

Chicago Fed Letter

Why aren't banks lending more? The role of commercial real estate

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Since August 2007, the U.S. and global financial markets have endured the worst crisis since the Great Depression, accompanied by a deep economic recession. At the height of the crisis, whole segments of financial markets froze and market participants hesitated to engage in transactions with even the most creditworthy counterparties.

Today, for the most part, financial markets are operating under near-normal conditions. However, the contraction

in total bank lending is ongoing. Since the middle of 2008, net loans and leases at commercial banks in the United States have declined nearly 3%, driving down the share of loans in total bank assets from over 57% to 53%.

There are a number of possible reasons for the contraction in bank lending. Among them are: lower demand for loans as households and businesses seek to reduce debt; declines in the value of assets that can be pledged as collateral for loans;

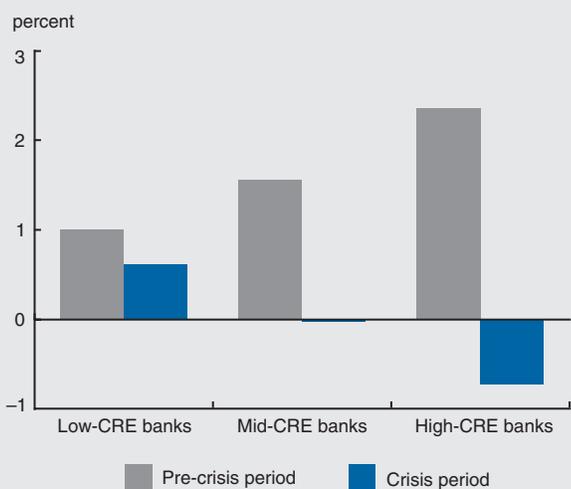
banks' desire to conserve liquidity and capital in the face of realized and potential losses; and declines in the creditworthiness of potential borrowers. In this *Chicago Fed Letter*, we examine the impact of the large exposure of some banks to one of the worst-hit sectors of the crisis, the commercial real estate

(CRE) market. We find that, after controlling for other factors that might be correlated with loan growth, banks that had large exposure to the CRE market before the crisis extended loans to other sectors of the economy at a significantly slower rate during the crisis than banks that did not have such exposure.¹ In fact, while banks with relatively small CRE exposure continued to increase their non-CRE lending during the crisis, banks with high CRE concentrations reduced their lending to sectors outside the CRE market, consistent with the notion that the CRE exposure of these banks inhibited their lending to other market segments.

Impact of the crisis on CRE

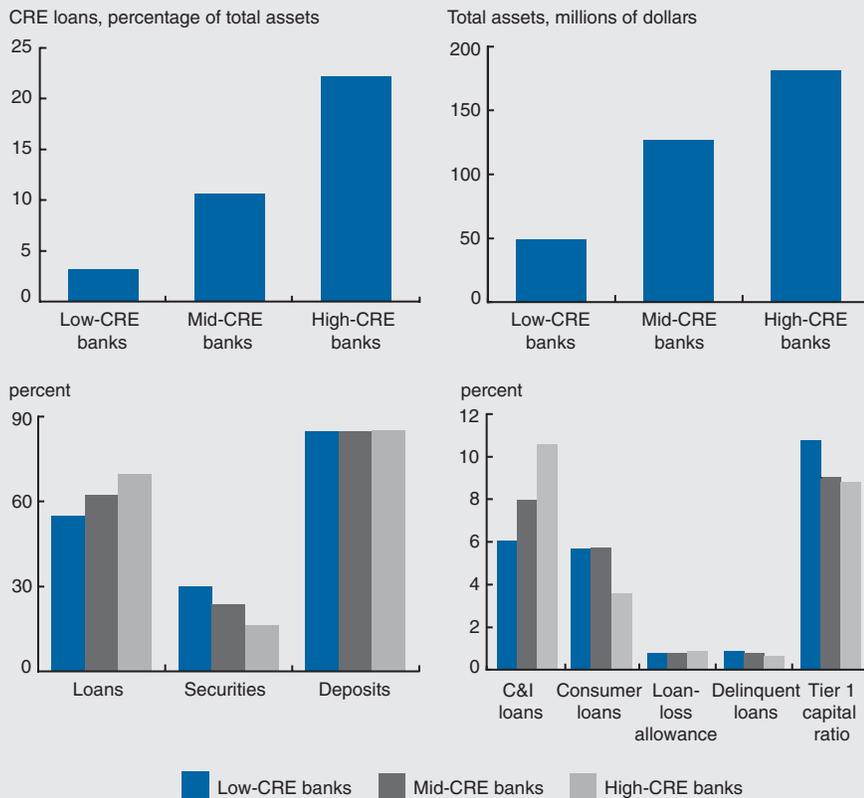
After growing more than 10% each year from 2002 through 2007, U.S. commercial property prices have dropped 40% since then.² In the pre-crisis period, activity in commercial real estate markets was supported by ample availability of funding. Between 2002 and 2007, commercial real estate loans on commercial banks' balance sheets rose at an annual rate of 10% to reach nearly \$900 billion. In addition, issuance of securities backed by commercial mortgages (CMBS) spiked from \$52 billion in 2002 to \$230 billion in 2007. However,

1. Average quarterly growth rate of non-CRE loans



NOTE: CRE indicates commercial real estate.
SOURCE: Call Reports.

2. Bank characteristics as of 2003:Q2



NOTES: Commercial real estate (CRE) concentration type is defined as the top 30% (high), 30-69% (mid), and bottom 30% (low) of lenders based on 2007:Q2 levels of CRE lending as a share of total assets. Values reported are the median of given concentration type for 2003:Q2.
SOURCE: Call Reports.

the CMBS markets virtually shut down during the crisis, and issuance dwindled to \$3 billion in 2009.³ At the same time, delinquencies on CRE loans rose rapidly during the crisis. For loans backing CMBS, 60-plus day delinquency rates jumped from 0.3% at the end of 2007 to 8.3% in September 2010. Similarly, at the end of the second quarter of 2010, the ratio of noncurrent loans (loans that are more than 90 days overdue plus non-accrual loans) to total CRE loans was 4.3%, up from 0.9% at the end of 2007. Nonetheless, CRE lending by banks has continued to grow during the crisis. It had reached over \$971 billion by the end of the second quarter of 2010, representing about 15% of total bank lending.

Impact of CRE on other loans

The increase in CRE lending, combined with significantly higher delinquencies on these loans, could have inhibited banks' willingness or ability to lend

to other segments of the economy—particularly when banks' demand for liquidity and capital was high. We shed light on this issue by comparing the lending behavior of banks with large levels of exposure to commercial real estate with the lending behavior of banks with relatively small levels of CRE exposure. In particular, we ask: Did banks with large CRE exposure at the beginning of the crisis reduce their non-CRE lending during the crisis more than banks with relatively low CRE exposure?

Based on the ratio of CRE loans to total assets right before the onset of the crisis (second quarter of 2007), we sort bank holding companies into three groups: high-CRE banks (top 30%), mid-CRE banks (30% to 69%), and low-CRE banks (bottom 30%). Under this definition, as of 2007:Q2, the median bank in the high-CRE category allocated 25.6% of its assets to CRE loans; such loans accounted for only 13.2% and 3.8% of

total assets, respectively, for banks in the mid- and low-CRE categories.

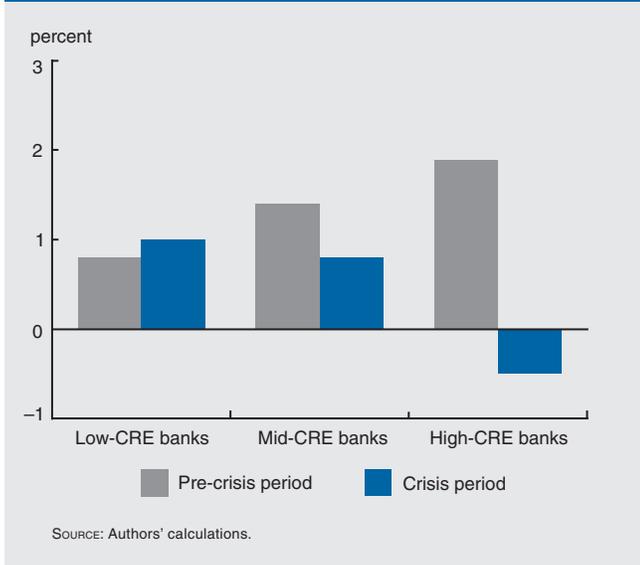
To determine whether CRE exposure could have inhibited banks' ability to lend to other segments of the economy, we first compare the growth rates of non-CRE loans (total loans minus CRE loans) across the three groups of banks, as shown in figure 1. Two patterns stand out. First, from 2002 through the first half of 2008, non-CRE lending at high-CRE banks grew at a faster pace (2.4%) than at mid-CRE banks (1.6%) or low-CRE banks (1.0%). So, in this period, banks with high levels of CRE exposure were also lending more to other sectors. However, this pattern reversed during the crisis. Low-CRE banks continued to increase their non-CRE loans during the crisis, albeit at a slower rate (0.6% per quarter) than before. In contrast, high-CRE banks cut back their lending to other segments of the economy during the crisis—on average, by 0.7% per quarter. Mid-CRE banks also reduced their non-CRE lending during the crisis, but only slightly (by 0.03%). Hence, the higher the bank's CRE concentration before the crisis, the greater the slowdown in its non-CRE lending during the crisis.

While the patterns in figure 1 are striking, they do not tell us *why* high-CRE banks retrenched more than other banks during the crisis. There are a number of possible reasons. For instance, high-CRE banks might have failed at a higher rate during the crisis than other banks, influencing the pattern we observed in figure 1. Indeed, of all the commercial bank failures since 2007, nearly 50% are identified as high-CRE banks; 42% are mid-CRE banks; and only 10% are low-CRE banks.

Characteristics of high-CRE banks

It is also possible that banks with high CRE concentrations had other characteristics that would explain their different non-CRE lending behavior in the pre- and post-crisis periods. In figure 2, we show the profile of a median bank in the three groups as of 2003:Q2. It is clear that banks in the three groups have very different characteristics. High-CRE banks had higher CRE concentrations than their peers four years prior to the onset

3. Non-CRE loan growth, controlling for bank characteristics



of the crisis. Moreover, compared with low-CRE banks, high-CRE banks are, on average, larger; devote a greater percentage of their assets to loans and a smaller percentage to securities; lend more to businesses, but less to consumers; have higher loan-loss allowances, but lower loan delinquencies as a percentage of assets; and have lower Tier 1 capital ratios.⁴ However, there is no noticeable difference between banks with different CRE concentrations in terms of the fraction of assets funded by deposits. The other differences are statistically significant and generally hold true in later periods (as of 2007:Q2 and 2010:Q2).⁵

To analyze the importance of these bank characteristics in explaining lending behavior, we estimate an ordinary least squares regression of loan growth controlling for these factors. Specifically, we estimate a model that captures the differences between the lending behavior of mid- and high-CRE banks over the entire sample period and that of low-CRE banks. We also identify possible differences in lending behavior of banks during the post 2008:Q2 period relative to the earlier period and relative to each other. In addition, we relate the quarterly growth rate of non-CRE loans to bank size, Tier 1 capital ratio, fraction of assets funded by deposits, the ratio of total loans to total assets, and the ratio of delinquent loans to total loans. We control for economic conditions by

including the growth rate of real gross domestic product (GDP) and changes in commercial real estate prices in our model; we take into account possible persistence in loan growth by including four lags of the dependent variable.

Figure 3 shows the estimated growth rates of non-CRE lending at low-, mid-, and high-CRE banks after controlling for all the above-mentioned factors.⁶ First, note that even after controlling

for bank characteristics and other factors, the general patterns from figure 1 still hold. That is, in the pre-crisis period, there is a positive correlation between the growth rate of non-CRE lending and CRE exposure. Moreover, the difference between the lending behavior of high-CRE banks and that of other banks during the crisis becomes even starker once we control for bank characteristics: The average estimated growth rate of non-CRE loans at low- and mid-CRE banks in the crisis period is positive and around 1%. Hence, banks with low- and mid-CRE concentrations continued to extend loans to other segments of the economy during the crisis, albeit at a relatively subdued pace. In contrast, banks with high CRE concentrations prior to the crisis reduced their lending to other segments of the economy during the crisis, on average, by 0.5 percentage points per quarter. These estimated differences in the lending behavior of banks with low- and high-CRE exposure levels cumulate to significant amounts over the entire crisis period. Specifically, we estimate that non-CRE loans at banks that entered the crisis with low CRE exposure increased by more than 8% from the second quarter of 2008 through the second quarter of 2010. Similarly, non-CRE lending at mid-CRE banks grew by 6.5% over the same period. In contrast, high-CRE banks reduced their lending to non-CRE sectors by 4% cumulatively.⁷

In dollar terms, these percentage changes translate to a nearly \$82 billion cumulative increase in non-CRE loans at low- and mid-CRE banks (combined) during the crisis and about a \$15 billion dollar decline in non-CRE loans at high-CRE banks.

Turning to the other factors we include in our analysis, bank size is positively and significantly correlated with growth in non-CRE lending. In addition, banks with higher Tier 1 capital ratios and lower loan delinquency rates had faster loan growth, consistent with previous evidence on the effects of higher capitalization and higher credit quality on loan growth. Higher real GDP growth and greater appreciation in commercial real estate prices are also associated with significantly higher loan growth at all banks, again consistent with our expectations and previous evidence. Moreover, loan growth is highly persistent. Faster loan growth in one period is associated with significantly higher loan growth in subsequent periods. We found no statistically significant relationship between non-CRE loan growth and the propensity to fund assets with deposits. On the other hand, banks that have higher loan-to-asset ratios have lower

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loan growth in subsequent periods for all non-CRE loans.⁸

Conclusion

Over the past three years, global financial markets have undergone extreme stress. Today, most financial market segments have stabilized and are operating under near-normal conditions. However, loan growth at commercial banks has yet to resume after a large contraction during the crisis. There are numerous reasons

for the lack of loan growth at commercial banks. In this article, we focus on one possible factor: whether the large CRE exposure of some banks prior to the crisis and the severe contraction in CRE markets during the crisis adversely affected banks' willingness or ability to extend loans to other sectors of the economy. At first glance, higher CRE concentrations prior to the crisis appear to be associated with much slower loan growth to other sectors during the crisis.

However, a portion of the differences in lending behavior of high-, mid-, and low-CRE banks can be explained by other bank characteristics, the economic environment, and the dynamics of loan growth. Nonetheless, even after controlling for these factors, we find that banks with high-CRE concentrations prior to the crisis reduced their lending to other segments of the economy, while banks with lower CRE exposure continued to expand such lending.

¹ We also examined the growth rates of commercial and industrial (C&I) loans at banks with different CRE exposure levels. The results for C&I lending were similar to those reported here.

² These numbers reflect changes in the Moody's Real Commercial Property Index (obtained from Haver Analytics), which is designed to measure price changes in repeat transactions of commercial properties.

³ CRE Financial Council, 2010, *Compendium of Statistics*, October, available at: www.crefc.org/uploadedFiles/CMSA_Site_Home/Industry_Resources/Research/Industry_Statistics/CMSA_Compendium.pdf.

⁴ The ratio of Tier 1 (core) capital to risk-weighted assets, as defined by bank regulators.

⁵ The differences between mid-CRE and high-CRE banks are generally similar to those between low- and high-CRE banks.

⁶ The full regression results are available from the authors upon request.

⁷ The estimated differences between the growth rates of non-CRE lending at high-CRE banks and those at the other two groups are statistically significant at the 1% level. However, once we control for other factors, there is no statistically significant difference in the non-CRE lending behavior of low- and mid-CRE banks during the crisis.

⁸ The results we present here are robust to adjusting for the effects of mergers and bank failures. We also explored the possibility that our model is not the correct specification to capture differences in the characteristics of banks in the three groups by estimating a two-equation system that explicitly modeled the propensity to have higher CRE concentrations. We obtained results similar to those presented here.