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Earliest Indicator of Bank Failure Is Deterioration in Earnings

By Yadav Gopalan

The Great Recession (roughly the $oldsymbol{\perp}$ period from late-2007 to mid-2009) will go down as an extraordinary period for the U.S. banking sector.¹ In addition to the distress faced by the largest investment and commercial banks, 168 depository institutions failed from 2007 through 2009. Although this may seem like a relatively small number when compared with the 1,858 banks and thrifts that failed from 1987 to 1993 during the height of the savings and loan crisis, the dollar value of failed bank assets is unmatched. Thus far, the Great Recession has seen roughly \$540 billion of failed bank assets, which is roughly 1.5 times the dollar value of assets that failed in 1987-1993.2

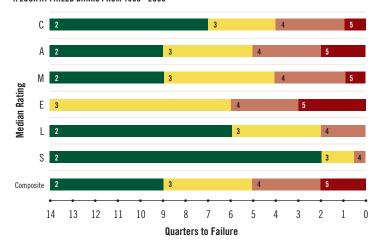
When investors, journalists and other interested parties look for signs of weakness in the banking sector, they tend to analyze data reported by banks in their quarterly Reports on Condition and Income (or call reports). Regulatory agencies, however, can identify signs of bank weakness through a unique prism—the CAMELS ratings that the agencies assign banks following examinations. Captured in these ratings is information gleaned from an examiner's intimate knowledge of an institution that can be used to construct expectations for the future prospects of the banking organization.

Analysis of the S&L crisis suggests that the banks and thrifts that failed

CHART 1

Supervisory Ratings of Failed Banks
ALOOK AT FAILED BANKS FROM 1990 - 2009

NEWS AND VIEWS FOR EIGHTH DISTRICT BANKERS



were particularly exposed to poor asset quality, poor risk management and passive bank management. In the contemporary episode of bank failures, asset quality issues in the commercial real estate sector are a particular problem, but in general, the reasons for failures in the past are the reasons for failure today.³

To better understand the financial and supervisory characteristics of failed banks, we at the St. Louis Fed examined data on commercial banks that failed from 1990 to 2009. We looked to see when each of the CAM-ELS scores—capital, asset quality, management, earnings, liquidity and sensitivity to risk—started to deterio-

continued on Page 5

This chart takes all of the failed banks from 1990 to 2009 and looks at their CAMELS ratings 14 quarters before failure. The ratings go from 1 to 5, with 1 and 2 considered healthy, 3 being the threshold for deterioration and 5 being the worst. The earnings component deteriorates first because asset quality problems in banks lead to greater provisioning for loan losses which have a direct impact on a bank's earnings.

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The Eighth Federal Reserve District includes all of Arkansas, eastern Missouri, southern Illinois and Indiana, western Kentucky and Tennessee, and northern Mississippi. The Eighth District offices are in Little Rock, Louisville, Memphis and St. Louis.



Innovation Can Spark Low-Income Markets

By Glenda Wilson

iven the recent impact of the $oldsymbol{J}$ current economic conditions on homeownership, the development of rental housing is becoming increasingly important to provide homes for families and also help stabilize neighborhoods.

Because of its mission to maintain economic stability, the Federal Reserve has long had an interest in the Low Income Housing Tax Credit (LIHTC) program, a major source of capital for the development of rental housing. The program is the federal government's primary tool for financing the development of affordable, rental housing for low- and moderate-income families.



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Over the past 20 years, these tax credits emerged as the leading source of capital subsidy for the construction and rehabilitation of such housing. Using equity investments from public-private partnerships, the LIHTC program has created more than 2 million housing units nationally since its inception, including more than 70,000 units in the Eighth District between 1986 and 2006. Furthermore, until the recent economic downturn, the program peaked at financing and constructing approximately 100,000 rental units per year nationally.

Since the downturn began, the LIHTC syndication market has experienced distress as fewer investors have an interest in the credits. Traditionally, the market has been concentrated among relatively few major investors: banks and government sponsored enterprises (GSE). Many banks have drastically reduced their investment in LIHTC projects as their need to offset taxable income has declined. Likewise, a large drop-off in tax credit purchases by the GSEs, which previously comprised about 40 percent of the market, has contributed to the recent decline in LIHTC market volume. Low investor demand for tax credits has led to multiple challenges for the affordable rental housing production market.

Our Fed's Community Affairs function is particularly focused at this time on stability and opportunity in lowand moderate-income communities, including affordable rental units. To that end, in conjunction with the Board of Governors, we commissioned a series of short articles by practitioners and experts to highlight their pioneering ideas for bolstering the LIHTC market. The six articles and video presentations are found in *Innovative Ideas for Revitalizing* the LIHTC Market, which you can download at www.stlouisfed.org/community_development/events/lihtc/index.cfm. The same site includes a video of a bus tour around St. Louis that shows actual projects developed using LIHTCs.

Two Steps Forward, One Step Back for District Banks in Fourth Quarter

By Michelle Neely

fter two straight quarters of slight improvement, profitability at Eighth District banks dipped in the fourth quarter of 2009. Return on average assets (ROA) declined 9 basis points to 0.16 percent because of increases in net noninterest expenses and loan loss provisions. (See table.) For U.S. peer banks (those with assets of less than \$15 billion), the fourth quarter profitability ratio was a "good news, bad news" story. The good news was that ROA rose 2 basis points; the bad news was that it was still negative (-0.28 percent) as the industry continued to rack up losses.

For both District and national peer banks, the results were once again better for smaller institutions: District banks with average assets of less than \$1 billion earned 0.49 percent on average assets, while similar-size banks elsewhere earned just 0.01 percent. As with the slightly larger banks, ROA declined between the third and fourth quarters.

The net interest margin (NIM)—the main driver of bank earnings—held steady at District banks in the fourth quarter at 3.67 percent. The profit setback can be traced to declines in noninterest income, slight increases in noninterest expense and increases in loan loss provisions. Loan loss provisions as a percent of average assets rose to 1.02 percent at District banks and to 1.54 percent at U.S. peer banks in the fourth quarter. While some of the increase in loan loss provisions reflects typical year-end adjustments, it also reflects continued deterioration in asset quality, especially in the real estate portfolio.

Asset quality problems show no sign of abating soon. The ratio of nonperforming loans to total loans at District banks jumped 22 basis points to 2.84 percent at year-end 2009; the increase in the ratio for U.S. peer banks was smaller-11 basis points-but the national ratio remains well above that of District banks at 4.14 percent.

It's Still Tough Out There

	4Q 2008	3Q 2009	4Q 2009	
RETURN ON AVERAGE ASSETS				
District Banks	0.40%	0.25%	0.16%	
Peer Banks	0.04	-0.30	-0.28	
NET INTEREST MARGIN				
District Banks	3.78	3.67	3.67	
Peer Banks	3.82	3.61	3.66	
LOAN LOSS PROVISION RATIO				
District Banks	0.78	0.95	1.02	
Peer Banks	1.08	1.51	1.54	
NONPERFORMING LOAN RATIO				
District Banks	1.76	2.62	2.84	
Peer Banks	2.71	4.03	4.14	

SOURCE: Reports of Condition and Income for Insured Commercial Banks

Note: Banks with assets of more than \$15 billion have been excluded from the analysis. All earnings ratios are annualized and use year-to-date average assets or average earning assets in the denominator. Nonperforming loans are those 90 days or more past due or in nonaccrual status.

Problem real estate loans are the source of most of the weakness in asset quality. In the District, the ratio of nonperforming real estate loans to total real estate loans jumped 29 basis points to 3.34 percent. Within the portfolio, the sharpest increase occurred in construction and land development (CLD) loans; nonperforming CLD loans to total CLD loans surged 128 basis points to 9.84 percent. Increases occurred in all other segments of the real estate portfolio, although they were much smaller. The picture is substantially worse for U.S. peer banks. Nonperforming real estate loans make up nearly 5 percent of total real estate loans, and the nonperforming CLD loan ratio is approaching 15 percent.

Despite large increases in loan loss reserves, the coverage ratio of loan loss reserves to nonperforming loans continues to sink. For District banks, it dropped almost 300 basis points to 64.8 percent, meaning about 65 cents was reserved for every \$1 of nonperforming loans. Though the coverage ratio actually increased somewhat for U.S.

continued on Page 7

Look Near and Far To Cover **CRA Assessment Lending Areas**

By Kristina Stierholz

ssessment areas are the backbone of a bank's performance under the Community Reinvestment Act (CRA). The bank is responsible for choosing its assessment area and must review and affirm that choice every vear. Every bank's CRA performance is measured against its lending to lowand moderate-income (LMI) areas and LMI individuals within their assessment area. Because lending outside the assessment area is ignored, it is important to capture as much of the bank's lending area as the bank reasonably can be expected to serve.

The Board of Governors' Regulation BB implements CRA. Section 228.41(a) explains that a bank's assessment area will be used to evaluate its record of helping to meet its community's credit needs. You can look at your assessment area in a number of ways. Imagine using a telescope to see the farthest edges of your assessment area and a microscope to view individual census tracts.

Let's start with the telescope. Take a look at all the locations for your bank: main office, branches and deposit-taking ATMs. Regulation BB requires that the assessment area cover all of those locations for your bank. In addition to locations, your bank should include any geographical areas in which you have made or purchased a substantial portion of your loans. Do you have a loan production office (LPO) that results in significant lending in a specific area? While it is not required to be included in your assessment area, an LPO may generate enough loan activity that your bank should include that office's geographic area.

Then consider how far you should be able to reach. Look at the broadest possible area that the bank could serve, which is a good starting point for considering what would be an appropriate assessment area.

Next, identify the relevant political subdivisions. An assessment area must generally consist of one or more

metropolitan statistical areas (MSAs) or one or more contiguous political subdivisions. Is your bank large enough and geographically spread out enough to manage one or more MSAs? Or do you have a small, single-location bank in a rural area? In that case, an MSA won't be an option and the relevant assessment area may be as small as a township. Most banks fall somewhere in the middle. In that case, you may want to look at a county or counties as the basic political subdivision.

Once you've settled on the appropriate political subdivision, it's time to see if it needs to be adjusted for assessment purposes to reduce the size. Here, we switch from looking through a telescope to looking through a microscope to compare the size of the chosen political subdivision to the bank's ability to serve that area.

Finally, the regulation limits the reasons and ways that an assessment area can be adjusted. The area must consist only of whole geographic areas (i.e., census tracts), and may not reflect illegal discrimination, arbitrarily exclude low- or moderate-income geographies or extend substantially beyond an MSA boundary or state boundary unless the assessment area is located in a multistate MSA.

Look at the entire picture, including the shape of your assessment area and what is beyond its borders. Is it irregularly shaped? Does it appear to avoid low- and moderate-income geographies? Are there high-minority populations near, but just outside, your assessment area? These are flags for further review and analysis.

Once your review is complete, be sure to document the reasons for choosing the assessment area that you did so that next year's review can build upon the work you just completed.

Kristina Stierholz is an assistant vice president in the Banking Supervision and Regulation division at the Federal Reserve Bank of St. Louis. You can reach her at 314-444-7342.

Earnings Deterioration

continued from Page 1

rate for these banks as a group. The threshold for "started to deteriorate" was when each rating first hit 3 on the CAMELS' 1 to 5 ranking system (with 1 being best and 5 being worst). Our review of each failed bank started 14 quarters before its failure.

The results of our analysis were not surprising. Banks that fail experience deterioration in asset quality. The deterioration first shows in a bank's earnings level (the "E" component of CAMELS) as banks begin to provision for potential loan losses. This occurs well in advance of other financial health indicators.

The next CAMELS components to show deterioration are "asset quality" and "management," both hitting the 3 mark nine quarters before failure. Not surprisingly, the management component rating starts to deteriorate soon after the earnings component does, reflecting ongoing asset quality issues and regulatory initiatives by bank supervisors to clearly communicate with management, as well as hold management accountable for the bank's conditions.4

Next to deteriorate is the "capital" component of the CAMELS rating, hitting the first warning level seven quarters before failure. Our experience suggests that capital ratios often do not fall as quickly as asset quality deterioration because of the ability of banks, in some cases, to raise new capital. Other institutions attempt to increase capital ratios by reducing the size of the balance sheet, shedding assets through reduced lending or asset sales. Note, however, that capital ratios do drop off rapidly one year from failure, as bank investors may realize that the institution has reached a point of no return and do not see viability in the bank's operations.

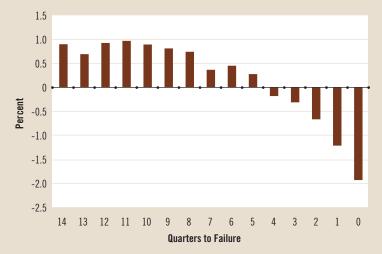
The final two CAMELS ratings to fall are "liquidity" (six quarters out) and "sensitivity to risk" (two quarters out).

In addition to the six CAMELS ratings, we looked at the trend in core earnings of the failed banks. Bank supervisors call this the "earnings run rate," defined as the sum of net interest income and net noninterest income by average assets. The run rate measures how much money is being made (or lost) as institutions open their doors

CHART 2

Earnings Run Rate

A LOOK AT FAILED BANKS FROM 1990 - 2009



for business every day. As shown in Chart 2, failed banks between 1990 and 2009 on average experienced a negative earnings run rate a full four quarters before failure.

In conclusion, while weakened or deteriorating asset quality is the primary driver of bank stress, the recognition of this stress has historically first shown up in earnings performance. This stress is next reflected in a bank's management rating as, in the case of an institution that ultimately fails, bank management is unable to reverse the negative trends in earnings and asset quality. Capital ratios, while important, tend to deteriorate well after the bank's condition has weakened.

Yadav Gopalan is a senior research associate in the Banking Supervision division's Supervisory Policy and Risk Analysis unit at the Federal Reserve Bank of St. Louis.

Endnotes

- 1 The end of the current recession has not officially been called yet; however, estimates are that we emerged from recession in mid-2009. Refer to the St. Louis Fed-maintained FRED database at http://research.stlouisfed.org/fred2/
- 2 The failure of Washington Mutual and IndyMac in 2008 constitutes roughly 62 percent of the \$540 billion of failed assets.
- 3 See "Why Are Banks Failing?" at www.stlouisfed. org/publications/cb/articles/?id=1667
- 4 See "Supervision Spotlight on Root Cause of Bank Failures" at www.philadelphiafed.org/ bank-resources/publications/src-insights/2009/ fourth-quarter/q4si2_o9.cfm

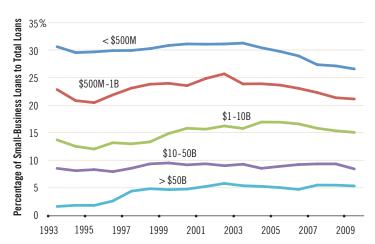
The Demographics of Decline in Small-Business Lending

By Gary S. Corner and Rajeev R. Bhaskar

mall-business lending has recently Preceived attention in the media and on Capitol Hill as lawmakers look at factors involved in the financial crisis. Some small businesses rely on family and friends for start-up capital, expansion or financing of day-to-day operations. But many small businesses eventually turn to financial institutions. According to a July 2009 study conducted by the Small Business Administration's Office of Advocacy, 90 percent of small businesses relied on some sort of credit in 2003. The study further notes that approximately 60 percent of the credit was held by commercial banks.

Concentration of Small-Business Loans at Different Bank Groups

BANK SIZES PER TOTAL ASSETS



SOURCE: Call Reports. Small-business loans are defined in the Reports of Condition and Income as nonfarm nonresidential and commercial and industrial loans with original amounts of \$1 million or less. Small-business loans are reported annually on June 30.

> Just as bank lending is important to small businesses, small-business loans are important to banks. Even though the relationship model may differ, both small and large banks benefit from the small-business lending activity.

Which Size Banks Make Small-Business Loans?

Figure 1 shows the ratio of smallbusiness loans to total loans for commercial banks of five different sizes (grouped by total assets). The figure depicts a distinct picture: On average, the smaller the bank, the greater the percentage of small-business loans in the bank's loan portfolio. For banks with less than \$500 million in assets, for example, small-business loans constitute 27 percent of the overall loan portfolios, compared with only 5 percent for banks with more than \$50 billion in total assets. The banks in the other asset size classes hold small-business loans in between these two percentages.

Trends in Small-Business Lending

Loans to small business are a big business for commercial banks. There were 16.8 million small-business loans outstanding at all U.S. commercial banks on June 30, 2008, with a book value of \$615.9 billion. This figure contrasts with just \$297 billion outstanding as of June 30, 1993. (See Figure 2.) The increase translates into 6.7 percent average annual growth.

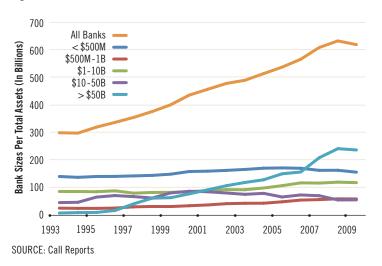
Between June 30, 2008, and June 30, 2009, however, the growth trend reversed. The outstanding loan volume at commercial banks fell by \$13.5 billion, or 2.2 percent. This was the first annual decline since 1993, a period that included two recessions. While data are insufficient to quantitatively determine the reasons for the decline, many lenders attribute the decline to a combination of a deep and prolonged recession; a tightening of credit standards, which had become lax during the early part of the decade; and a general lack of demand for credit.

The Growth in Small-Business Loans at Large Banks

The demographics of institutions in the small-loan business have changed dramatically over the past decade. Figure 2 shows that most of the growth in outstanding small-business loans has come from the largest banks (banks with greater than \$50 billion in assets). Loans at the largest banks grew from \$6.2 billion in 1993 to \$234.5 billion in 2009. Over this period, total small-dollar loans to businesses held on the books of banks with less than \$50 billion in total assets remained more or less at the same level. As a consequence, the largest banks now have the largest dollar volume of these loans, even though the percentage of the loan portfolio is relatively small. The dollar volume of small-business loans held by the smallest banks, on the other hand, dropped from 47 percent of the total outstanding in 1993 to 25 percent in 2009.

One explanation for the trend is the advent of small-business scoring models in the mid-1990s. This coincides with the surge in small-business lending at the large banks. Credit-scoring models automate much of the human involvement of the loan application process and, thereby, speed up the underwriting process. They are also used in the awarding of credit through small-business credit cards. Of course. such models are also sensitive to changes in such things as credit scores or changes in credit standards.

FIGURE 2 **Trends in Small-Business Lending** by Banks of Different Sizes



Gary Corner is a senior examiner and Rajeev Bhaskar is a senior assistant examiner, both in the Banking Supervision and

Regulation division at the Federal Reserve Bank of St. Louis.

Two Steps Forward

continued from Page 3

peer banks, it remains well below the District's level at a weak 52.3 percent.

Despite the industry's earnings and asset quality problems, on average District banks and their U.S. peers remain well-capitalized. The average leverage ratio was 8.84 percent at District banks and 9.07 percent at U.S. peer banks at year-end 2009.

Michelle Neely is an economist at the Federal Reserve Bank of St. Louis.

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Keeping up-to-date with the latest consumer compliance regulations can prove challenging for even the most seasoned banking professional. To help with this essential task, the St. Louis Fed's Banking Supervision and Regulation division has started Compliance Central, a new consumer regulation e-learning site. See www.stlouisfed.org/publications/cb/ for details.



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Reader Poll

The Federal Reserve is conducting a new payments study this year. On a personal level, how often do you use checks these days?

- I don't even know where my checkbook is. I'm all-plastic, all the time.
- I use them once or twice a month, such as for donations or pizza delivery.
- I still use checks because I think they're safer than electronic payments.
- I use a combination of checks, cash, credit/debit cards and electronic payments.

Take the poll at www.stlouisfed.org/publications/cb/. Results are not scientific and are for informational purposes only.

In the winter issue's poll, we asked if the vacancy rate for commercial real estate in your part of the Eighth District was higher than a year ago. Based on 26 responses:

69 percent said much higher
23 percent said only a bit higher
8 percent said the same
o percent said lower