dollar value increase in loans due to SBA.

	Panel A			Panel B \$ value of increase in		
	Percentage increase in loans due to SBA			loans due to SBA (Million USD)		
	mean	median	N	mean	median	N
Non-SBA preferred						
lender	7.14	1.50	76	4.49	0.54	51
SBA preferred lender	20.18	10.00	37	22.69	4.73	30
TOTAL	11.38	5.00	113	11.23	2.49	81