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Factors Affecting Regional Bank Health and Supervisory Rating: An Exploration

January 13, 2026

Denise Duffy, Joseph Haubrich, and Chris Healy[1]

Abstract

Local commercial real estate conditions are positively correlated with the health of regional banks (assets between $10 billion and $100 billion), as measured by the composite confidential supervisory rating. Among other variables, return on assets is positively correlated with our proxy of bank health, but size and capital ratio are negatively correlated. Among the different components of the rating, the management rating has the most influence on the composite rating.

Keywords: Regional Banks, CAMELS ratings, commercial real estate.

JEL Classification: G21, G28, R30

[1] Duffy and Healy, Federal Reserve Bank of New York, and Haubrich, Federal Reserve Bank of Cleveland. The views stated are those of the authors and not necessarily those of the Federal Reserve Bank of Cleveland, the Federal Reserve Bank of New York, or the Board of Governors of the Federal Reserve System. At the time the paper was written, all three authors were employees of the Federal Reserve Bank of Cleveland. Denise Duffy and Chris Healy are now employed by the Federal Reserve Bank of New York. We thank Ruchita Coomar for excellent research assistance, and Ned Prescott, Nick Fritsch, and Mark Flannery for useful comments.

1. Introduction

Since some recent failures, understanding the health of regional banks has taken on more relevance, as have questions about the supervision of regional banks (total assets between $10 billion and $100 billion). In this paper, we use confidential supervisory information, specifically, the composite CAMELS[2] rating assigned by the bank's examiners, as a measure of bank health and look for determinants of that rating. We address this question from two directions. First, how does bank health depend on banks' financial positions and on local and national economic conditions? Second, which components of the CAMELS rating, such as capital or management, are most important for the composite rating, that is, for overall bank health? We also answer these questions for regional bank holding companies (BHC), which have a separate RFI/CD[3] rating.

We find that the condition of regional commercial real estate (CRE) markets, particularly the market for industrial properties, has a strong positive impact on regional bank health, something that has not been previously noted or explored. Healthy regional banks also have a high return on assets (ROA). Somewhat counterintuitively, healthier banks tend to have lower capital ratios and fewer assets, at least when health is measured by the composite CAMELS rating. Perhaps that argues for the specialness of regional banks, suggesting that higher capital is balancing higher risk or other management issues. Among the separate components (one for each letter of CAMELS) of the rating, the management rating stands out as being of importance.

A variety of work has established that supervisory ratings do provide useful information about a bank's health. Hirtle and Lopez (1999) show that CAMEL ratings provide information about a bank's current condition above and beyond publicly available information. Berger, Davies, and Flannery (2000) find that Moody's ratings and stock returns can better predict future bank performance, but market-based measures are generally not available for smaller banks. Gaul and Jones (2021) show that CAMELS ratings can predict banks' return on assets, the share of nonperforming loans, and stock returns. Abdymomunov and Mihov (2019) show that supervisory ratings can predict operational losses for bank holding companies.

In contrast to these studies, which often use stock returns or portfolio measures such as nonperforming loans, or even future failure to measure bank health, we treat supervisory ratings as a direct measure of bank health, reflecting the outcome of an intensive examination process with access to internal bank documents and data that uses the judgment of experienced bank examiners. In this we follow Balasubramanyan and Haubrich (2013), who explore a similar question for the years 2008-2013.

Several other papers have looked at the determinants of CAMELS ratings. Bassett, Lee, and Spiller (2015) compare actual with predicted CAMELS ratings as a measure of supervisory stringency and test the impact on macroeconomic variables. Relative to those authors we use the ratings as a direct measure of health and have a more detailed treatment of local CRE investment. We also explore the relationship between CAMELS components and final rating.

[2] For more information on the CAMELS ratings, see Stackhouse 2018.
[3] For more information on the RFI/CD ratings, see SR 19-4 / CA 19-3 Attachment 2 – RFI Rating System.

Gaul and Jones (2021) look at the determinants of an unsatisfactory rating (3,4, or 5). We have a slightly different set of control variables with more detail on local CRE holdings, and we also estimate the full range of ratings. Gaul, Jones, and Uysal (2019) use statistical learning models to predict high-risk (3,4, or 5) ratings, but find that a simple logit approach does nearly as well. Agarwal, et al. (2024) use a small set of predictors in a first-stage regression to predict CAMELS ratings to explore discretion in rating assignments. We also use a regression to understand which components are most important for the overall rating, but we do not look at differences across individual examiners. We concentrate on regional banks, use a broader set of portfolio measures, and are more interested in ratings as a measure of health. Curry, Fissel, and Hanweck, (2008) show how equity market data can help predict bank holding company ratings in the 1988-2003 period.

The largest difference between our paper and previous work is our adding a measure of CRE performance in a bank's region, broken down by the hospitality, retail, office and industrial sectors. The industrial sector has a significant effect, above and beyond total CRE holdings.

Exam Ratings

The Federal Financial Institutions Examination Council (FFIEC), an interagency body, sets uniform standards and reporting for the bank regulatory agencies. Examiners assess the safety and soundness of the bank using the Uniform Financial Institution Rating system, better known as CAMELS, for the ratings assigned to *C*apital, *A*sset quality, *M*anagement, *E*arnings, *L*iquidity, and *S*ensitivity to market risk. The banking agencies via the FFIEC first adopted the CAMEL system in 1979, adding Sensitivity in 1997.[4] As a result, earlier work refers to a CAMEL rating. Both the composite and the component ratings are judged on a scale of 1 to 5, with 1 being the best, indicating the least supervisory concern, and 5 the worst, the rating of greatest supervisory concern.[5]

In the United States, a bank may be owned by a nonbank company, which is defined as a bank holding company (BHC). Whereas the primary regulator of a bank may be the Federal Reserve, the OCC, the FDIC, or the state, the Federal Reserve is the regulator of bank holding companies. The Federal Reserve defines a regional bank holding company as a BHC with consolidated assets of at least $10 billion and generally less than $100 billion.[6] Regional BHCs are assigned supervisory ratings based on the RFI rating system, where "R" represents risk management practices, "F" represents financial condition, and "I" represents the potential impact of nondeposit subsidiaries on the deposit subsidiaries.[7] The firms are also assigned a composite rating ("C"), as well as a "D" component rating of the subsidiary depository institution(s) that generally mirrors the primary regulator's assessment. Ratings are assigned at least annually and,

[4] FRB: Supervisory Letter SR 96-38 (SUP) on uniform financial institutions rating system -- December 27, 1996 (federalreserve.gov)
[5] Commercial Bank Examination Manual, Section 1000 - Supervisory Process (federalreserve.gov)
[6] The Fed - SR 17-12: Timing Expectations for the Completion of Safety-and-Soundness Examination and Inspection Reports for Regional Banking Organizations
[7] The Fed - SR 19-4 / CA 19-3: Supervisory Rating System for Holding Companies with Total Consolidated Assets Less Than $100 billion (federalreserve.gov)

at times, more frequently, if warranted. Mirroring the bank rating system, all components are assigned ratings on a 1 to 5 scale. Because bank holding companies can own multiple depository institutions, and because not all banks are owned by a holding company, the number of bank holding companies in our sample is less than half of the number of banks in the same period. Additionally, the bank holding companies are less geographically diverse, that is, spread across fewer states, than the banks themselves, particularly in the earlier years of our sample. The smaller sample size and lack of diversity in physical location are especially notable when comparing the changes in CRE valuations for the BHCs to those of the banks. The BHCs experience significantly larger CRE appreciation across all four sectors.

Bank examinations gather a great deal of information, some of which is publicly available, such as assets and liabilities; other information is confidential, some of which is quantitative, such as internal bank loan ratings and pricing, and some qualitative, gathered in the course of reviewing bank procedures and interviewing bank management. The CAMELS ratings aggregate all examination information, both hard—quantitative, storable, easily transmissible (Liberti and Petersen 2019)—and soft: nonquantitative, less transmissible (Stein 2002). This combination of public and nonpublic, hard and soft, explicit and tacit information makes exam ratings a particularly useful measure of bank health. The Federal Reserve's Commercial Bank Examination Manual[8] aims to ensure that supervision "provides a comprehensive assessment of the institution" (Section 1000.1). Bisetti (2024) finds that more frequent BHC exams lower auditing costs.

As a summary of information, exam ratings are an important component of regulatory decisions, since ratings can affect the frequency of bank exams and banks' ability to conduct mergers and acquisitions, pay dividends, or enter new activities. Eisenbach, Lucca, and Townsend (2022) find that bank supervision can have a significant impact on bank outcomes, noting that if the Federal Reserve's supervision function had been fully staffed at 2014 levels, bank distress would have been about 10 percent lower over the sample period of 2007-2009, with considerably larger effects in 2007 and 2008. Hirtle and Kovner (2022) provide an excellent review of the theoretical and empirical work on bank supervision.

2. Method

We use the institution's composite rating as our measure of bank health, since the composite rating summarizes a bank's condition based on the six components of capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk for banks, and a holding company's condition based on the three components of risk management, financial condition, and impact of nondepository subsidiaries. As noted above, an institution's composite rating takes on discrete values from 1 (best) to 5 (worst) for each supervised bank, and we treat that rating as a limited dependent variable, variously using ordered probit, ordered logit, and linear probability models to estimate the composite rating as a function of an institution's financial variables as well as local and national economic conditions. Following standard practice in the

[8] Commercial Bank Examination Manual, Section 1000 - Supervisory Process (federalreserve.gov)

literature, we first rescale the variable, so that higher numbers denote a better rating, as in Bassett, Lee, and Spiller (2015). We then run several specifications of the following regression:

$$sixm_Rating_{it} = aX_{it}+\mu_{it} \quad (1)$$

where $sixm_Rating_{it}$ is six minus the composite supervisory rating for institution i in period t, using the CAMELS composite rating for banks and the RFI composite rating for bank holding companies. X_{it} is a vector of control variables related to bank characteristics and local and national economic conditions. We estimate this equation using three methods: OLS (linear probability model), ordered logit with random effects, and ordered probit with random effects.

The specifications are estimated for regional banks with total assets from $10 to $50 billion and from $50 to $100 billion, as well as the combined sample of banks with total assets between $10 and $100 billion.

We also consider which of the individual CAMELS component ratings contribute to the overall composite rating for each bank by estimating the following regressions:

$$sixm_camels_{it} = sm_C_{it} + sm_A_{it} + sm_M_{it} + sm_E_{it} + sm_L_{it} + sm_S_{it} \quad (2)$$

where $sixm_Y_{it}$ denotes six minus the rating for capital, assets, management, earnings, liquidity, and sensitivity for bank i in period t rating (see Stackhouse, 2018).

For bank holding companies we estimate

$$sixm_RFID_{it} = sm_R_{it} + sm_F_{it} + sm_I_{it} + sm_D_{it} \quad (3)$$

where $sixm_Y_{it}$ is six minus the rating for Risk, Financial condition, Impact, and Depository for BHC i in period t.

3. Data

In popular parlance, a "regional" bank is vaguely defined, usually referring to a bank that is not large enough to have a national presence. Fortunately, this also correlates reasonably well with the supervisory divisions by asset size, and indeed the Federal Reserve has a formal definition of a regional bank: "The Federal Reserve defines community banking organizations as those with less than $10 billion in assets, and regional banking organizations as those with total assets between $10 billion and $100 billion."[9]

We separate banks into two bins based on asset size: commercial banks with $10-$50 billion in total assets and commercial banks with $50-$100 billion in total assets and estimate our model using data from 2008Q1 through 2023Q4. During that time, we have 244 banks, 207 of which are in the $10-$50 billion asset range at some point, and 57 banks that reach $50-$100 billion in total assets during our sample. We include any banks that are within our size bucket in any given quarter (as opposed to banks within our asset buckets during the entire period).

[9] Federal Reserve Board - Community & Regional Financial Institutions accessed May 16, 2024.

CAMELS ratings are assigned at the end of a full-scope on-site examination, which generally occurs every 12-18 months.[10] In any given quarter, a bank will have a CAMELS rating, but the timeliness varies, though Hirtle and Lopez (1999) find that the rating has useful information for up to 6 to 12 quarters. Similarly, while bank holding companies with between $10 billion and $100 billion in consolidated assets have an RFI rating in any given quarter, RFI ratings are assigned on at least an annual basis and more frequently as warranted.[11]

Our independent variables include bank-level financial information, state unemployment levels, and house price indices, and the yield spread between 30-year US Treasury bonds and 90-day US Treasury bills. House price index data come from the US Federal Housing Finance Agency; state-level unemployment data are from the Bureau of Labor Statistics; and yield spreads are sourced from the Board of Governors of the Federal Reserve System, all of which are retrieved via FRED. Bank-level financial data are sourced from the FFIEC's Quarterly Reports of Income and Condition, commonly referred to as the Call Reports. Table 1 below summarizes the financial measures used in our analysis.

[10] Access to the CAMELS and RFI ratings provided via the Federal Reserve's Supervision and Regulation National Access Management System (SR NAMS).

[11] The Fed - SR 19-4 / CA 19-3: Supervisory Rating System for Holding Companies with Total Consolidated Assets Less Than $100 billion

Table 1: Financial Metrics

Name	Measure	Definition
Lev	Tier 1 Leverage Ratio[12]	Tier 1 Capital / Total Assets
Tcr	Tier 1 Risk-Based Capital	Tier 1 Capital/Risk-Weighted Assets[13]
secc	Securities Concentration	Total Securities/Total Assets
Cre	Commercial Real Estate Concentration	Total Commercial Real Estate Loans/Total Loans
Rre	Residential Real Estate Concentration	1-4 Family Loans/Total Loans
Consumer	Consumer Loan Concentration	Consumer Loans/Total Loans
Cnindus	C&I Loan Concentration	Commercial and Industrial Loans/Total Loans
Hotfund	Runnable Deposits	Uninsured deposits plus brokered deposits and Fed Funds Purchased as a percent of Total Assets
Roa	Profitability	Net Income / Average Assets
Effiratio	Efficiency Ratio	Noninterest Expense/Sum of Interest and Noninterest Income
growthHPI	Change in House Prices	Quarterly Change in State-Level House Price Index
Unemp	Unemployment Rate	Quarterly State-Level Unemployment Rate
Spread	Treasury Spread	30-Year Treasury Bond - 90-Day Treasury Bill Spread
Ta	Bank Size	Log of Total Assets

In addition to the factors above, we also consider changes in local CRE markets and exposures for the commercial banks in our sample. We follow the definitions of commercial real estate given in the Supervision Letter (SR Letter) 07-01 issued in 2007.[14]

To define a local CRE market, we identify the street address for each bank in our sample. We use a combination of the street address of the bank's headquarters provided by the bank in the Call Reports, and the city and state in which the entity is physically located as recorded by the supervision team (we find this to be less prone to error as compared with the bank's own entry) to form a complete street address (e.g., 1455 E 6th St, Cleveland, OH). Given the address, we use the "tidygeocoder" package (Cambon et al., 2021) in RStudio to convert the street address into latitude and longitude coordinates.

As a robustness check we also produce a branch-weighted CRE market based on the addresses of each bank's branch locations from the summary of deposits data. These data already include the latitude (SUMD9250) and longitude (SUMD9260) of each branch, the deposits in the branch (SUMD2200), and the total domestic deposits of the bank as reported in the Call Reports (SUMH2200). The measure weights the relative geographic importance of each branch by the percentage of the bank's deposits reported in each branch.

[12] While commonly referred to as the leverage ratio, Lev is a capital ratio.

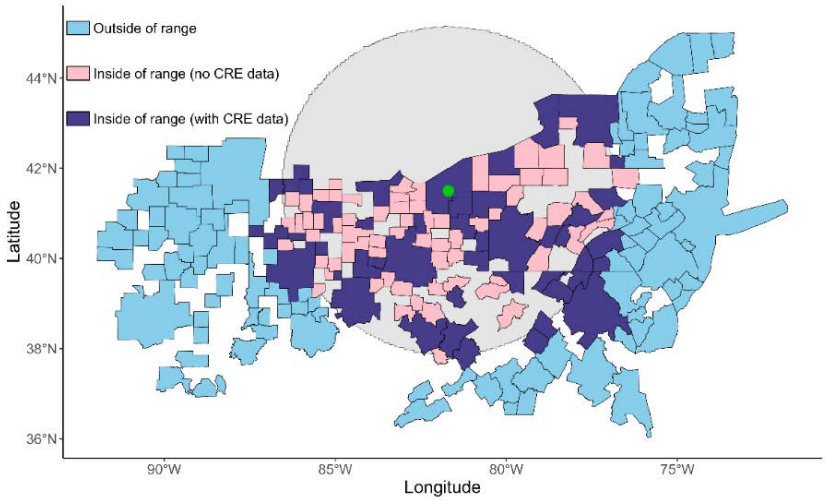
[13] The denominator is assets weighted by risk, where safe assets such as US government debt have a weight of 0. In our study, risk weights can vary anywhere from 35 percent to 200 percent.

[14] Attachment to SR 07-1: Concentrations in Commercial Real Estate Lending, Sound Risk Management Practices

Our measure of local CRE conditions is based on the Federal Reserve Bank of Atlanta's Commercial Real Estate Market Index (CREMI).[15] The index is calculated using a dynamic factor model that includes measures of real estate performance such as occupancy rate and asset value, as well as local economic conditions such as the unemployment rate and industrial production. CREMI is adjusted so that the long-term performance is centered at zero, and is reported in units of standard deviations; so a CREMI of +1 indicates that conditions are one standard deviation better than average.

CREMI is computed for US Census core-based statistical areas (CBSAs).[16] As of this writing, CREMI data are mapped using the March 2020 delineations, and we use the 2020 TIGER/Line Census shapefiles to map bank addresses to CBSAs. From a bank's address, we can get the CBSAs within any given distance to find the relevant CREMI data, treating the bank address as the centroid. CREMI measures are computed for four different CRE property types: hospitality, office, retail, and industrial. For each property type, we assign an overall CREMI value that is the average of available CREMI values for all CBSAs whose centroid lies within 250 miles of each bank. We match the quarterly CREMI data to our bank data based on the as-of date of the financial data. CREMI data are not available for every CBSA. Using the Federal Reserve Bank of Cleveland as a geographic reference, we provide an example of relevant CRE data within 250 miles in Figure 1.

Figure 1. Regional CRE for the Federal Reserve Bank of Cleveland



[15] More information about CREMI can be found here: https://www.atlantafed.org/center-for-housing-and-policy/data-and-tools/commercial-real-estate-market-index#Tab3

[16] 2020 State-based Metropolitan and Micropolitan Statistical Areas Maps

Descriptive statistics for all variables are given in Table 2.

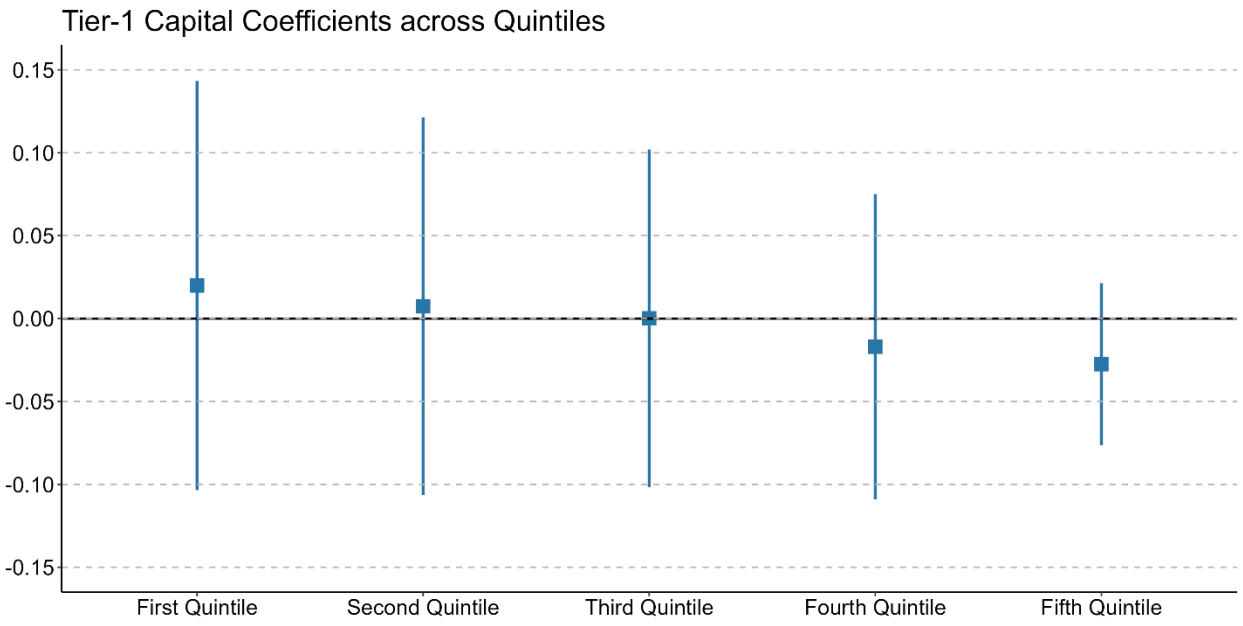
4. Results

Table 3 reports the results for model (1) for banks of $10-100 billion (panel A), $10-50 billion (panel B), and $50-100 billion (panel C), using logit, probit, and linear probability models.

When comparing coefficients between probit and logit, Maddala (1992) recommends multiplying the logit number by 0.55 (which is $\sqrt{3}/\pi$), while Amemiya (1981) prefers 0.625 and also suggests multiplying the logit coefficients by 0.25 to match the OLS (linear probability) numbers and also adding 0.5 to the constant.

Several variables appear significant across specifications. The Tier 1 capital ratio (*lev)* appears significant for each estimation technique and each size classification except for OLS and the $50-$100 billion group. The negative sign suggests that higher capital as a percent of assets leads to a lower probability of good ratings and thus lower bank health. This appears counterintuitive and at odds with Agarwal, et al. (2024) and Gaul and Jones (2021), who find that a higher ratio of equity to assets predicts better supervisory ratings. It does, however, match the results of Balasubramanyan and Haubrich (2013). The risk-adjusted capital ratio, *tcr,* also has a negative sign but does not appear significant, suggesting that the Tier 1 capital results are no fluke. Perhaps the focus on regional banks has led to different results. Since capital is an endogenous variable, it may be that the negative coefficient is a sign that poorly managed banks do not use their capital efficiently or that they hold additional capital to compensate for other risk or management issues. When broken down by *lev* quintile, the capital coefficients get steadily smaller, with the largest two being negative, although none are statistically significant. Figure 2 illustrates this and Table A5 in the appendix reports the full regression results.

Figure 2: Capital Coefficients by *lev* Quintile



Return on assets, *roa*, enters positively, which is to be expected; banks with a higher ROA are likely healthier. Total assets, *ta*, enter negatively, indicating that among the regional banks, smaller banks are likely to be healthier (by our definition). Gaul and Jones (2021), who do not restrict their sample to regional banks, on the contrary find that larger size makes a CAMELS rating of 3,4, or 5 less likely.

Commercial real estate appears to have a mixed effect. Bank holdings of commercial real estate and residential real estate enter negatively in both the logit and the probit specifications for the $10-100 billion sample. This is likely driven by the larger banks, since these variables are significant in the $50-100 billion sample, but not the $10-50 billion sample.[17] Local CRE conditions, however, are significant across all nine specifications, particularly the value of industrial CRE within 250 miles of the bank.

Table 4 reports the marginal effects: the marginal impact of each variable on the probability that the bank will get that particular rating, calculated as the average marginal effect. The results are broken out by size: 10-100, 10-50, and 50-100. Because the marginal effects are reported for each level of the six minus CAMELS rating, we report only the logit results, putting the OLS and probit results in the appendix.

With a multinomial logit, the marginal effects can be broken out by each value of the CAMELS rating. Thus, for the full sample of banks, an increase of one standard deviation in the industrial CREMI will increase the probability of the top rating (that is six-camels=5) by 2.9 percent and decrease the probability of a three rating by 2.4 percent. It makes the highest rating more likely and a lower rating less likely. There is a bit of a difference across size categories, however. For the smaller banks, the largest marginal effect of CREMI is to increase the probability of the top rating; for the larger banks the largest impact is to decrease the probability of the bad ratings. For them at least, cutting off the downside appears to have more impact than increasing the upside. CRE holdings enter negatively for the best rating and positively for a lower (three) rating (in the full sample and for the large banks), and combined with the industrial CREMI results, this finding shows that both the size and the composition of the CRE portfolio matter for bank health.

Conversely, for the leverage result, a higher Tier 1 leverage ratio reduces the chances of the top rating by 1.5 percent while increasing the chances of a low rating. For return on assets, the smaller banks see the largest impact in an increase of the top rating, but for the larger banks, the biggest impact is in a reduction of the low rating. Looking at the marginal effects confirms that having more assets is correlated with lower performance: the smaller banks see a reduction in the chance of getting the top rating, while larger banks see an increased chance of getting a poor rating.

For robustness we also run specifications that weigh the local CRE index by the relative importance of each branch by the deposits reported in each branch as a percent of total bank

[17] Table A.2 reports the results for model (1) without the CRE variables.

deposits. The results are reported in the appendix. Table A3 reports the coefficients and A4 reports the marginal effects. The results are similar to those reported in the text.

Table 5 reports results for the contribution of each CAMELS component to the overall CAMELS composite rating. As shown in Table 5, most margins are positive across all specifications, which is to be expected since a better component rating should lead to a better composite rating. Outside of risk sensitivity's impact for larger banks, the few negative signs are statistically insignificant. Overall, the management rating has by far the largest impact, consistent with the results of Agarwal, et al. (2024), whose sample includes banks both larger and smaller than our selection of regional banks. It is also consistent with the results of Gaul and Jones (2021), who find a similar pattern in the correlations among CAMELS components.

After management, the next most influential components of the CAMELS ratings are capital and asset quality, each having a particularly large effect for the smaller banks, particularly for the logit specification.

5. Bank Holding Companies

We next examine bank holding companies (BHCs), which, because they may own several banks, engage in a wider array of services, have a different rating methodology, and present a different profile from that of commercial banks.

Table 6 presents the results of estimating equation (1) for bank holding companies. Since we have RFI/CD ratings for only 23 BHCs with assets between $50-$100 billion, too small a sample for meaningful output, we report results only for the $10-$100 billion and $10-$50 billion range.

The results for model (1) (with RFI/CD ratings in the place of CAMELS) show some divergence from the model (1) results for banks. *Lev* is now positively associated with ratings across all specifications and is statistically significant in the probit and logit estimations for the $10-$50 billion BHCs (panel B), suggesting that higher capital is important for the health of regional bank holding companies. We see further divergence from the bank model when looking at the effect of CRE valuations; the only consistently statistically significant sector is hospitality, which, strangely, has a negative coefficient. There is some heterogeneity between specifications: for the OLS regressions, office valuations have a statistically significant positive effect on bank health for BHCs in both the $10-$50 billion and the $10-$100 billion (panel A) group, but for the logit and probit models, it is only positive, not statistically significant. This does not appear to be an artifact of multicollinearity, which is conceivably a problem with four measures of local CRE conditions, but including only the hospitality sector gives similar results. Why bank holding company health is positively correlated with a weak hospitality sector is a puzzle for which we don't currently have an answer. CRE holdings relative to the entire loan portfolio have a statistically significant and positive effect on expected ratings across all specifications, in contrast to the banks for which the coefficient is negative but not statistically significant. Similar to the case of the banks, the log of total assets has a negative effect on the ratings but is only statistically significant for the $10-$100 billion sample, not the $10-$50 billion group. Like banks, smaller BHCs are perceived by the RFI/CD ratings as healthier. As with banks, ROA has a positive effect across all specifications for the BHCs.

Table 7 reports the marginal effects from the logit estimation for the BHCs for both the $10-$100 billion and the $10-$50 billion group. Across the groups, a one standard deviation increase in expected CRE valuations for the hospitality sector decreases the odds of getting the best rating by over 3 percent, nearly the inverse of the effect a 1 percent increase in ROA.

Table 8 shows the component breakdown of the RFI/CD ratings based on equation (3). Similar to those for the regional banks, the components have asymmetrical effects on the composite ratings. The risk management component accounts for over half of the composite rating across all three groups. Nearly every coefficient is positive, with the exception of the D (depository institutions) rating, which is statistically insignificant and negative for the $50-$100 billion group.

6. Conclusion

What contributes to a healthy regional bank, at least in the opinion of examiners? We make no claim about providing management with a plan of action to improve a bank's health, but the results do highlight some important factors. Among the most robust findings, perhaps surprisingly, is that the health of the local industrial commercial real estate sector is particularly important for bank health. A higher capital ratio appears to be negatively correlated with bank health, although a higher capital *rating* has a positive effect. The results may not provide much guidance for management, but they do suggest that management quality, as judged by examiners, is quite important to overall bank health and may compensate for idiosyncratic financial weaknesses.

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Table 2: Panel A: Descriptive Statistics $10-50, $50-100 Billion Banks

Variable Description	Short Name	Asset Size ($Billion)	Mean	Std. Dev.	Observations
Tier 1 Leverage Ratio	lev	10-100	9.9	2.58	5986
		10-50	9.88	2.58	5114
		50-100	10.01	2.57	872
Tier 1 Risk-Based Capital Ratio	tcr	10-100	15.35	36.66	5981
		10-50	15.58	39.56	5109
		50-100	13.99	7.02	872
Total Securities as a % of Total Assets	secc	10-100	19.25	15.02	6036
		10-50	19.62	15.41	5118
		50-100	17.22	12.44	918
Commercial Real Estate as a % of Total Loans	cre	10-100	32.22	21.36	5879
		10-50	34.1	21.36	4973
		50-100	21.91	18.16	906
Residential Loans as a % of Total Loans	rre	10-100	27.63	22.32	5879
		10-50	28.65	23.11	4973
		50-100	22.02	16.29	906
Consumer Loans as a % of Total Loans	consumer	10-100	13.32	25.43	5879
		10-50	11.67	23.95	4973
		50-100	22.35	30.84	906
C & I Loans as a % of Total Loans	cnindus	10-100	19.03	14.46	5879
		10-50	18.31	14.31	4973
		50-100	22.95	14.64	906
Uninsured deposits, brokered deposits, Fed Funds Purchased as a % of Total Assets	hotfund	10-100	35.93	19.29	6036
		10-50	35.42	19.31	5118
		50-100	38.75	18.9	918
Returns on Assets	roa	10-100	.6	.89	6036
		10-50	.61	.88	5118
		50-100	.56	.93	918
Expense Ratio	effiratio	10-100	.59	.4	6034
		10-50	.59	.41	5116
		50-100	.59	.3	918
Log of Total Assets	ta	10-100	16.98	.62	6036
		10-50	16.78	.43	5118
		50-100	18.08	.2	918
Growth rate of House Price Index	growthHPI	10-100	1.11	2.08	6036
		10-50	1.15	2.06	5118
		50-100	.91	2.2	918
Unemployment Rate	unemp	10-100	5.86	2.74	6036
		10-50	5.81	2.77	5118
		50-100	6.1	2.57	918
Spread between 30-year T-bond and 90-day T-bill	spread	10-100	1.99	1.47	6036
		10-50	1.94	1.48	5118
		50-100	2.27	1.42	918
Hospitality_value_within_250	hosp_250	10-100	.06	2.47	5261
		10-50	.08	2.5	4500

		50-100	-.1	2.28	761
Office_value_within_250	office_250	10-100	-.1	1.52	5892
		10-50	-.06	1.49	4989
		50-100	-.27	1.71	903
Retail_value_within_250	retail_250	10-100	.03	1.65	5892
		10-50	.08	1.62	4989
		50-100	-.23	1.78	903
Industrial_value_within_250	indst_250	10-100	.25	1.92	5892
		10-50	.31	1.89	4989
		50-100	-.11	2.01	903

Table 2. Panel B. BHC

Variable Description	Short Name	Asset Size ($Billion)	Mean	Std. Dev.	Observations
Tier 1 Leverage Ratio	lev	10-100	10.03	5.06	2172
		10-50	10.11	5.26	1989
		50-100	9.17	1.31	183
Tier 1 Risk-Based Capital Ratio	tcr	10-100	13.24	6.41	2170
		10-50	13.35	6.59	1987
		50-100	12.05	3.85	183
Total Securities as a % of Total Assets	secc	10-100	18.29	9.45	2226
		10-50	18.45	9.51	2043
		50-100	16.58	8.6	183
Commercial Real Estate as a % of Total Loans	cre	10-100	36.58	16.24	2226
		10-50	37.26	16.42	2043
		50-100	28.93	11.66	183
Residential Loans as a % of Total Loans	rre	10-100	26.74	18.4	2226
		10-50	27.38	18.86	2043
		50-100	19.67	9.65	183
Consumer Loans as a % of Total Loans	consumer	10-100	5.29	10.4	2226
		10-50	5.43	10.7	2043
		50-100	3.77	5.92	183
C & I Loans as a % of Total Loans	cnindus	10-100	19.73	12.04	2226
		10-50	18.68	11.37	2043
		50-100	31.44	13.05	183
Uninsured deposits, brokered deposits, Fed Funds Purchased as a % of Total Assets	hotfund	10-100	35.37	20.52	2226
		10-50	34.7	20.55	2043
		50-100	42.87	18.61	183
Returns on Assets	roa	10-100	.6	.97	2226
		10-50	.6	1	2043
		50-100	.61	.58	183
Expense Ratio	effiratio	10-100	.64	.35	2217
		10-50	.64	.37	2034
		50-100	.62	.14	183
Log of Total Assets	ta	10-100	16.89	.52	2226
		10-50	16.79	.41	2043
		50-100	17.99	.17	183

Growth rate of House Price Index	growthHPI	10-100	1.82	1.92	2226
		10-50	1.8	1.89	2043
		50-100	2.02	2.21	183
Unemployment Rate	unemp	10-100	4.95	2.41	2226
		10-50	4.94	2.41	2043
		50-100	5.04	2.43	183
Spread between 30-year T-bond and 90-day T-bill	spread	10-100	1.16	1.41	2226
		10-50	1.17	1.4	2043
		50-100	1	1.51	183
Hospitality_value_within_250	hosp_250	10-100	.38	2.96	2106
		10-50	.37	2.95	1934
		50-100	.45	3.11	172
Office_value_within_250	office_250	10-100	.15	1.22	2226
		10-50	.15	1.22	2043
		50-100	.12	1.2	183
Retail_value_within_250	retail_250	10-100	.58	1.38	2226
		10-50	.57	1.37	2043
		50-100	.64	1.41	183
Industrial_value_within_250	indst_250	10-100	1.13	1.63	2226
		10-50	1.12	1.62	2043
		50-100	1.22	1.73	183

Table 3. CRE Adjusted for Deposits

A. Banks $10-100 Billion

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.0784	-0.0420	-0.0177**
	(0.0639)	(0.0318)	(0.00726)
Office_value_within_250	-0.275	-0.121	-0.0351*
	(0.187)	(0.0968)	(0.0194)
Retail_value_within_250	-0.356	-0.214	0.00726
	(0.282)	(0.147)	(0.0301)
Industrial_value_within_250	0.641***	0.331***	0.0417**
	(0.213)	(0.106)	(0.0177)
lev	-0.343***	-0.172***	-0.0317**
	(0.0772)	(0.0386)	(0.0153)
tcr	-0.0471	-0.0206	-0.00438
	(0.0303)	(0.0155)	(0.00434)
secc	0.0244	0.0142	0.00474**
	(0.0284)	(0.0150)	(0.00222)
cre	-0.0722**	-0.0363**	0.000560
	(0.0322)	(0.0156)	(0.00215)
rre	-0.0412*	-0.0212**	0.00112
	(0.0216)	(0.00895)	(0.00205)
consumer	-0.0233	-0.0106	0.00266
	(0.0307)	(0.0157)	(0.00210)
cnindus	-0.0176	-0.00998	0.000591
	(0.0273)	(0.0128)	(0.00273)
hotfund	0.00648	0.00548	-0.00116
	(0.0169)	(0.00658)	(0.00101)
roa	0.403***	0.214***	0.122***
	(0.1000)	(0.0516)	(0.0207)
effiratio	-0.0708	-0.0566	-0.0350
	(0.241)	(0.113)	(0.0539)
ta	-1.887***	-0.936***	-0.0931***
	(0.494)	(0.221)	(0.0321)
growthHPI	0.0364	0.0204	0.0130***
	(0.0371)	(0.0188)	(0.00449)
unemp	-0.101	-0.0603	-0.00966
	(0.0899)	(0.0451)	(0.0114)
spread	-0.144	-0.0687	-0.00833
	(0.146)	(0.0766)	(0.0140)
/cut1	-52.66***	-26.04***	
	(9.375)	(4.183)	
/cut2	-48.52***	-24.21***	
	(9.472)	(4.212)	
/cut3	-44.69***	-22.15***	
	(9.261)	(4.115)	
/cut4	-34.84***	-17.27***	
	(8.687)	(3.906)	

sigma	12.01***	2.916***	
	(3.327)	(0.685)	
Constant			5.784***
			(0.672)
Observations	5,058	5,058	5,058
R-squared			0.173
Number of id_rssd	201	201	
Reg	XT_O.Logit	XT_O.Probit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

B. Banks $10-50 Billion

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.0840	-0.0416	-0.0199**
	(0.0709)	(0.0351)	(0.00788)
Office_value_within_250	-0.287	-0.129	-0.0344
	(0.211)	(0.109)	(0.0211)
Retail_value_within_250	-0.274	-0.170	0.0199
	(0.314)	(0.158)	(0.0308)
Industrial_value_within_250	0.554**	0.283**	0.0304*
	(0.263)	(0.125)	(0.0180)
lev	-0.252***	-0.126***	-0.0347**
	(0.0870)	(0.0421)	(0.0173)
tcr	-0.0489*	-0.0232*	-0.00371
	(0.0290)	(0.0137)	(0.00450)
secc	0.0241	0.0113	0.00493*
	(0.0270)	(0.0137)	(0.00258)
cre	-0.0556	-0.0270	0.00219
	(0.0350)	(0.0178)	(0.00238)
rre	-0.0142	-0.00555	0.00254
	(0.0268)	(0.0146)	(0.00225)
consumer	-0.0282	-0.0156	0.00422*
	(0.0313)	(0.0151)	(0.00250)
cnindus	-0.00333	-0.00146	0.00178
	(0.0323)	(0.0169)	(0.00306)
hotfund	-0.00340	0.00122	-0.00148
	(0.0180)	(0.00717)	(0.00113)
roa	0.440***	0.232***	0.131***
	(0.107)	(0.0540)	(0.0239)
effiratio	-0.0724	-0.0561	-0.0327
	(0.291)	(0.122)	(0.0593)
ta	-1.377**	-0.745**	-0.101**
	(0.698)	(0.301)	(0.0465)
growthHPI	-0.00618	-0.00341	0.0135***
	(0.0400)	(0.0202)	(0.00515)

unemp	-0.143	-0.0864*	-0.0128
	(0.0972)	(0.0473)	(0.0122)
spread	-0.0873	-0.0414	-0.0111
	(0.168)	(0.0843)	(0.0147)
/cut1	-42.49***	-21.97***	
	(11.54)	(5.046)	
/cut2	-38.21***	-20.05***	
	(11.95)	(5.205)	
/cut3	-34.53***	-18.07***	
	(11.68)	(5.088)	
/cut4	-24.21**	-13.05***	
	(11.59)	(5.013)	
sigma	14.30***	3.356***	
Constant	(4.358)	(0.845)	
Observations	4,346	4,346	4,346
R-squared			0.176
Reg	XT_O.Logit	XT_O.Probit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

C. Banks $50-100 Billion

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.141	-0.0724	-0.0111
	(0.116)	(0.0553)	(0.0151)
Office_value_within_250	-0.263	-0.136	-0.0182
	(0.343)	(0.167)	(0.0435)
Retail_value_within_250	-0.401	-0.181	-0.0482
	(0.419)	(0.214)	(0.0557)
Industrial_value_within_250	1.039***	0.517***	0.0968***
	(0.323)	(0.160)	(0.0329)
lev	-0.228*	-0.129*	-0.0343
	(0.128)	(0.0678)	(0.0219)
tcr	-0.0401	-0.0200	-0.00336
	(0.0489)	(0.0283)	(0.00991)
secc	0.0282	0.0125	0.00221
	(0.0344)	(0.0170)	(0.00481)
cre	-0.0607**	-0.0301**	-0.00647
	(0.0241)	(0.0126)	(0.00389)
rre	-0.0437**	-0.0222**	-0.00490
	(0.0189)	(0.0103)	(0.00350)

consumer	-0.00868	-0.00392	-0.00106
	(0.0265)	(0.0124)	(0.00337)
cnindus	-0.0309	-0.0141	-0.00280
	(0.0323)	(0.0182)	(0.00537)
hotfund	0.0128	0.00871	0.00173
	(0.0199)	(0.00974)	(0.00253)
roa	0.620***	0.300**	0.0753*
	(0.233)	(0.130)	(0.0397)
effiratio	0.260	0.0342	0.00593
	(0.499)	(0.298)	(0.0900)
ta	-3.367***	-1.840***	-0.377***
	(0.888)	(0.465)	(0.122)
growthHPI	0.157*	0.0901*	0.0164
	(0.0868)	(0.0468)	(0.0109)
unemp	0.161	0.0827	0.0181
	(0.144)	(0.0786)	(0.0220)
spread	0.178	0.115	0.00569
	(0.283)	(0.139)	(0.0401)
/cut1	-66.34***	-36.16***	
	(17.17)	(8.912)	
/cut2	-58.67***	-32.04***	
	(16.95)	(8.842)	
Constant			11.13***
			(2.334)
Observations	712	712	712
R-squared			0.227
Number of id_rssd			
Reg	O.Logit	O.Probit	OLS

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

Table 4. Breaking Out by Type of CRE Lending: Marginal Effects, Ordered Logit

A. Banks $10-100 billion

VARIABLES	(1) sixm_camel =1	(2) sixm_camel =2	(3) sixm_camel =3	(4) sixm_camel =4	(5) sixm_camel =5
Hospitality_value_within_250	3.19e-05	0.000348	0.00113	-0.000107	-0.00140
	(5.73e-05)	(0.000555)	(0.00175)	(0.000283)	(0.00215)
Office_value_within_250	-2.17e-05	-0.000237	-0.000767	7.30e-05	0.000953
	(0.000151)	(0.00162)	(0.00528)	(0.000543)	(0.00653)
Retail_value_within_250	0.000681	0.00742**	0.0240**	-0.00229	-0.0299***
	(0.000590)	(0.00362)	(0.0103)	(0.00468)	(0.0113)
Industrial_value_within_250	-0.000519	-0.00566**	-0.0183***	0.00174	0.0228***
	(0.000429)	(0.00225)	(0.00642)	(0.00353)	(0.00637)
lev	0.000339	0.00369**	0.0120***	-0.00114	-0.0148***
	(0.000290)	(0.00174)	(0.00332)	(0.00223)	(0.00414)
tcr	2.57e-06	2.80e-05	9.07e-05***	-8.64e-06	-0.000113**
	(2.51e-06)	(1.78e-05)	(2.90e-05)	(1.67e-05)	(4.47e-05)
secc	-1.46e-05	-0.000159	-0.000514	4.89e-05	0.000639
	(2.72e-05)	(0.000283)	(0.000864)	(0.000124)	(0.00109)
cre	6.11e-05	0.000667	0.00216**	-0.000205	-0.00268*
	(6.69e-05)	(0.000525)	(0.000953)	(0.000382)	(0.00150)
rre	3.24e-05	0.000354	0.00115	-0.000109	-0.00142
	(3.77e-05)	(0.000321)	(0.000729)	(0.000215)	(0.00101)
consumer	6.82e-06	7.44e-05	0.000241	-2.29e-05	-0.000299
	(2.20e-05)	(0.000237)	(0.000734)	(8.03e-05)	(0.000924)
cnindus	-1.46e-05	-0.000159	-0.000516	4.91e-05	0.000640
	(2.77e-05)	(0.000275)	(0.000923)	(0.000132)	(0.00113)
hotfund	-1.22e-05	-0.000133	-0.000429	4.08e-05	0.000533
	(2.10e-05)	(0.000182)	(0.000678)	(0.000110)	(0.000795)
roa	-0.000318	-0.00346**	-0.0112***	0.00107	0.0139***
	(0.000274)	(0.00141)	(0.00401)	(0.00215)	(0.00413)
effiratio	0.000155	0.00170	0.00549	-0.000522	-0.00682
	(0.000194)	(0.00174)	(0.00545)	(0.00113)	(0.00673)
ta	0.00126	0.0137**	0.0445**	-0.00423	-0.0552***
	(0.00113)	(0.00576)	(0.0192)	(0.00864)	(0.0201)
growthHPI	-5.64e-05	-0.000615	-0.00199	0.000189	0.00247
	(6.20e-05)	(0.000458)	(0.00165)	(0.000425)	(0.00187)
unemp	0.000164	0.00179	0.00580**	-0.000552	-0.00720**
	(0.000153)	(0.00111)	(0.00274)	(0.00111)	(0.00340)
spread	0.000137	0.00150	0.00484	-0.000461	-0.00602
	(0.000173)	(0.00141)	(0.00531)	(0.00111)	(0.00609)
Observations	5,810	5,810	5,810	5,810	5,810
Sample	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion

Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit
Standard errors in parentheses *** p<0.01, ** p<0.05, *p<0.1					

B. Marginal Effects 10-50 billion

VARIABLES	(1) sixm_camel =1	(2) sixm_camel =2	(3) sixm_camel =3	(4) sixm_camel =4	(5) sixm_camel =5
Hospitality_value_within_250	5.41e-05	0.000583	0.00171	0.000196	-0.00255
	(7.19e-05)	(0.000615)	(0.00171)	(0.000385)	(0.00249)
Office_value_within_250	3.37e-05	0.000363	0.00107	0.000122	-0.00159
	(0.000160)	(0.00174)	(0.00513)	(0.000653)	(0.00763)
Retail_value_within_250	0.000581	0.00625*	0.0184**	0.00210	-0.0273**
	(0.000533)	(0.00341)	(0.00939)	(0.00383)	(0.0126)
Industrial_value_within_250	-0.000482	-0.00519**	-0.0153**	-0.00175	0.0227***
	(0.000406)	(0.00207)	(0.00607)	(0.00314)	(0.00720)
lev	0.000256	0.00276*	0.00811***	0.000928	-0.0121***
	(0.000225)	(0.00141)	(0.00294)	(0.00172)	(0.00425)
tcr	2.79e-06	3.00e-05*	8.83e-05***	1.01e-05	-0.000131**
	(2.67e-06)	(1.71e-05)	(2.28e-05)	(1.92e-05)	(4.40e-05)
secc	-1.22e-05	-0.000132	-0.000388	-4.43e-05	0.000576
	(2.48e-05)	(0.000252)	(0.000683)	(0.000113)	(0.00103)
cre	3.70e-05	0.000399	0.00117	0.000134	-0.00174
	(4.97e-05)	(0.000426)	(0.000898)	(0.000296)	(0.00152)
rre	1.03e-05	0.000111	0.000326	3.72e-05	-0.000484
	(2.70e-05)	(0.000276)	(0.000748)	(0.000117)	(0.00114)
consumer	-2.02e-06	-2.18e-05	-6.41e-05	-7.33e-06	9.53e-05
	(2.06e-05)	(0.000221)	(0.000653)	(7.50e-05)	(0.000968)
cnindus	-3.65e-05	-0.000393	-0.00116	-0.000132	0.00172
	(4.17e-05)	(0.000324)	(0.000955)	(0.000261)	(0.00137)
hotfund	-1.28e-06	-1.38e-05	-4.06e-05	-4.64e-06	6.03e-05
	(1.80e-05)	(0.000191)	(0.000571)	(6.33e-05)	(0.000843)
roa	-0.000350	-0.00377**	-0.0111***	-0.00127	0.0165***
	(0.000300)	(0.00147)	(0.00402)	(0.00229)	(0.00484)
effiratio	0.000173	0.00187	0.00550	0.000628	-0.00817
	(0.000215)	(0.00176)	(0.00516)	(0.00130)	(0.00755)
ta	0.000902	0.00972*	0.0286	0.00327	-0.0425
	(0.000937)	(0.00564)	(0.0219)	(0.00587)	(0.0282)
growthHPI	-2.13e-05	-0.000229	-0.000674	-7.71e-05	0.00100
	(4.91e-05)	(0.000483)	(0.00151)	(0.000196)	(0.00217)
unemp	0.000197	0.00212*	0.00625**	0.000714	-0.00928**
	(0.000177)	(0.00119)	(0.00271)	(0.00133)	(0.00392)
spread	5.59e-05	0.000602	0.00177	0.000203	-0.00263
	(0.000157)	(0.00156)	(0.00493)	(0.000585)	(0.00709)

Observations	4,952	4,952	4,952	4,952	4,952
Sample	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

B. Marginal Effects 50-100 billion

VARIABLES	(1) sixm_camel =3	(2) sixm_camel =4	(3) sixm_camel =5
Hospitality_value_within_250	-0.00210	0.00178	0.000324
	(0.0127)	(0.0108)	(0.00200)
Office_value_within_250	-0.0467	0.0395	0.00721
	(0.0306)	(0.0259)	(0.00619)
Retail_value_within_250	0.0943**	-0.0797**	-0.0146
	(0.0387)	(0.0335)	(0.00959)
Industrial_value_within_250	-0.0448*	0.0379*	0.00692
	(0.0244)	(0.0216)	(0.00465)
lev	0.0353***	-0.0298***	-0.00544*
	(0.00984)	(0.00929)	(0.00290)
tcr	0.00233	-0.00197	-0.000359
	(0.00505)	(0.00432)	(0.000752)
secc	-0.000331	0.000280	5.11e-05
	(0.00430)	(0.00362)	(0.000677)
cre	0.00555**	-0.00470**	-0.000858*
	(0.00258)	(0.00239)	(0.000458)
rre	0.00551**	-0.00466**	-0.000851*
	(0.00225)	(0.00207)	(0.000474)
consumer	0.00221	-0.00187	-0.000342
	(0.00244)	(0.00215)	(0.000339)
cnindus	0.00442	-0.00374	-0.000683
	(0.00300)	(0.00259)	(0.000562)
hotfund	-0.00221	0.00186	0.000341
	(0.00167)	(0.00139)	(0.000341)
roa	-0.0407**	0.0344*	0.00629*
	(0.0195)	(0.0176)	(0.00382)
effiratio	0.0130	-0.0110	-0.00201
	(0.0476)	(0.0404)	(0.00726)
ta	0.211**	-0.178**	-0.0325
	(0.107)	(0.0867)	(0.0272)
growthHPI	-0.0207**	0.0175**	0.00320
	(0.00833)	(0.00743)	(0.00196)
unemp	0.00204	-0.00172	-0.000315
	(0.0139)	(0.0118)	(0.00213)
spread	0.00304	-0.00257	-0.000469

	(0.0254)	(0.0214)	(0.00393)
Observations	858	858	858
	50-100	50-100	50-100
Sample	Billion	Billion	Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit

Standard errors in parentheses
*** p<0.01,** p<0.05,*p<0.1

Table 5. Component Breakdown

VARIABLES	(14) sixm_camel	(15) sixm_camel	(21) sixm_camel	(27) sixm_camel	(28) sixm_camel	(29) sixm_camel
sixm_capital	0.110***	4.736***	1.771***	0.183***	2.390**	1.297**
	(0.00957)	(0.731)	(0.423)	(0.0243)	(1.196)	(0.572)
sixm_asset_qual	0.159***	4.318***	1.880***	0.0607***	3.937***	1.973***
	(0.00691)	(0.935)	(0.405)	(0.0182)	(0.984)	(0.551)
sixm_management	0.505***	9.411***	3.959***	0.567***	7.495***	4.048***
	(0.00855)	(1.271)	(0.607)	(0.0185)	(1.189)	(0.656)
sixm_earnings	0.104***	1.932***	0.858***	0.103***	1.578**	0.874**
	(0.00604)	(0.514)	(0.225)	(0.0142)	(0.689)	(0.379)
sixm_liquidity	0.0370***	1.138*	0.415	0.00280	-0.195	-0.120
	(0.00738)	(0.633)	(0.257)	(0.0205)	(0.960)	(0.559)
sixm_sensitivity	0.0941***	3.158***	1.201***	-0.0783***	-1.748	-0.951
	(0.00808)	(0.808)	(0.365)	(0.0242)	(1.074)	(0.587)
/cut1		36.64***	14.85***		46.36***	24.50***
		(5.267)	(2.767)		(9.245)	(5.188)
/cut2		64.30***	26.04***		64.59***	34.18***
		(8.754)	(4.239)		(11.85)	(6.534)
/cut3		87.75***	35.53***			
		(11.80)	(5.998)			
cut4		112.8***	46.28***			
		(14.39)	(7.441)			
sigma_2u		15.58***	2.740**			
		(5.344)	(1.074)			
Constant	-0.0908**			0.623***		
	(0.0374)			(0.120)		
Observations	5,118	5,118	5,118	918	918	918
R-squared	0.766			0.661		
Sample	10-50 Billion	10-50 Billion	10-50 Billion	50-100 Billion	50-100 Billion	50-100 Billion
Reg	OLS	XT_O.Logit	XT_O.Probit	OLS	O.Logit	O.Probit
Number of id_rssd	207	207	207	57	57	57

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6. Determinants of Composite Rating, Bank Holding Companies

Panel A: BHC 10-100 Billion

VARIABLES	(1) sixm_rfi	(2) sixm_rfi	(3) sixm_rfi
Hospitality_value_within_250	-0.381***	-0.197***	-0.0864***
	(0.0703)	(0.0353)	(0.0154)
Office_value_within_250	0.247	0.164	0.104**
	(0.192)	(0.100)	(0.0492)
Retail_value_within_250	0.285	0.111	0.0585
	(0.285)	(0.147)	(0.0557)
Industrial_value_within_250	0.227	0.101	0.0361
	(0.173)	(0.0888)	(0.0350)
lev	0.0505	0.0308	0.00972
	(0.0740)	(0.0292)	(0.0127)
tcr	-0.0779	-0.0390	-0.0141
	(0.0521)	(0.0268)	(0.0112)
secc	0.0961**	0.0504***	0.0183***
	(0.0377)	(0.0187)	(0.00699)
cre	0.0536***	0.0315***	0.0122***
	(0.0203)	(0.0103)	(0.00416)
rre	0.0782***	0.0433***	0.0170***
	(0.0192)	(0.00953)	(0.00391)
consumer	0.0619**	0.0354***	0.0146***
	(0.0268)	(0.0127)	(0.00518)
cnindus	0.0485**	0.0295***	0.0118**
	(0.0212)	(0.0110)	(0.00461)
hotfund	-0.0154	-0.00839	-0.00266
	(0.00982)	(0.00525)	(0.00194)
roa	0.413**	0.220**	0.100**
	(0.199)	(0.0894)	(0.0428)
effiratio	-0.212	-0.134	-0.0553
	(0.325)	(0.171)	(0.0814)
ta	-0.860*	-0.428*	-0.149*
	(0.453)	(0.231)	(0.0901)
growthHPI	0.147***	0.0835***	0.0334***
	(0.0425)	(0.0213)	(0.00921)
unemp	-0.121	-0.0771*	-0.0191
	(0.0818)	(0.0418)	(0.0178)
spread	-0.232*	-0.123*	-0.0650**
	(0.127)	(0.0632)	(0.0263)
/cut1	-16.27*	-7.926*	
	(8.333)	(4.216)	
/cut2	-14.60*	-7.076*	
	(8.416)	(4.270)	
/cut3	-10.94	-5.207	
	(8.346)	(4.196)	

/cut4			
	-5.969	-2.411	
	(8.251)	(4.158)	
sigma2_u			
Constant			5.117***
			(1.661)
Observations	2,078	2,078	2,078
Log Likelihood	- 1351.85	-1354.081	
R-squared			0.373
	10-100	10-100	10-100
Sample	Billion	Billion	Billion
Reg	O.Logit	O.Probit	OLS

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: BHC 10-50 Billion

VARIABLES	(1) sixm_rfi	(2) sixm_rfi	(3) sixm_rfi
Hospitality_value_within_250	-0.390***	-0.201***	-0.0886***
	(0.0660)	(0.0341)	(0.0148)
Office_value_within_250	0.200	0.146	0.103*
	(0.223)	(0.115)	(0.0530)
Retail_value_within_250	0.299	0.118	0.0609
	(0.303)	(0.152)	(0.0564)
Industrial_value_within_250	0.267	0.116	0.0425
	(0.202)	(0.102)	(0.0398)
lev	0.0962*	0.0505**	0.0180
	(0.0542)	(0.0255)	(0.0109)
tcr	-0.106**	-0.0533**	-0.0201**
	(0.0422)	(0.0237)	(0.00959)
secc	0.0981**	0.0513***	0.0184**
	(0.0394)	(0.0194)	(0.00723)
cre	0.0565***	0.0331***	0.0128***
	(0.0212)	(0.0108)	(0.00432)
rre	0.0858***	0.0471***	0.0185***
	(0.0202)	(0.0101)	(0.00405)
consumer	0.0576**	0.0336***	0.0139***
	(0.0241)	(0.0121)	(0.00501)
cnindus	0.0674***	0.0393***	0.0157***
	(0.0223)	(0.0115)	(0.00468)
hotfund	-0.0180*	-0.00961*	-0.00314*
	(0.00951)	(0.00516)	(0.00189)
roa	0.376**	0.209**	0.0962**
	(0.182)	(0.0881)	(0.0426)
effiratio	-0.289	-0.155	-0.0701
	(0.312)	(0.168)	(0.0833)
ta	-0.527	-0.256	-0.0866

	(0.526)	(0.263)	(0.0972)
growthHPI	0.140***	0.0815***	0.0326***
	(0.0459)	(0.0231)	(0.00986)
unemp	-0.149*	-0.0906**	-0.0220
	(0.0791)	(0.0409)	(0.0179)
spread	-0.220*	-0.116*	-0.0646**
	(0.127)	(0.0643)	(0.0260)
/cut1	-10.13	-4.787	
	(9.342)	(4.674)	
/cut2	-8.347	-3.865	
	(9.449)	(4.730)	
/cut3	-4.926	-2.124	
	(9.438)	(4.703)	
/cut4	0.101	0.706	
	(9.366)	(4.665)	
sigma2_u			
Constant			3.970**
			(1.761)
Observations	1,906	1,906	1,906
Log Likelihood	-1217.093	-1218.422	
R-squared			0.376
Sample	10-50 Billion	10-50 Billion	10-50 Billion
Reg	O.Logit	O.Probit	OLS

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7. Marginal Effects, Bank Holding Companies

Panel A. BHC 10-100 Billion

VARIABLES	(1) sixm_rfi =5	(2) sixm_rfi=4	(3) sixm_rfi=3	(4) sixm_rfi=2	(5) sixm_rfi=1
Hospitality_value_within_250	-0.0318***	-0.00436	0.0314***	0.00332*	0.00154**
	(0.00960)	(0.00927)	(0.00742)	(0.00180)	(0.000705)
Office_value_within_250	0.0207	0.00283	-0.0204	-0.00215	-0.00100
	(0.0172)	(0.00616)	(0.0156)	(0.00216)	(0.000932)
Retail_value_within_250	0.0238	0.00326	-0.0234	-0.00248	-0.00115
	(0.0241)	(0.00773)	(0.0240)	(0.00244)	(0.00120)
Industrial_value_within_250	0.0190	0.00260	-0.0187	-0.00198	-0.000920
	(0.0139)	(0.00636)	(0.0146)	(0.00199)	(0.000802)
lev	0.00422	0.000578	-0.00415	-0.000439	-0.000204
	(0.00611)	(0.00159)	(0.00619)	(0.000655)	(0.000308)
tcr	-0.00651	-0.000891	0.00641	0.000678	0.000315
	(0.00440)	(0.00205)	(0.00436)	(0.000596)	(0.000255)
secc	0.00803**	0.00110	-0.00791**	-0.000836	-0.000389*
	(0.00364)	(0.00241)	(0.00339)	(0.000582)	(0.000233)
cre	0.00448**	0.000613	-0.00441**	-0.000466*	-0.000217*
	(0.00197)	(0.00133)	(0.00184)	(0.000279)	(0.000132)
rre	0.00654***	0.000895	-0.00644***	-0.000681*	-0.000316*
	(0.00206)	(0.00195)	(0.00198)	(0.000381)	(0.000162)
consumer	0.00518**	0.000709	-0.00510**	-0.000539	-0.000251
	(0.00250)	(0.00156)	(0.00243)	(0.000346)	(0.000163)
cnindus	0.00405**	0.000555	-0.00399**	-0.000422	-0.000196
	(0.00195)	(0.00124)	(0.00194)	(0.000284)	(0.000129)
hotfund	-0.00129	-0.000177	0.00127	0.000134	6.24e-05
	(0.000867)	(0.000404)	(0.000839)	(0.000128)	(5.05e-05)
roa	0.0345*	0.00473	-0.0340**	-0.00360	-0.00167
	(0.0195)	(0.00990)	(0.0164)	(0.00266)	(0.00107)
effiratio	-0.0177	-0.00242	0.0174	0.00184	0.000857
	(0.0281)	(0.00568)	(0.0264)	(0.00300)	(0.00138)
ta	-0.0719*	-0.00985	0.0708*	0.00749	0.00348
	(0.0399)	(0.0220)	(0.0389)	(0.00543)	(0.00253)
growthHPI	0.0122***	0.00168	-0.0121***	-0.00128	-0.000593*
	(0.00444)	(0.00360)	(0.00379)	(0.000779)	(0.000324)
unemp	-0.0101	-0.00139	0.00997	0.00105	0.000490
	(0.00822)	(0.00270)	(0.00679)	(0.000904)	(0.000396)
spread	-0.0194**	-0.00265	0.0191*	0.00202	0.000938
	(0.00967)	(0.00630)	(0.0107)	(0.00164)	(0.000685)
Observations	2,078	2,078	2,078	2,078	2,078
Sample	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit
Outcome	sixm_rfi==5	sixm_rfi==4	sixm_rfi==3	sixm_rfi==2	sixm_rfi==1

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

Panel B: BHC 10-50 Billion

VARIABLES	(1) sixm_rfi=5	(2) sixm_rfi=4	(3) sixm_rfi=3	(4) sixm_rfi=2	(5) sixm_rfi=1
Hospitality_value_within_250	-0.0356***	0.00351	0.0271***	0.00334*	0.00164**
	(0.0103)	(0.0101)	(0.00677)	(0.00176)	(0.000693)
Office_value_within_250	0.0182	-0.00180	-0.0139	-0.00171	-0.000839
	(0.0216)	(0.00598)	(0.0151)	(0.00221)	(0.00101)
Retail_value_within_250	0.0273	-0.00269	-0.0208	-0.00256	-0.00125
	(0.0278)	(0.00805)	(0.0218)	(0.00250)	(0.00131)
Industrial_value_within_250	0.0244	-0.00240	-0.0186	-0.00229	-0.00112
	(0.0175)	(0.00648)	(0.0150)	(0.00227)	(0.000967)
lev	0.00877*	-0.000865	-0.00668	-0.000823	-0.000404
	(0.00484)	(0.00241)	(0.00410)	(0.000609)	(0.000276)
tcr	-0.00970**	0.000956	0.00739**	0.000910	0.000446*
	(0.00395)	(0.00269)	(0.00323)	(0.000613)	(0.000258)
secc	0.00895**	-0.000882	-0.00682**	-0.000840	-0.000412*
	(0.00405)	(0.00253)	(0.00307)	(0.000597)	(0.000240)
cre	0.00515**	-0.000507	-0.00392**	-0.000483*	-0.000237*
	(0.00225)	(0.00147)	(0.00166)	(0.000284)	(0.000140)
rre	0.00783***	-0.000771	-0.00596***	-0.000734*	-0.000360**
	(0.00234)	(0.00219)	(0.00193)	(0.000402)	(0.000174)
consumer	0.00525**	-0.000517	-0.00400**	-0.000492	-0.000242
	(0.00244)	(0.00148)	(0.00194)	(0.000309)	(0.000149)
cnindus	0.00615***	-0.000606	-0.00468**	-0.000576*	-0.000283*
	(0.00231)	(0.00172)	(0.00188)	(0.000344)	(0.000160)
hotfund	-0.00165*	0.000162	0.00125*	0.000154	7.57e-05
	(0.000936)	(0.000466)	(0.000705)	(0.000132)	(5.38e-05)
roa	0.0343*	-0.00338	-0.0261**	-0.00321	-0.00158
	(0.0196)	(0.0102)	(0.0130)	(0.00226)	(0.000978)
effiratio	-0.0263	0.00260	0.0201	0.00247	0.00121
	(0.0298)	(0.00849)	(0.0211)	(0.00303)	(0.00143)
ta	-0.0481	0.00474	0.0366	0.00451	0.00221
	(0.0484)	(0.0141)	(0.0372)	(0.00491)	(0.00254)
growthHPI	0.0128**	-0.00126	-0.00973***	-0.00120	-0.000588*
	(0.00507)	(0.00366)	(0.00343)	(0.000732)	(0.000323)
unemp	-0.0136	0.00134	0.0104*	0.00128	0.000626
	(0.00920)	(0.00424)	(0.00554)	(0.000971)	(0.000436)
spread	-0.0201*	0.00198	0.0153	0.00188	0.000925
	(0.0106)	(0.00538)	(0.00932)	(0.00155)	(0.000671)
Observations	1,906	1,906	1,906	1,906	1,906
Sample	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion
Reg	O.Logit	O.Logit	O.Logit	O.Logit	O.Logit
Outcome	sixm_rfi==5	sixm_rfi==4	sixm_rfi==3	sixm_rfi==2	sixm_rfi==1

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

Table 8. Component Breakdown, Bank Holding Companies

VARIABLES	(1) sixm_rfi	(2) sixm_rfi	(3) sixm_rfi
sixm_risk	0.569***	0.567***	0.684***
	(0.0118)	(0.0122)	(0.0570)
sixm_fin_con	0.254***	0.257***	0.204***
	(0.0132)	(0.0143)	(0.0318)
sixm_impact	0.163***	0.165***	0.145***
	(0.00894)	(0.00947)	(0.0242)
sixm_dep_inst	0.114***	0.115***	-0.0301
	(0.0119)	(0.0127)	(0.0483)
Constant	-0.449***	-0.460***	-0.123
	(0.0349)	(0.0373)	(0.0989)
Observations	2,226	2,043	183
R-squared	0.879	0.875	0.893
Sample	10-100 Billion	10-50 Billion	50-100 Billion
Reg	OLS	OLS	OLS
Number of id_rssd			

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix

Table A1: Defining Variables Using Form Item Numbers

Variable Description	Short Name	Definition
Tier 1 Leverage Ratio	lev	RCFA7204
Tier 1 Risk-Based Capital Ratio	tcr	RCFA7206
Total Securities as a % of Total Assets	secc	(rcfd1773+ rcfd1754+ rcfdJA22)/ rcfd2170*100
Commercial Real Estate as a % of Total Loans	cre	(RCONF158+ rconF159+ rcon1460 + rconf160+ RCONF161)/ RCFD1400*100
Residential Loans as a % of Total Loans	rre	(RCONF158+ rcon1797+ rcon5367+ rcon5368) /RCFD1400*100
Consumer Loans as a % of Total Loans	consumer	(rcfdB538+ RCFDB539+ rcfdK137+ rcfdK207) /RCFD1400*100
C & I Loans as a % of Total Loans	cnindus	(rcfd1763+ rcfd1764) /RCFD1400*100
Uninsured deposits, brokered deposits, Fed Funds Purchased as a % of Total Assets	hotfund	(RCON5597+ RCONB99+ RCON2365) / rcfd2170*100

Return on Assets	roa	RIAD4300/ rcfd2170*100
Expense Ratio	effiratio	RIAD4093/(RIAD4079+ RIAD4074)
Log of Total Assets	ta	Log(rcfd2170)
Growth rate of House Price Index	growthHPI	FRED code: [state]STHPI
Unemployment Rate	unemp	FRED code: [state]UR
Spread between 30-year T-bond and 90-day T-bill	spread	FRED code: DGS30-DGS3MO

Results without CRE variables

Table A2: This table presents the results for Model (1) with a quarterly panel of bank-level observations The dependent variable *sixm_camel* equals 6 minus the composite CAMELS rating for bank *i* in period *t*. Panel AColumns (1)-(3) report the results for banks of size $10-100 billion, using random effects ordered probit, ordered logit and OLS with robust standard errors, clustered on banks. Panel Breports the results for banks of size $10-$50 billion, Panel C reports results for banks of size $50-100 billion, using OLS, probit and logit.

Table A2: Panel A: for Banks $10-100 Billion

VARIABLES	sixm_camel	sixm_camel	sixm_camel
lev	-0.157***	-0.316***	-0.0341**
	(0.0378)	(0.0804)	(0.0137)
tcr	-0.00106*	-0.00238**	-9.54e-05
	(0.000585)	(0.00101)	(0.000207)
secc	0.00944	0.0135	0.00358**
	(0.0125)	(0.0228)	(0.00160)
cre	-0.0271**	-0.0551*	0.00236
	(0.0134)	(0.0318)	(0.00156)
rre	-0.0156**	-0.0297	0.00277*
	(0.00744)	(0.0214)	(0.00161)
consumer	-0.00143	-0.00411	0.00351**
	(0.00790)	(0.0199)	(0.00151)
cnindus	0.00630	0.0144	0.00451**
	(0.00989)	(0.0241)	(0.00196)
hotfund	0.00886	0.0148	-0.000767
	(0.00725)	(0.0168)	(0.00106)
roa	0.155***	0.289***	0.0995***

	(0.0401)	(0.0840)	(0.0159)
effiratio	-0.0873	-0.146	-0.0432
	(0.0676)	(0.149)	(0.0329)
ta	-0.576***	-1.136***	-0.0994***
	(0.202)	(0.424)	(0.0323)
growthHPI	0.0280	0.0490	0.0135***
	(0.0194)	(0.0388)	(0.00423)
unemp	-0.0601*	-0.113*	-0.0308**
	(0.0308)	(0.0590)	(0.0132)
spread	-0.0813	-0.158	-0.0128
	(0.0618)	(0.122)	(0.0151)
constant			5.822***
			(0.623)
cut1	-18.71***	-37.65***	
	(3.682)	(7.855)	
cut2	-16.90***	-33.33***	
	(3.707)	(7.839)	
cut3	-14.88***	-29.62***	
	(3.640)	(7.724)	
cut4	-10.05***	-19.87***	
	(3.529)	(7.423)	
Sigma2_u	2.996***	12.40***	
	(0.725)	(3.559)	
Observations	5,822	5,822	5822
Number of id_rssd	227	227	227
Sample	10-100 Billion	10-100 Billion	10-100 Billion
Log Likelihood	-2280.09	-2262.58	
R-squared			0.17
Reg	FE O.Probit	FE O.Logit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A2: Panel B: for Banks $10-50 Billion

VARIABLES	sixm_camel	sixm_camel	sixm_camel
lev	-0.126***	-0.250***	-0.0341**
	(0.0406)	(0.0850)	(0.0137)
tcr	-0.00123**	-0.00271***	-9.54e-05
	(0.000516)	(0.000966)	(0.000207)
secc	0.00572	0.0113	0.00358**
	(0.0116)	(0.0220)	(0.00160)
cre	-0.0155	-0.0344	0.00236
	(0.0154)	(0.0324)	(0.00156)
rre	-0.00212	-0.00902	0.00277*
	(0.0129)	(0.0240)	(0.00161)
consumer	0.00200	0.00416	0.00351**
	(0.0103)	(0.0202)	(0.00151)
cnindus	0.0192	0.0373	0.00451**
	(0.0141)	(0.0282)	(0.00196)
hotfund	0.00378	0.00468	-0.000767
	(0.00733)	(0.0173)	(0.00106)
roa	0.179***	0.336***	0.0995***
	(0.0440)	(0.0943)	(0.0159)
effiratio	-0.0940	-0.176	-0.0432
	(0.0708)	(0.163)	(0.0329)
ta	-0.442*	-0.824	-0.0994***
	(0.263)	(0.575)	(0.0323)
growthHPI	0.00774	0.0140	0.0135***
	(0.0220)	(0.0441)	(0.00423)
unemp	-0.0808***	-0.146**	-0.0308**
	(0.0303)	(0.0616)	(0.0132)
spread	-0.0464	-0.0936	-0.0128
	(0.0697)	(0.141)	(0.0151)
constant			5.822***
			(0.623)
cut1	-15.56***	-30.82***	
	(4.380)	(9.458)	
cut2	-13.67***	-26.38***	
	(4.482)	(9.670)	
cut3	-11.74***	-22.87**	
	(4.367)	(9.412)	
cut4	-6.751	-12.64	
	(4.331)	(9.351)	
Sigma2_u	3.337***	14.36***	

	(0.842)	(4.350)	
Observations	4926	4926	4926
Number of id_rssd	206	206	206
Sample	10-50 Billion	10-50 Billion	10-50 Billion
R-squared			0.172
Log Likelihood	-1901.80	-1881.01	
Reg	FE O.Probit	FE O.Logit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A2: Panel C: for Banks $50-100 Billion

VARIABLES	sixm_camel	sixm_camel	
lev	-0.168***	-0.315***	-0.0496***
	(0.0534)	(0.0934)	(0.0169)
tcr	-0.00872	-0.0216	-0.00224
	(0.0237)	(0.0467)	(0.00749)
secc	-0.000288	0.00313	-0.000734
	(0.0161)	(0.0395)	(0.00442)
cre	-0.0230**	-0.0505**	-0.00614*
	(0.0111)	(0.0232)	(0.00342)
rre	-0.0245**	-0.0510**	-0.00676**
	(0.00959)	(0.0199)	(0.00315)
consumer	-0.00939	-0.0205	-0.00281
	(0.00883)	(0.0213)	(0.00278)
cnindus	-0.0192	-0.0401	-0.00537
	(0.0144)	(0.0268)	(0.00450)
hotfund	0.0109	0.0200	0.00263
	(0.00731)	(0.0165)	(0.00195)
roa	0.180*	0.364**	0.0499*
	(0.0983)	(0.180)	(0.0278)
effiratio	-0.131	-0.121	-0.0442
	(0.242)	(0.432)	(0.0790)
ta	-0.959*	-1.971*	-0.247*
	(0.577)	(1.186)	(0.134)
growthHPI	0.0975**	0.191**	0.0231**
	(0.0432)	(0.0786)	(0.00910)
unemp	-0.0226	-0.0122	-0.00155
	(0.0586)	(0.111)	(0.0163)
spread	0.0221	-0.0211	-0.00587
	(0.101)	(0.215)	(0.0288)
constant			9.219***

			(2.492)
cut1	-21.56**	-43.76**	
	(10.72)	(21.40)	
cut2	-17.91*	-36.92*	
	(10.51)	(20.95)	
Observations	860	860	860
Number of id_rssd	57	57	57
Sample	50-100 Billion	50-100 Billion	50-100 Billion
R-squared			0.193
Log Likelihood	-378.39	-375.11	
Reg	O.Probit	O.Logit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A3: CRE Adjusted for Deposits

A. Banks $10-100 Billion

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.0784	-0.0420	-0.0177**
	(0.0639)	(0.0318)	(0.00726)
Office_value_within_250	-0.275	-0.121	-0.0351*
	(0.187)	(0.0968)	(0.0194)
Retail_value_within_250	-0.356	-0.214	0.00726
	(0.282)	(0.147)	(0.0301)
Industrial_value_within_250	0.641***	0.331***	0.0417**
	(0.213)	(0.106)	(0.0177)
lev	-0.343***	-0.172***	-0.0317**
	(0.0772)	(0.0386)	(0.0153)
tcr	-0.0471	-0.0206	-0.00438
	(0.0303)	(0.0155)	(0.00434)
secc	0.0244	0.0142	0.00474**
	(0.0284)	(0.0150)	(0.00222)
cre	-0.0722**	-0.0363**	0.000560
	(0.0322)	(0.0156)	(0.00215)
rre	-0.0412*	-0.0212**	0.00112
	(0.0216)	(0.00895)	(0.00205)
consumer	-0.0233	-0.0106	0.00266
	(0.0307)	(0.0157)	(0.00210)
cnindus	-0.0176	-0.00998	0.000591
	(0.0273)	(0.0128)	(0.00273)
hotfund	0.00648	0.00548	-0.00116

	(0.0169)	(0.00658)	(0.00101)
roa	0.403***	0.214***	0.122***
	(0.1000)	(0.0516)	(0.0207)
effiratio	-0.0708	-0.0566	-0.0350
	(0.241)	(0.113)	(0.0539)
ta	-1.887***	-0.936***	-0.0931***
	(0.494)	(0.221)	(0.0321)
growthHPI	0.0364	0.0204	0.0130***
	(0.0371)	(0.0188)	(0.00449)
unemp	-0.101	-0.0603	-0.00966
	(0.0899)	(0.0451)	(0.0114)
spread	-0.144	-0.0687	-0.00833
	(0.146)	(0.0766)	(0.0140)
/cut1	-52.66***	-26.04***	
	(9.375)	(4.183)	
/cut2	-48.52***	-24.21***	
	(9.472)	(4.212)	
/cut3	-44.69***	-22.15***	
	(9.261)	(4.115)	
/cut4	-34.84***	-17.27***	
	(8.687)	(3.906)	
sigma	12.01***	2.916***	
	(3.327)	(0.685)	
Constant			5.784***
			(0.672)
Observations	5,058	5,058	5,058
R-squared			0.173
Number of id_rssd	201	201	
Reg	XT_O.Logit	XT_O.Logit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

B. Banks $10-50 Billion

	(1)	(2)	(3)
VARIABLES	sixm_camel	sixm_camel	sixm_camel
Hospitality_value_within_250	-0.0840	-0.0416	-0.0199**
	(0.0709)	(0.0351)	(0.00788)
Office_value_within_250	-0.287	-0.129	-0.0344
	(0.211)	(0.109)	(0.0211)
Retail_value_within_250	-0.274	-0.170	0.0199
	(0.314)	(0.158)	(0.0308)
Industrial_value_within_250	0.554**	0.283**	0.0304*
	(0.263)	(0.125)	(0.0180)

lev	-0.252***	-0.126***	-0.0347**
	(0.0870)	(0.0421)	(0.0173)
tcr	-0.0489*	-0.0232*	-0.00371
	(0.0290)	(0.0137)	(0.00450)
secc	0.0241	0.0113	0.00493*
	(0.0270)	(0.0137)	(0.00258)
cre	-0.0556	-0.0270	0.00219
	(0.0350)	(0.0178)	(0.00238)
rre	-0.0142	-0.00555	0.00254
	(0.0268)	(0.0146)	(0.00225)
consumer	-0.0282	-0.0156	0.00422*
	(0.0313)	(0.0151)	(0.00250)
cnindus	-0.00333	-0.00146	0.00178
	(0.0323)	(0.0169)	(0.00306)
hotfund	-0.00340	0.00122	-0.00148
	(0.0180)	(0.00717)	(0.00113)
roa	0.440***	0.232***	0.131***
	(0.107)	(0.0540)	(0.0239)
effiratio	-0.0724	-0.0561	-0.0327
	(0.291)	(0.122)	(0.0593)
ta	-1.377**	-0.745**	-0.101**
	(0.698)	(0.301)	(0.0465)
growthHPI	-0.00618	-0.00341	0.0135***
	(0.0400)	(0.0202)	(0.00515)
unemp	-0.143	-0.0864*	-0.0128
	(0.0972)	(0.0473)	(0.0122)
spread	-0.0873	-0.0414	-0.0111
	(0.168)	(0.0843)	(0.0147)
/cut1	-42.49***	-21.97***	
	(11.54)	(5.046)	
/cut2	-38.21***	-20.05***	
	(11.95)	(5.205)	
/cut3	-34.53***	-18.07***	
	(11.68)	(5.088)	
/cut4	-24.21**	-13.05***	
	(11.59)	(5.013)	
sigma	14.30***	3.356***	
Constant	(4.358)	(0.845)	
Observations	4,346	4,346	4,346
R-squared			0.176
Reg	XT_O.Logit	XT_O.Probit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

C. Banks $50-100 Billion

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.141	-0.0724	-0.0111
	(0.116)	(0.0553)	(0.0151)
Office_value_within_250	-0.263	-0.136	-0.0182
	(0.343)	(0.167)	(0.0435)
Retail_value_within_250	-0.401	-0.181	-0.0482
	(0.419)	(0.214)	(0.0557)
Industrial_value_within_250	1.039***	0.517***	0.0968***
	(0.323)	(0.160)	(0.0329)
lev	-0.228*	-0.129*	-0.0343
	(0.128)	(0.0678)	(0.0219)
tcr	-0.0401	-0.0200	-0.00336
	(0.0489)	(0.0283)	(0.00991)
secc	0.0282	0.0125	0.00221
	(0.0344)	(0.0170)	(0.00481)
cre	-0.0607**	-0.0301**	-0.00647
	(0.0241)	(0.0126)	(0.00389)
rre	-0.0437**	-0.0222**	-0.00490
	(0.0189)	(0.0103)	(0.00350)
consumer	-0.00868	-0.00392	-0.00106
	(0.0265)	(0.0124)	(0.00337)
cnindus	-0.0309	-0.0141	-0.00280
	(0.0323)	(0.0182)	(0.00537)
hotfund	0.0128	0.00871	0.00173
	(0.0199)	(0.00974)	(0.00253)
roa	0.620***	0.300**	0.0753*
	(0.233)	(0.130)	(0.0397)
effiratio	0.260	0.0342	0.00593
	(0.499)	(0.298)	(0.0900)
ta	-3.367***	-1.840***	-0.377***
	(0.888)	(0.465)	(0.122)
growthHPI	0.157*	0.0901*	0.0164
	(0.0868)	(0.0468)	(0.0109)
unemp	0.161	0.0827	0.0181
	(0.144)	(0.0786)	(0.0220)
spread	0.178	0.115	0.00569
	(0.283)	(0.139)	(0.0401)
/cut1	-66.34***	-36.16***	
	(17.17)	(8.912)	
/cut2	-58.67***	-32.04***	
	(16.95)	(8.842)	
Constant			11.13***

			(2.334)
Observations	712	712	712
R-squared			0.227
Number of id_rssd			
Reg	O.Logit	O.Probit	OLS

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

Table A4: Breaking Out by Type of CRE Lending: Marginal Effects, Ordered Logit

A. Banks $10-100 billion

VARIABLES	(1) sixm_camel=5	(2) sixm_camel=4	(3) sixm_camel=3	(4) sixm_camel=2	(5) sixm_camel=1
Hospitality_value_within_250	-0.00140	-0.000107	0.00113	0.000348	3.19e-05
	(0.00215)	(0.000283)	(0.00175)	(0.000555)	(5.73e-05)
Office_value_within_250	0.000953	7.30e-05	-0.000767	-0.000237	-2.17e-05
	(0.00653)	(0.000543)	(0.00528)	(0.00162)	(0.000151)
Retail_value_within_250	-0.0299***	-0.00229	0.0240**	0.00742**	0.000681
	(0.0113)	(0.00468)	(0.0103)	(0.00362)	(0.000590)
Industrial_value_within_250	0.0228***	0.00174	-0.0183***	-0.00566**	-0.000519
	(0.00637)	(0.00353)	(0.00642)	(0.00225)	(0.000429)
lev	-0.0148***	-0.00114	0.0120***	0.00369**	0.000339
	(0.00414)	(0.00223)	(0.00332)	(0.00174)	(0.000290)
tcr	-0.000113**	-8.64e-06	9.07e-05***	2.80e-05	2.57e-06
	(4.47e-05)	(1.67e-05)	(2.90e-05)	(1.78e-05)	(2.51e-06)
secc	0.000639	4.89e-05	-0.000514	-0.000159	-1.46e-05
	(0.00109)	(0.000124)	(0.000864)	(0.000283)	(2.72e-05)
cre	-0.00268*	-0.000205	0.00216**	0.000667	6.11e-05
	(0.00150)	(0.000382)	(0.000953)	(0.000525)	(6.69e-05)
rre	-0.00142	-0.000109	0.00115	0.000354	3.24e-05
	(0.00101)	(0.000215)	(0.000729)	(0.000321)	(3.77e-05)
consumer	-0.000299	-2.29e-05	0.000241	7.44e-05	6.82e-06
	(0.000924)	(8.03e-05)	(0.000734)	(0.000237)	(2.20e-05)
cnindus	0.000640	4.91e-05	-0.000516	-0.000159	-1.46e-05
	(0.00113)	(0.000132)	(0.000923)	(0.000275)	(2.77e-05)
hotfund	0.000533	4.08e-05	-0.000429	-0.000133	-1.22e-05
	(0.000795)	(0.000110)	(0.000678)	(0.000182)	(2.10e-05)
roa	0.0139***	0.00107	-0.0112***	-0.00346**	-0.000318
	(0.00413)	(0.00215)	(0.00401)	(0.00141)	(0.000274)
effiratio	-0.00682	-0.000522	0.00549	0.00170	0.000155
	(0.00673)	(0.00113)	(0.00545)	(0.00174)	(0.000194)
ta	-0.0552***	-0.00423	0.0445**	0.0137**	0.00126
	(0.0201)	(0.00864)	(0.0192)	(0.00576)	(0.00113)
growthHPI	0.00247	0.000189	-0.00199	-0.000615	-5.64e-05
	(0.00187)	(0.000425)	(0.00165)	(0.000458)	(6.20e-05)
unemp	-0.00720**	-0.000552	0.00580**	0.00179	0.000164

	(0.00340)	(0.00111)	(0.00274)	(0.00111)	(0.000153)
spread	-0.00602	-0.000461	0.00484	0.00150	0.000137
	(0.00609)	(0.00111)	(0.00531)	(0.00141)	(0.000173)
Observations	5,810	5,810	5,810	5,810	5,810
Sample	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion	10-100 Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit
Outcome	sixm_camel==5	sixm_camel==4	sixm_camel==3	sixm_camel==2	sixm_camel==1

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

B. Marginal Effects 10-50 billion

VARIABLES	(1) sixm_camel=5	(2) sixm_camel=4	(3) sixm_camel=3	(4) sixm_camel=2	(5) sixm_camel=1
Hospitality_value_within_250	-0.00255	0.000196	0.00171	0.000583	5.41e-05
	(0.00249)	(0.000385)	(0.00171)	(0.000615)	(7.19e-05)
Office_value_within_250	-0.00159	0.000122	0.00107	0.000363	3.37e-05
	(0.00763)	(0.000653)	(0.00513)	(0.00174)	(0.000160)
Retail_value_within_250	-0.0273**	0.00210	0.0184**	0.00625*	0.000581
	(0.0126)	(0.00383)	(0.00939)	(0.00341)	(0.000533)
Industrial_value_within_250	0.0227***	-0.00175	-0.0153**	-0.00519**	-0.000482
	(0.00720)	(0.00314)	(0.00607)	(0.00207)	(0.000406)
lev	-0.0121***	0.000928	0.00811***	0.00276*	0.000256
	(0.00425)	(0.00172)	(0.00294)	(0.00141)	(0.000225)
tcr	-0.000131***	1.01e-05	8.83e-05***	3.00e-05*	2.79e-06
	(4.40e-05)	(1.92e-05)	(2.28e-05)	(1.71e-05)	(2.67e-06)
secc	0.000576	-4.43e-05	-0.000388	-0.000132	-1.22e-05
	(0.00103)	(0.000113)	(0.000683)	(0.000252)	(2.48e-05)
cre	-0.00174	0.000134	0.00117	0.000399	3.70e-05
	(0.00152)	(0.000296)	(0.000898)	(0.000426)	(4.97e-05)
rre	-0.000484	3.72e-05	0.000326	0.000111	1.03e-05
	(0.00114)	(0.000117)	(0.000748)	(0.000276)	(2.70e-05)
consumer	9.53e-05	-7.33e-06	-6.41e-05	-2.18e-05	-2.02e-06
	(0.000968)	(7.50e-05)	(0.000653)	(0.000221)	(2.06e-05)
cnindus	0.00172	-0.000132	-0.00116	-0.000393	-3.65e-05
	(0.00137)	(0.000261)	(0.000955)	(0.000324)	(4.17e-05)
hotfund	6.03e-05	-4.64e-06	-4.06e-05	-1.38e-05	-1.28e-06
	(0.000843)	(6.33e-05)	(0.000571)	(0.000191)	(1.80e-05)
roa	0.0165***	-0.00127	-0.0111***	-0.00377**	-0.000350
	(0.00484)	(0.00229)	(0.00402)	(0.00147)	(0.000300)
effiratio	-0.00817	0.000628	0.00550	0.00187	0.000173
	(0.00755)	(0.00130)	(0.00516)	(0.00176)	(0.000215)
ta	-0.0425	0.00327	0.0286	0.00972*	0.000902
	(0.0282)	(0.00587)	(0.0219)	(0.00564)	(0.000937)
growthHPI	0.00100	-7.71e-05	-0.000674	-0.000229	-2.13e-05
	(0.00217)	(0.000196)	(0.00151)	(0.000483)	(4.91e-05)
unemp	-0.00928**	0.000714	0.00625**	0.00212*	0.000197

	(0.00392)	(0.00133)	(0.00271)	(0.00119)	(0.000177)
spread	-0.00263	0.000203	0.00177	0.000602	5.59e-05
	(0.00709)	(0.000585)	(0.00493)	(0.00156)	(0.000157)
Observations	4,952	4,952	4,952	4,952	4,952
Sample	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion	10-50 Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit	XT_O.Logit
Outcome	sixm_camel==5	sixm_camel==4	sixm_camel==3	sixm_camel==2	sixm_camel==1

Standard errors in parentheses
*** p<0.01, ** p<0.05, *p<0.1

C. Marginal Effects 50-100 billion

VARIABLES	(1) sixm_camel==5	(2) sixm_camel==4	(3) sixm_camel==3
Hospitality_value_within_250	0.000324	0.00178	-0.00210
	(0.00200)	(0.0108)	(0.0127)
Office_value_within_250	0.00721	0.0395	-0.0467
	(0.00619)	(0.0259)	(0.0306)
Retail_value_within_250	-0.0146	-0.0797**	0.0943**
	(0.00959)	(0.0335)	(0.0387)
Industrial_value_within_250	0.00692	0.0379*	-0.0448*
	(0.00465)	(0.0216)	(0.0244)
lev	-0.00544*	-0.0298***	0.0353***
	(0.00290)	(0.00929)	(0.00984)
tcr	-0.000359	-0.00197	0.00233
	(0.000752)	(0.00432)	(0.00505)
secc	5.11e-05	0.000280	-0.000331
	(0.000677)	(0.00362)	(0.00430)
cre	-0.000858*	-0.00470**	0.00555**
	(0.000458)	(0.00239)	(0.00258)
rre	-0.000851*	-0.00466**	0.00551**
	(0.000474)	(0.00207)	(0.00225)
consumer	-0.000342	-0.00187	0.00221
	(0.000339)	(0.00215)	(0.00244)
cnindus	-0.000683	-0.00374	0.00442
	(0.000562)	(0.00259)	(0.00300)
hotfund	0.000341	0.00186	-0.00221
	(0.000341)	(0.00139)	(0.00167)
roa	0.00629*	0.0344*	-0.0407**
	(0.00382)	(0.0176)	(0.0195)
effiratio	-0.00201	-0.0110	0.0130
	(0.00726)	(0.0404)	(0.0476)
ta	-0.0325	-0.178**	0.211**
	(0.0272)	(0.0867)	(0.107)
growthHPI	0.00320	0.0175**	-0.0207**
	(0.00196)	(0.00743)	(0.00833)

unemp	-0.000315	-0.00172	0.00204
	(0.00213)	(0.0118)	(0.0139)
spread	-0.000469	-0.00257	0.00304
	(0.00393)	(0.0214)	(0.0254)
Observations	858	858	858
Sample	50-100 Billion	50-100 Billion	50-100 Billion
Reg	XT_O.Logit	XT_O.Logit	XT_O.Logit
Outcome	sixm_camel==5	sixm_camel==4	sixm_camel==3

Standard errors in parentheses
*** p<0.01,** p<0.05,*p<0.1

Table A5: Results with Tier 1 Capital Quintiles

VARIABLES	(1) sixm_camel	(2) sixm_camel	(3) sixm_camel
Hospitality_value_within_250	-0.0974**	-0.0462**	-0.0178**
	(0.0468)	(0.0222)	(0.00737)
Office_value_within_250	-0.281**	-0.141**	-0.0464**
	(0.120)	(0.0580)	(0.0186)
Retail_value_within_250	0.00950	-0.00648	0.00476
	(0.197)	(0.0959)	(0.0316)
Industrial_value_within_250	0.310***	0.166***	0.0510***
	(0.117)	(0.0570)	(0.0185)
t1cap_1qintile	0.0199	0.0123	0.00119
	(0.0750)	(0.0289)	(0.0128)
t1cap_2qintile	0.00736	0.00614	-0.000856
	(0.0692)	(0.0270)	(0.0119)
t1cap_3qintile	0.000167	0.00172	-0.00181
	(0.0619)	(0.0236)	(0.0107)
t1cap_4qintile	-0.0170	-0.00632	-0.00483
	(0.0560)	(0.0213)	(0.00975)
t1cap_5qintile	-0.0275	-0.0143	-0.00683
	(0.0297)	(0.0106)	(0.00593)
secc	0.0394***	0.0208***	0.00718***
	(0.0117)	(0.00536)	(0.00215)
cre	0.000556	0.00255	0.000103
	(0.0133)	(0.00597)	(0.00214)
rre	0.00999	0.00669	0.00182
	(0.0133)	(0.00592)	(0.00208)

consumer	0.0127	0.00856	0.00221
	(0.0141)	(0.00623)	(0.00213)
cnindus	0.00150	0.00304	0.000268
	(0.0182)	(0.00787)	(0.00287)
hotfund	-0.00614	-0.00295	-0.00105
	(0.00632)	(0.00304)	(0.00104)
roa	0.562***	0.290***	0.111***
	(0.0935)	(0.0505)	(0.0209)
effiratio	-0.134	-0.116	-0.0454
	(0.293)	(0.131)	(0.0553)
ta	-0.615***	-0.311***	-0.0994***
	(0.210)	(0.102)	(0.0341)
growthHPI	0.0677**	0.0322**	0.0106**
	(0.0266)	(0.0137)	(0.00447)
unemp	-0.0689	-0.0338	-0.0113
	(0.0708)	(0.0345)	(0.0112)
spread	-0.0424	-0.0145	-0.00324
	(0.0952)	(0.0451)	(0.0147)
/cut1	-18.87***	-8.902***	
	(4.498)	(2.158)	
/cut2	-15.00***	-7.448***	
	(4.214)	(2.027)	
/cut3	-12.10***	-6.048***	
	(4.293)	(2.032)	
/cut4	-6.927	-3.117	
	(4.228)	(2.005)	
Constant			5.534***
			(0.707)
Observations	5,058	5,058	5,058
R-squared			0.160
Sample	10-100 Billion	10-100 Billion	10-100 Billion
Reg	O.Logit	O.Probit	OLS

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1