Rules and Judgment in the Oversight of Bank Accounting Practices

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Abstract. We examine the extent to which auditors and regulators exercise judgment in their evaluation of bank accounting practices. Empirical tests on more than 60,000 annual bank observations, 2006 to 2015, show that correlations of provisions for loan losses and subsequent charge-offs, which are prescribed by regulatory guidelines, are lesser for banks in smaller size categories. This shows that the exercise of supervisory judgment in the banking industry is more widespread than indicated by previous research. It is important in understanding the capacity for proposed expansions in the exercise of regulatory judgment to achieve regulatory objectives.

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1. Introduction

Bankers often chafe under regulatory standards. A recent example concerns those for estimating credit losses promulgated by the Financial Accounting Standards Board (FASB) under its Current Expected Credit Loss model (CECL), which, when implemented, will be equally applicable to all banks regardless of size.[1] The American Bankers Association has questioned how smaller community banks can implement a model that "will pass audit or examination muster (Roesti, 2016)."

Implementation of CECL underscores a tension between rules and judgment in the oversight of bank accounting practices as discussed in Huizinga and Laeven (2012), Costello et al (2015), Agarwal et al (2014) and Gallemore (2013). This research shows that regulators condone deviation from accounting rules, particularly for larger banks and during periods of financial stress. In these situations, judgment exercised by regulators--often referred to as "forbearance"--is episodic and targeted to a narrow segment of the industry that constitutes the greatest systemic threat.[2] It can be a "prudent regulatory choice" if troubled banks are given time to recover or if closing a bank would spread problems to healthy institutions (Bushman, 2016).

[1] CECL will be fully implemented by 2021. Similar rules adopted by the International Accounting Standards Board are scheduled to be implemented by 2018.

[2] Huizinga and Laeven (2012) describe how regulators may "temporarily" allow noncompliance of accounting rules to prevent failures of systemically important banks. Costello et al (2015) find that regulatory strictness on accounting enforcement is stronger in periods leading up to economic downturns. Gallemore (2015) finds that the impact of financial statement "opacity" on discretion is greater when regulators may be influenced by financial sector contagion.

We extend these papers by analyzing the role of regulatory judgment evident in how community banks adhere to regulatory guidelines prescribing that provisions for loan losses (estimated credit losses) anticipate realized loan-loss charge-offs. Our focus on provisions follows prior research on discretionary accounting practices in banking (Beatty and Liao, 2014) and the evaluation of such practices in the context of transparency (Bushman, 2016), with particular emphasis on "supporting principles and concepts on which accounting standards are based" that are not necessarily in line with those underpinning bank regulation (Basel Committee on Banking Supervision, 2015).

Results of tests using a sample 64,806 annual observations, collected over a ten-year period ending in 2015, indicate that loan-loss charge-offs of smaller banks, relative to larger banks, are less closely correlated with prior provisions for loan losses. This relationship, moreover, persists within subsamples of banks categorized by audit status and regulatory-assessed managerial performance rating--i.e., it is observed within banks that are externally audited, as well as those that are unaudited, and within banks that are judged by regulators to be well managed, as well as those that are judged to be less well managed.

We conclude that community banks are not necessarily constrained by ostensibly one-size-fits-all accounting precepts in "passing muster" with auditors and regulators. This is important insofar as the judgment that we identify, relative to that identified by prior research, is enduring, rather than episodic, and widespread within a broad segment of the banking industry, rather than focused on large banks. It offers insight into the extent to which bank supervisors "dampen" the impacts of specific regulations (Cohen and Edwards, 2017) or "adopt proportionate approaches" in how they are applied among different types of banks (Edwards, 2016).

A supplementary extension of our analysis compares attributes of banks that vary by how closely their charge-offs track prior provisions for loan losses. We find that the absolute values of the difference between ratios of charge-offs to loans and provisions to loans are positively correlated with predicted probabilities of downgrades in composite supervisory performance ratings. Although these findings are suggestive, rather than definitive, they imply that the exercise of judgment in the oversight of discretionary accounting practices may be associated with potential vulnerability. This is consistent with the conclusion of Hirtle et al (2016) that decreased supervisory attention results in higher risk.

We also find that ratios of commercial loans to loans are positively correlated with the extent of the gaps between provisions and charge-offs and these correlations are higher among banks in smaller size categories. This is consistent with the findings of Hirtle et al (2016) that weaker supervisory standards are associated with faster loan growth. It suggests that the exercise of judgment that we identify may extend from a belief that stringent application of regulatory rules for community banks would impede their ability to provide credit (George, 2014).

Our findings, overall, show that, as a practical matter, bank supervisors have long been able to reconcile rules and principles, implicitly if not explicitly--they have, in other words, been able to create "oxygen" for themselves in which to exercise judgment (Federal Reserve Bank of Atlanta, 2013). This is relevant to the introduction of more judgment in the regulation of banks in at least some countries, such as England (Lastra, 2013), and anticipated movement in this direction in the U.S. as well, particularly among community banks, insofar as their "risks and vulnerabilities…differ from those of larger banks, and an explicit tailoring of regulation and supervision" for them is "appropriate (Powell, 2015)."

2. Methodology

We study financial accounting information as "an integral component of transparency (Bushman, 2016)." Following prior research, we focus on loan loss provisions as an embodiment of this information. Provisions are critical because of "the predominance of this accrual for banks, the importance of estimated losses in assessing opaque assets, i.e., bank loans, and the effect of the provision on regulatory capital ratio calculations (Beatty and Liao, 2014)."

2.1 The model

A bank's allowance for loan losses is an adjustment to the value of its loans as a "contra-asset" account (see, among others, Wall and Koch, 2000). Its funding depends on estimated credit losses. If, as is normally the case, expected losses exceed the amount of the allowance, the bank increases its loan-loss allowance and reports the increase on its income statement as a provision for loan losses (a non-cash expense against revenue). As loans go bad during the course of the next period, they are not charged off directly against net income but instead reduce the balance in the allowance.

Allowances in the banking industry are "appropriate" when they incorporate "prudent, conservative, but not excessive, loan loss allowances that represent management's best estimate from within an acceptable range of estimated losses (Federal Financial Institutions Examination Council (FFIEC), 2004 and 2006)."[3] Their establishment "should include procedures that adjust loss estimation methods to reduce differences between estimated losses and actual subsequent charge-offs (FFIEC, 2001)." These are illustrated by showing how the methodology used by

[3] FFIEC guidelines are based on FASB's Statements of Financial Accounting Standards No. 5 (Accounting for Contingencies) and No. 114 (Accounting by Creditors for Impairment of a Loan).

banks to establish allowances can be back-tested by comparing actual loss rates (charge-offs) to estimated loss rates (provisions).

Our empirical tests are based on relationships between provisions and charge-offs as prescribed by the FFIEC and incorporated within prior theory and accumulated empirical evidence from the banking industry (Beatty and Liao, 2014). We follow Altamuro and Beatty (2010) in defining what they refer to as the "validity" of a bank's provisions with respect to how closely they correlate with subsequent charge-offs.

Our model is

$$\begin{aligned} LCO_{(i,t)} = a &+ b_1 LLP_{(i,t-1)} + b_2 Assets_{(i,t-1)} + b_3 LLP*Assets_{(i,t-1)} + b_4 Audit_{(i,t-1)} \\ &+ b_5 Audit*LLP_{(i,t-1)} + b_6 High_{(i,t-1)} + b_7 High*LLP_{(i,t-1)} + b_8 Low_{(i,t-1)} \\ &+ b_9 Low*LLP_{(i,t-1)} + b_{10} Allow_{(i,t-1)} + b_{11} Nona_{(i,t-1)} + b_{12} Prob_{(i,t-1)} \\ &+ b_{13} Comm_{(i,t-1)} + b_{14} Real_{(i,t-1)} + e \end{aligned} \quad (1)$$

where $LCO_{(i,t)}$ is the net loan loss charge-off for bank i in year t and $LLP_{(i,t-1)}$ is the lagged provision for loan losses, both scaled by total loans. The coefficient on $LLP_{(i,t-1)}$ will be positive if estimated credit losses are associated with subsequent realized losses. Its magnitude would not necessarily be expected to be unity, however, if some charge-offs within a given year are associated with contemporaneous, rather than lagged, deteriorations in loan quality.

$Assets_{(i,t-1)}$ is lagged (inflation-adjusted) total assets (measured in millions of dollars).[4] Its interaction with provisions, $LLP*Assets_{(i,t-1)}$, is the key independent variable. The coefficient on it would be zero if bank size is irrelevant in the determination of loan losses. This would be

[4] Assets in each year are converted to 2105 equivalents.

consistent the inability of the FASB "to identify any compelling reasons to suggest that different sized entities would be better served by accounting practices that differ from those of others (Statement No. 114)."

The coefficient could differ from zero, on the other hand, if associations of charge-offs and prior provisions vary by bank size. This would be consistent with statements of FASB officials that "any collectability estimation approach is subjective," that "entities manage credit risk differently" and that "varying methods" may result in "differing degrees of sophistication" and a "range of acceptable outcomes (FASB, 2016)."

We add to equation (1) variables for accounting oversight by auditors and regulators. With respect to the former, $AUDIT_{(i,t-1)}$, is defined to be one if a bank is audited externally and zero otherwise. We interact this variable with $LLP_{(i,t-1)}$ to determine the impact of audit on the sensitivity of charge-offs to lagged provisions. Following Altamuro and Beatty (2010), we hypothesize that audited banks will exhibit closer correlations.

Our variable capturing oversight by regulators extends from a categorical assessment of managerial performance defined as the "M" component of a bank's composite "CAMELS" performance rating. The rating reflects, in part, an assessment of the "accuracy, timeliness and effectiveness of management information and risk monitoring systems," "the adequacy of audits and internal controls" and the promotion of "reliable financial and regulatory reporting." It is a numerical composite that ranges from best (1) to worst (5).[5]

We establish one dummy variable, $HIGH_{(i,t-1)}$, for banks with best rating (1) and another dummy variable, $LOW_{(i,t-1)}$, for banks with the worst ratings (3, 4 and 5). We expect the coefficient on the former to be negative and the coefficient on the latter to be positive (relative to

[5] See Federal Deposit Insurance Corporation, Statements of Policy (5000), Uniform Financial Institution Rating System.

the omitted category of banks with ratings of 2). Both would indicate that managerial quality is inversely related to charge-offs.

We also interact these dummy variables with $LLP_{(i,t-1)}$. Coefficients on the interaction with $HIGH_{(i,t-1)}$ should be positive, and coefficients on the interaction with $LOW_{(i,t-1)}$ should be negative, if better-managed banks have closer associations of provisions and charge-offs.

$Allow_{(i,t-1)}$ is the ratio of the lagged allowance for loan losses to total loans and $Nona_{(i,t-1)}$ is the lagged ratio of the sum of past due loans and loans in nonaccrual status to total loans. $Prob_{(i,t-1)}$, the calculated probability of a bank experiencing a downgrade in its overall supervisory "CAMELS" rating, is intended to capture impacts on credit losses that may be associated with forecasted declines in financial condition. It is the output of a standardized regression model, devised by regulators, that uses selected items from publicly-reported financial statements as inputs.

Two variables, $Comm_{(i,t-1)}$ and $Real_{(i,t-1)}$, account for portfolio composition. They are, respectively, ratios of lagged commercial and real estate loans to total loans. They reflect impacts on loan losses that may vary by loan concentration.

2.2 Subsamples

LaFond and You (2010) criticized Altamuro and Beatty (2010) for failing to account for differences in bank accounting behavior within different size groupings. This is a particular problem for us as we focus specifically on understanding such relationships. We therefore conduct separate tests of equation (1) across banks in different (inflation-adjusted) asset categories, sorted by quintile. Each of the smaller size quintiles will be compared, sequentially and separately, to banks in the largest size quintile. That is, tests of equation (1) will compare

banks in the smallest size quintile to banks in the largest size quintile, banks in the second-smallest size quintile to banks in the largest size quintile, etc.

To make these comparisons, we define C to be 1 if a bank is in each of one of the four smallest size quantiles, respectively, and 0 if a bank is in the largest size quantile:

$$LCO_{(i,t)} = a + b_1 LLP_{(i,t-1)} + b_2 C + b_3 LLP*C_{(i,t-1)} + b_4 Allow_{(i,t-1)} + b_4 Nona_{(i,t-1)} + b_5 Prob_{(i,t-1)} + b_6 Comm_{(i,t-1)} + b_7 Real_{(i,t-1)} + e_{(i,t)} \quad (2)$$

Our hypotheses are expressed in terms of the coefficients on $LLP*C_{(i,t-1)}$. They will be negative if the charge-offs of banks in smaller size categories diverge more from prior provisions relative to banks in the largest size category.

To determine whether the (potentially) lesser correlations of provisions and charge-offs for smaller banks pass "examination" muster, as previously described, we create subsamples that vary by regulatory assessed management rating: banks with high ratings (1), banks with intermediate ratings (2) and banks with low ratings (3, 4 or 5). This allows examination of coefficients on $LLP*C_{(i,t-1)}$ within groups of banks that are judged by regulators to have similar abilities in, among other areas, preparing "reliable" financial reports. It offers evidence indicating whether deviation from regulatory accounting guidelines is limited to banks that are penalized by regulators with low performance ratings.

We similarly consider the oversight exercised by auditors in separate tests of equation (2) among audited and unaudited banks to determine whether small banks pass "audit" muster. This allows us to determine if deviation from regulatory accounting guidelines is limited to banks that are not subject to oversight by auditors.

In our regressions, errors are clustered at the bank level. Dummy variables for year are included (coefficients are suppressed in the presentation of results to conserve space).

3. Data and Results

We collect annual data on commercial banks with assets less than $10 billion.[6] The sample begins in 2006, after issuance of new regulatory guidance on accounting practices (FFIEC, 2006). It ends in 2015, thereby providing ten years of bank observations.

We delete observations with negative provisions since relationships between provisions and charge-offs are ambiguous in these situations. Observations also are deleted in the upper one percentiles on ratios of charge-offs to loans and lagged provisions to loans and the lower one percentile on ratios of charge-offs to loans.[7]

The final sample consists of 64,806 observations. The five categories of banks on inflation-adjusted assets are: 1) less than $63 million; 2) between $63 million and $113 million; 3) between $113 million and $194 million; 4) between $194 million and $388 million; and 5) more than $388 million and less than $10 billion.

Descriptive statistics on banks by size category are presented in Table 1. Smaller banks have lower ratios of loan loss provisions, and charge-offs, to loans than larger banks, despite having similar ratios of nonaccrual loans to loans. They also have lower probabilities of downgrades in CAMELS ratings. As we will discuss later, these factors presumably are important in the exercise of regulatory judgment in their oversight.

[6] Data from balance sheets and income statements are obtained from "Call Reports" published by the FFIEC and filed with a bank's primary regulator.

[7] These situations often reflect aberrational circumstances related to our standardization of charge-offs and provisions with respect to period-ending loans (Applied Card Bank, for instance, reduced its loan portfolio from $682 million in 2005 to $239,000 in 2006). Use of beginning-of-period loans mitigates the problem of loan contraction but creates a new one for loan expansion.

3.1 Regression Results for the All Bank Sample

Results for equation (1) are presented in Table 2. The specification is statistically significant and has an explanatory power of .44.

The coefficient on $LLP_{(i,t-1)}$ is positive and statistically significant, as hypothesized, with a magnitude of .29. The coefficient on its interaction with bank size, $LLP*Assets_{(i,t-1)}$, is positive and statistically significant. This indicates that smaller banks, relative to larger banks, have lesser capacity, or incentive, to link provisions with subsequent charge-offs.

The latter finding may reflect preferences for loan loss provisioning practices in smaller banks that are more subjective, more mechanistic (banks establish provisions as a percentage of loans) or more time dependent (banks establish provisions and charge-offs simultaneously). Or it may reflect problems encountered by small banks in estimating credit losses, perhaps because relationship-based loans, on which they rely to a greater extent than large banks, are idiosyncratic, or because fewer loans in their portfolios provide lesser diversification in prediction (outcomes are "lumpy"). Whether a negative coefficient on $LLP_{(i,t-1)}$ results from an inability, or an unwillingness, to rigidly adhere to a regulatory precept, it nevertheless constitutes an observed deviation from it.

The coefficient on $Audit_{(i,t-1)}$ is statistically insignificant. But the positive and statistically significant coefficient on its interaction with lagged provisions, $Audit*LLP_{(i,t-1)}$, indicates that oversight by auditors improves the association of charge-offs and lagged provisions. This result is consistent with the findings of, among others, Dahl et al (1998), Gunther and Moore (2003), Kanagaretnam et al (2010), Altamuro and Beatty (2010), DeBoskey and Jiang (2012) and Nicolletti (2015).

The coefficient on $HIGH_{(i,t-1)}$ is negative and statistically significant, while the coefficient on $LOW_{(i,t-1)}$ is positive and statistically significant. Collectively, this indicates that banks with higher (lower) observed levels of assessed managerial performance have lower (higher) charge-offs.[8]

Of more interest are interactions of these variables with $LLP_{(i,t-1)}$. The coefficient on $HIGH*LLP_{(i,t-1)}$ is positive and statistically significant, indicating a closer correlation between provisions and subsequent charge-offs among better managed banks. The coefficient on the interaction variable $LOW*LLP_{(i,t-1)}$, on the other hand, is negative and statistically significant. Both are consistent with the findings of Demerjian et al (2013) that earnings quality is positively associated with managerial ability.

With respect to other variables, the coefficient on $Allow_{(i,t-1)}$ is positive, indicating that charge-offs are positively associated with lagged allowances. Higher past due and nonaccrual status are positively associated with charge-offs, as evidenced by the positive and statistically significant coefficient on $Nona_{(i,t-1)}$. The coefficient on $Prob_{(i,t-1)}$ is positive and statistically significant; banks more likely to be downgraded in future supervisory ratings have higher charge-offs. Coefficients on $Comm_{(i,t-1)}$ and $Real_{(i,t-1)}$ are positive and negative, respectively, but are only statistically significant in the latter case.

3.2 Regression Results for Subsamples by Size

Results for tests of equation (2) are presented in Table 3. The specifications are statistically significant and have explanatory powers ranging from 47 percent, for comparisons of

[8] We repeated this analysis for a sample of banks with constant management ratings over the five year period surrounding the year in which provisions were made in order to determine the sensitivity of our results to changes in managerial performance. The results were qualitatively the same as those reported in Table 3.

the smallest quintile to the largest quintile, to 53 percent, for comparisons in the largest quintiles. Coefficients on control variables are consistent with those reported in Table 2.[9]

With respect to the key interaction variables, $LLP*C_{(i,t-1)}$, coefficients are negative and statistically significant across each of the four columns. They decrease monotonically in magnitude when moving from comparisons involving banks in the smallest size category, -0.19 (fist column), to those in the largest size category, -0.07 (fourth column). This is consistent with results reported in Table 2.

Tables 4, 5 and 6 present results for subsamples that vary by management rating. In comparing coefficients on $LLP_{(i,t-1)}$ within a given size quintile across tables, we note that they decrease monotonically in moving from banks with the best ratings to banks with the worst ratings. Among banks in the smallest size quintile, they are, respectively, 0.68 (Table 4), 0.47 (Table 5) and .37 (Table 6). Results for the other size quintiles are the same. This is consistent with results reported in Table 2.

The key variable in these tables, once again, is $LLP*C_{(i,t-1)}$. Among banks with the best ratings (Table 4), coefficients on these variables decline, across the smallest to the largest comparison quintile, from -0.47 to -0.12. For banks with intermediate ratings (Table 5), and for banks with the worst ratings (Table 6), the coefficients decline, respectively, from -0.21 to -0.07 and from -0.13 to -0.06. These results are noteworthy because they show that the greater accounting discretion among smaller banks, observed in Table 3, persists within discrete categories of regulatory-assessed managerial performance.

The foregoing implies a greater tolerance of regulators for wider "ranges of outcomes" among smaller banks. That is, qualifications in FASB standards for Generally Accepted

[9] The number of banks across all columns is greater, relative to Table 2, because observations on banks in the largest size category are repeated in each column.

Accounting Principles (GAAP), as well as in guidelines devised by regulators in conformance with those standards, are flexible enough to accommodate differences in how big banks and small banks prepare financial reports. This underscores the contention of Nichols et al (2008) that verifiability of information, "as a practical matter," is "partly the result of implementation of GAAP guidance and partly the result of negotiated policy" between managers and the auditors and regulators who oversee them.

Tables 7 and 8 present results for subsamples of audited and unaudited banks. In both cases, coefficients on $LLP*C_{(i,t-1)}$ are negative and statistically significant across each of the four columns.[10] They decrease in magnitude, monotonically, in comparisons moving from the smallest to the largest size categories. We conclude that the wider correspondence of provisions and subsequent charge-offs of smaller banks is not dependent on the absence of auditor oversight.[11]

3.3 Addendum

We have interpreted our results as being consistent with a greater tolerance of regulators for wider "ranges of outcomes" in loan loss provisioning practices among smaller banks. This may reflect the lesser threats of smaller banks to deposit insurance funds or, as previously mentioned, their lower levels of provisions, charge-offs and downgrade probabilities. It also may reflect a recognition of their relatively higher compliance costs (see hearings on the Economic

[10] There are 518 observations on unaudited banks in the largest size category (inflation-adjusted assets over $388 million).

[11] As additional tests of robustness, we consider relationships between provisions and charge-offs that may be conditioned by economic activity (Laeven and Majnoni, 2003; Furlong and Knight, 2010). We conduct supplemental tests at three points in time for provisions: 1) made in 2007 that should be reflect charge-offs in 2008; made in 2008 that should reflect charge-offs in 2009; and made in 2009 that should reflect charge-offs in 2010.The coefficients on $LLP*C_{(i,t-1)}$ decline, usually monotonically, with increases in size quintile in all tables.

Growth and Regulatory Paperwork Reduction Act, 2015); in this regard, the FDIC has acknowledged that "principles governing the measurement of credit losses," which should be applied "consistently," are, nevertheless, "scalable for entities of all sizes and complexities" and achievable "with less burdensome estimation practices (Storch et al, 2013)."

But our results also could be interpreted in the context of a demand for accounting information that varies across banks (Nichols et al, 2008). Consider, for example, the financial reports of a small bank dependent on a handful of "relationship-based" loans to small, local businesses. These reports may be better understood under an accounting guideline that is enforced judgmentally. But the reports of a larger bank with, say, thousands of consumer loans, relatively homogenous and extended nationally, may be better understood under a more rigid rule. In this regard, Dye and Sridhar (2008) contend that judgmental principles perform better (worse) than rigid rules when there is more (less) cross-sectional variation in transactions that are treated homogeneously.

The foregoing suggests that judgment in the oversight of accounting practices may be not only tolerable but preferable. To offer some insight into this issue, we analyze the riskiness of banks which vary by ex poste correspondence to accounting precepts, which we define to be the absolute value of the difference between $PROV_{(i,t-1)}$ and $LCO_{(t)}$.We create correlations of this value and the predicted probability of a downgrade in supervisory rating, Prob, in years after the establishment of provisions.

The correlations are presented in Table 9 across subsamples that vary by the previously defined size categories. We acknowledge the limitations of these comparisons. They are intended to be suggestive rather than definitive.

Correlations with $Prob_{(t)}$ are positive and statistically significant in all size categories. They also are, by and large, similar in magnitude. This suggests that lesser correspondence of provisions and subsequent charge-offs, regardless of a bank's size, is associated with higher probabilities of a downgrade in supervisory rating. To the extent that correspondence is conditioned by the "range of outcomes" allowed by regulators, our results are consistent with the conclusion of Hirtle et al (2016) that decreased supervisory attention results in higher risk.

We also examine associations with lending. The intent of regulation, from this perspective, is not to "hinder" banks from taking risks in allocating credit (George, 2014). This is a particular issue with regard to the commercial loans of community banks, particularly those to small businesses, who borrow more from community banks than from their larger counterparts, despite experiencing declines in the aftermath of recession beginning in 2008.[12]

We address this issue by examining correlations of the ratio of commercial loans to loans, COMM, and the gap between provisions and subsequent charge-offs. The correlations, in Table 9, are positive and statistically significant. They also are higher among banks in smaller size categories. This is consistent with the findings of prior research that weaker supervisory standards are associated with faster loan growth (see Hirtle et al, 2016). For banks in the largest size category, however, the correlations are insignificant.

4. Conclusions

We examine the extent to which auditors and regulators exercise judgment in their oversight of bank accounting practices. Empirical tests on various subsamples of annual

[12] Small business lending by community banks declined from $295 billion in 2010 to $275 billion in 2015; over the same time period, small business lending by bigger banks increased from $260 billion to $270 billion (Community Banking in the 21st Century, 2016, Conference hosted by the Federal Reserve System and the Conference of State Bank Supervisors).

observations on community banks, 2006 to 2015, show that correlations of provisions for loan losses and subsequent charge-offs are lower for smaller banks. Divergence persists within discrete categories of regulatory-assessed managerial performance and audit status.

Our results indicate that judgment in the application of accounting rules, as discussed in Bushman (2016), and amplified by the debate surrounding CECL, has been exercised on a longstanding basis across the banking industry--i.e., the parameters within which regulators exercise judgment are wider than previously known. This is important in understanding the capacity for proposed expansions in the exercise of judgment, across all regulations, to achieve regulatory objectives. It also is relevant to perhaps more parochial, but nevertheless topical, issues with respect to political influences on the banking industry that may be exerted in the absence of legislative edict--that is, the capacity for elected officials "to set a tone" by appointing regulators who take "a less punitive approach toward gray-area regulatory violations (Heltman, 2017)."

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Table 1 – Descriptive Statistics

	< $63 M	> $63 M < $113 M	> $113 M < $194 M	> $194 M < $388 M	> $388 M > $10,000 M
$LCO_{(i,t)}$	0.0032	0.0037	0.0042	0.0047	0.0057
	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
$LLP_{(i,t-1)}$	0.0038	0.0045	0.0050	0.0053	0.0063
	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
$Allow_{(i,t-1)}$	0.0162	0.0151	0.0150	0.0152	0.0155
	(0.010)	(0.007)	(0.007)	(0.011)	(0.007)
$Nona_{(i,\ t-1)}$	0.0291	0.0295	0.0291	0.0289	0.0282
	(0.030)	(0.030)	(0.029)	(0.032)	(0.031)
$Prob_{(i,t-1)}$	0.0607	0.0783	0.0868	0.0944	0.1001
	(0.132)	(0.168)	(0.180)	(0.195)	(0.199)
$Comm_{(i,t-1)}$	0.1431	0.1470	0.1459	0.1443	0.1570
	(0.099)	(0.099)	(0.097)	(0.095)	(0.110)
$Real_{(i,t-1)}$	0.5606	0.6604	0.7028	0.7397	0.7383
	(0.201)	(0.181)	(0.167)	(0.148)	(0.166)
N	12,961	12,961	12,961	12,962	12,961

Notes: Means and standard deviations (in parentheses). Dollar amounts are in millions. LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans, Prob is the predicted probability of a bank experiencing a decline in its supervisory rating, Comm is the ratio of commercial loans to loans and Real is the ratio of real estate loans to loans.

Table 2 – Regression Results, All Bank Sample

Dependent Variable: $LCO_{(i,t)}$

	Coefficient	Standard Error	
Int	-0.00063	0.00051	
$LLP_{(i,t-1)}$	0.29831	0.01600	***
$Assets_{(i,t-1)}$	0.00016	0.00005	***
$LLP*Assets_{(i,t-1)}$	0.03254	0.00769	***
$Audit_{(i,t-1)}$	0.00001	0.00007	
$Audit*LLP_{(i,t-1)}$	0.07347	0.01440	***
$High_{(i,t-1)}$	-0.00044	0.00008	***
$High*LLP_{(i,t-1)}$	0.07010	0.02909	**
$Low_{(i,t-1)}$	0.00114	0.00016	***
$Low*LLP_{(i,t-1)}$	-0.04061	0.01394	**
$Allow_{(i,t-1)}$	0.04968	0.02360	**
$Nona_{(i,t-1)}$	0.03659	0.00276	***
$Prob_{(i,t-1)}$	0.00753	0.00039	***
$Comm_{(i,t-1)}$	0.00098	0.00052	
$Real_{(i,t-1)}$	-0.00048	0.00025	**
R^2	.441	N	64,806

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Assets are measured in millions of dollars. Audit is one for audited banks. High and Low, respectively, indicate banks with the highest and lowest supervisory ratings. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 3 – Regression Results, by Size Categories

Dependent Variable: $LCO_{(i,t)}$

	< $63 M		> $63 M < $113 M		> $113 M < $194 M		> $194 M < $388 M	
Int	0.00044		-0.00110	***	-0.00085	**	0.00035	
	0.00032		0.00034		0.00042		0.00073	
$LLP_{(i,t-1)}$	0.46280	***	0.43669	***	0.42039	***	0.47225	***
	0.01537		0.01438		0.01451		0.03032	
C	-0.00077	***	-0.00036	***	-0.00016		-0.00015	
	0.00011		0.00009		0.00009		0.00009	
$LLP*C_{(i,t-1)}$	-0.19236	***	-0.16948	***	-0.12696	***	-0.06515	***
	0.02105		0.01827		0.01747		0.01665	
$Allow_{(I,t-1)}$	0.06302	***	0.11664	***	0.12318	***	0.03944	
	0.00927		0.00883		0.00951		0.04437	
$Nona_{(i,t-1)}$	0.04045	***	0.03659	***	0.03771	***	0.03142	***
	0.00293		0.00295		0.00337		0.00388	
$Prob_{(i,t-1)}$	0.00709	***	0.00699	***	0.00787	***	0.00842	***
	0.00055		0.00050		0.00052		0.00053	
$Comm_{(i,\ t-1)}$	0.00005		0.00125	**	0.00049		-0.00026	
	0.00062		0.00063		0.00073		0.00085	
$Real_{(i,t-1)}$	-0.00164	***	-0.00072	**	-0.00122	***	-0.00125	**
	0.00033		0.00036		0.00042		0.00051	
R^2	.468		.502		.515		.526	
N	25,922		25,922		25,922		25,923	

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 4 – Regression Results, Banks with the Best Management Rating

Dependent Variable: $LCO_{(i,t)}$

	< $63 M		> $63 M < $113 M		> $113 M < $194 M		> $194 M < $388 M	
Int	-0.00034		-0.00102	***	-0.00053		0.00032	
	0.00036		0.00037		0.00039		0.00049	
$LLP_{(i,t-1)}$	0.68312	***	0.65498	***	0.62142	***	0.71751	***
	0.03981		0.03938		0.04321		0.04236	
C	0.00025		0.00017		-0.00003		0.00003	
	0.00168		0.00016		0.00016		0.00014	
$LLP*C_{(i,t-1)}$	-0.46862	***	-0.34635	***	-0.18498	***	-0.12024	***
	0.06934		0.06322		0.06583		0.05584	
$Allow_{(I,t-1)}$	0.018996	***	0.05116	***	0.05411	***	-0.03244	***
	0.00626		0.01151		0.01201		0.01008	
$Nona_{(i,t-1)}$	0.036369	***	0.05181	***	0.04746	***	0.03174	***
	0.00145		0.00530		0.00535		0.00599	
$Prob_{(i,t-1)}$	0.00475	***	0.00516	**	0.01027	***	0.00750	***
	0.00238		0.00213		0.00243		0.00209	
$Comm_{(i,\ t-1)}$	0.00197	**	0.00200	**	0.00100		0.00076	
	0.00091		0.00089		0.00094		0.00105	
$Real_{(i,t-1)}$	-0.000093	***	-0.00833	**	-0.00124	***	-0.00085	
	0.00034		0.00038		0.00038		0.00050	
R^2	.392		.435		.474		.453	
N	6,715		6,694		6,735		6,925	

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 5 – Regression Results, Banks with an Intermediate Management Rating

Dependent Variable: $LCO_{(i,t)}$

	< $63 M	> $63 M < $113 M	> $113 M < $194 M	> $194 M < $388 M
Int	0.00115 ***	-0.00052	-0.00024	-0.00035
	0.00042	0.00041	0.00049	0.00051
$LLP_{(i,t-1)}$	0.47069 ***	0.43675 ***	0.42940 ***	0.41161 ***
	0.02461	0.02370	0.02359	0.02342
C	-0.00077 ***	-0.00039	-0.00001	-0.00014
	0.00016	0.00013	0.00013	0.00013
$LLP*C_{(i,t-1)}$	-0.21314 ***	-0.14249 ***	-0.15741 ***	-0.06772 ***
	0.03426	0.02899	0.02944	0.02807
$Allow_{(I,t-1)}$	0.05953 ***	0.11493 ***	0.11343 ***	0.13722 ***
	0.01189	0.01207	0.01253	0.01320
$Nona_{(i,t-1)}$	0.03547 ***	0.02887 ***	0.03041 ***	0.02816 ***
	0.00394	0.00384	0.00451	0.00466
$Prob_{(i,t-1)}$	0.00867 ***	0.00977 ***	0.01018 ***	0.01100 ***
	0.00080	0.00076	0.00078	0.00076
$Comm_{(i,\ t-1)}$	-0.00082	0.00029	-0.00033	-0.00035
	0.00067	0.00067	0.00078	0.00081
$Real_{(i,t-1)}$	-0.00239 ***	-0.00123 ***	-0.00165 ***	-0.00184 ***
	0.00042	0.00043	0.00051	0.00055
R^2	.395	.442	.440	.480
N	15,158	15,130	15,092	14,844

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 6 – Regression Results, Banks with the Worst Management Rating

Dependent Variable: $LCO_{(i,t)}$

	< $63 M		> $63 M < $113 M		> $113 M < $194 M		> $194 M < $388 M	
Int	0.00038		-0.00134		-0.00128		-0.00201	
	0.00100		0.00135		0.00153		0.00155	
$LLP_{(i,t-1)}$	0.36751	***	0.34426	***	0.33410	***	0.32919	***
	0.02207		0.02112		0.02136		0.02273	
C	-0.00164	***	-0.00093	***	-0.00018		-0.00011	
	0.00037		0.00036		0.00035		0.00035	
$LLP*C_{(i,t-1)}$	-0.12779	***	-0.14947	***	-0.11047	***	-0.06208	***
	0.03078		0.02829		0.02581		0.02575	
$Allow_{(I,t-1)}$	0.11717	***	0.17065	***	0.17525	***	0.17713	***
	0.02112		0.01917		0.00572		0.02359	
$Nona_{(i,t-1)}$	0.04124	***	0.03801	***	0.03905	***	0.03658	***
	0.00551		0.00513		0.00572		0.00608	
$Prob_{(i,t-1)}$	0.00444	***	0.00405	***	0.00449	***	0.00484	***
	0.00081		0.00070		0.00075		0.00075	
$Comm_{(i,\ t-1)}$	-0.00173		0.00043		-0.00039		0.00065	
	0.00162		0.00191		0.00222		0.00227	
$Real_{(i,t-1)}$	-0.00121		-0.00025		-0.00154		-0.00057	
	0.00099		0.00138		0.00161		0.00161	
R^2	.461		.459		.477		.478	
N	3,977		4,005		4,009		4,055	

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 7 – Regression Results, Audited Banks

Dependent Variable: $LCO_{(i,t)}$

	< $63 M		> $63 M < $113 M		> $113 M < $194 M		> $194 M < $388 M	
Int	0.00071		-0.00052		-0.00038		0.00075	
	0.00049		0.00044		0.00052		0.00079	
$LLP_{(i,t-1)}$	0.45645	***	0.42923	***	0.41817	***	0.47898	***
	0.01818		0.01528		0.01516		0.03080	
C	-0.00094	***	-0.00040	***	-0.00021	*	-0.00016	
	0.00018		0.00012		0.00010		0.00009	
$LLP*C_{(i,t-1)}$	-0.18812	***	-0.16864	***	-0.11475	***	-0.06382	***
	0.03299		0.02281		0.01943		0.01775	
$Allow_{(I,t-1)}$	0.08564	***	0.13393	***	0.13583	***	0.03793	
	0.01747		0.01118		0.01094		0.04513	
$Nona_{(i,t-1)}$	0.03928	***	0.03421	***	0.03500	***	0.02981	***
	0.00403		0.00346		0.00365		0.00394	
$Prob_{(i,t-1)}$	0.00681	***	0.00700	***	0.00792	***	0.00829	***
	0.00065		0.00056		0.00057		0.00055	
$Comm_{(i,\ t-1)}$	-0.00099		0.00006		-0.00048		-0.00093	
	0.00089		0.00078		0.00086		0.00094	
$Real_{(i,t-1)}$	-0.00235	***	-0.00163	***	-0.00187	***	-0.00162	***
	0.00056		0.00048		0.00057		0.00059	
R^2	.512		.516		.528		.531	
N	16,503		19,050		20,975		22,447	

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 8 – Regression Results, Unaudited Banks

Dependent Variable: $LCO_{(i,t)}$

	< $63 M		> $63 M < $113 M		> $113 M < $194 M		> $194 M < $388 M	
Int	-0.00007		-0.00209	***	-0.00209	***	-0.00222	***
	0.00045		0.00047		0.00058		0.00069	
$LLP_{(i,t-1)}$	0.45397	***	0.41790	***	0.38716	***	0.35779	***
	0.06333		0.06493		0.06782		0.07250	
C	-0.00025		-0.00000		0.00023		0.00010	
	0.00027		0.00027		0.00028		0.00034	
$LLP*C_{(i,t-1)}$	-0.18833	***	-0.15325	***	-0.14342	***	-0.04598	
	0.06545		0.06715		0.06982		0.07323	
$Allow_{(I,t-1)}$	0.03859	***	0.07543	***	0.06549	***	0.07547	***
	0.01010		0.01264		0.01584		0.01977	
$Nona_{(i,t-1)}$	0.04498	***	0.04704	***	0.05366	***	0.05017	***
	0.00374		0.00482		0.00868		0.01166	
$Prob_{(i,t-1)}$	0.00655	***	0.00701	***	0.00797	***	0.00989	***
	0.00115		0.00106		0.00126		0.00160	
$Comm_{(i,\ t-1)}$	0.00193	**	0.00389	***	0.00457	***	0.00461	***
	0.00076		0.00081		0.00113		0.00159	
$Real_{(i,t-1)}$	-0.00100	***	0.00071		0.00035		0.00028	
	0.00037		0.00039		0.00051		0.00070	
R^2	.288		.407		.416		.492	
N	9,419		6,872		4,927		3,476	

Notes: LCO is the ratio of loan loss charge-offs to loans, LLP is the ratio of provisions for loan losses to loans, Allow is the ratio of loan loss allowances to loans, Nona is the ratio of nonaccrual loans to loans and Prob is the predicted probability of a bank experiencing a decline in its supervisory rating. Comm and Real, respectively, are ratios of commercial loans and real estate loans to loans. Dummy variables for year are suppressed. Three asterisks indicate statistical significance at the one per cent level, two at the five percent level and one at the 10 percent level.

Table 9 – Correlations

Correlations of Variables with $|LLP_{(i,t-1)} - LCO_{(i,t)}|$

	≤ $63 M	> $63 M ≤ $113 M	> $113 M ≤ $194 M	> $194 M ≤ $388 M	> $388 M ≤ $10,000 M
$Prob_{(i,t)}$	0.290	0.304	0.327	0.343	0.341
$Prob_{(i,t+1)}$	0.162	0.155	0.147	0.148	0.136
$Prob_{(i,t+2)}$	0.105	0.069	0.056	0.055	ns
$Comm_{(i,t)}$	0.117	0.071	0.037	0.037	ns
$Comm_{(i,t+1)}$	0.111	0.061	0.038	0.041	ns
$Comm_{(i,t+2)}$	0.112	0.068	0.035	0.045	ns
N	10,522	10,410	10,179	10,010	9,759

Notes: Prob is the predicted probability of a bank experiencing a decline in its supervisory rating and Comm is the ratio of commercial loans to loans. All correlations are statistically significant at the one per cent level except for those designed "ns."