Regulatory consulting and banks' financial reporting quality: evidence from the Dodd-Frank Act

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The Dodd-Frank Act expands bank managers' reporting requirements to federal agencies, particularly relating to banks' financial losses should common market and macroeconomic shocks occur. To comply with this regulation, bank managers have engaged in consulting arrangements (referred to as regulatory consulting). We examine the financial reporting quality implications associated with hiring external auditors for these services. We find banks with auditor-provided regulatory consulting, relative to banks without, have higher financial reporting quality as measured by loan loss provision validity. Consistent with knowledge spillover benefits accruing to financial audit teams, we find more pronounced effects in the fourth versus interim quarters and more frequent income-reducing Y9-C restatements. We also find auditor responsiveness to PCAOB inspections improves the effectiveness of regulatory consulting. Overall, our results suggest regulatory consulting improves the audits of estimates in judgmental financial statement accounts, despite regulatory concerns that these services may impair auditor independence.

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1 Introduction

This study examines whether banks' financial reporting quality is affected when bank managers hire their external auditors as regulatory consultants. We rely on a significant regulatory change, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank), which increased bank supervision through additional analysis and reporting requirements and imposed greater regulatory costs on banks (U.S. Congress 2010; Hogan and Burns 2019). Using proxy statement disclosures, we find that external auditors frequently provide regulatory consulting to help clients meet the analysis and reporting requirements of Dodd-Frank. We reason that audit firms providing both regulatory consulting and financial statement audits obtain additional information about clients' risk management activities, capital sensitivity, loan portfolio quality, and financial position compared to audit firms performing only financial statement audits.

Regulators have long been concerned about the adverse effects on firms' financial statements from conflicts of interest auditors may face when providing non-audit services to their external audit clients, arguing these services create economic bonds between auditors and clients that may impair auditor independence (SEC 2000). However, audit firms argue that, when they jointly provide audit and non-audit services to clients, financial reporting quality improves from the knowledge spillover between the two service lines. Academic research on auditor-provided non-audit services has been mixed, with studies supporting both the conflict-of-interest and knowledge spillover explanations.[1] Within the universe of advisory services, non-audit services related to financial statement information are most likely to compromise auditor independence by

[1] Consistent with the conflict-of-interest explanation, studies find non-audit services lower financial reporting quality (Frankel et al. 2002; Ferguson et al. 2004; Srinidhi and Gul 2007; Kanagaretnam et al. 2010a; Markelevich and Rosner 2013). Other studies support the knowledge spillover explanation (e.g., Simunic 1984; Kinney et al. 2004; Koh et al. 2013; Chi et al. 2017; Maso et al. 2020). A final strand of research finds no effect on financial reporting quality, suggesting quality is unchanged due to reputational concerns and litigation costs (e.g., DeFond et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003; Larcker and Richardson 2004; Reynolds et al. 2004).

placing auditors in positions of auditing their own work—a direct violation of the SEC rules governing auditor independence (Munter 2021 and 2022; SEC 2000). In contrast to prior work, we examine a setting where specific non-audit advisory services closely relate to information underlying the financial statements.

Our setting has several benefits. First, novel to our setting, the accrual we study is likely the focus of the external audit firm's non-audit service line. Because information on a bank's loan portfolio is an input to Dodd-Frank models assessing expected losses, regulatory consulting can directly affect an auditor's assessment of loan loss estimates, a judgmental audit area prone to deficiencies (e.g., Glover et al. 2017; PCAOB 2018; Stuber and Hogan 2021). By focusing on the banking industry, we examine the impact of consulting on the loan loss provision, the most important accrual for a bank and the external auditor. Second, apart from research on tax-related services, our setting is unique as a client discloses the *specific* services being purchased from its external audit firm, enabling us to hypothesize and test the direct effect of the joint provision of services (DeFond and Zhang 2014).[2] Finally, the regulatory consulting services we study have not been explicitly approved or prohibited by the Sarbanes-Oxley Act of 2002 (SOX). Because Dodd-Frank and financial accounting are closely linked, an external audit firm providing both audit and regulatory consulting may find itself in the position of auditing its own work, which raises concerns about the auditor's ability to monitor management.

We first examine the determinants of the choice to hire external auditors as Dodd-Frank regulatory consultants and find the choice is largely consistent with audit expertise, supported by strong governance (see the online appendix). Over half of our sample banks rely on their external

[2] Studies find auditor-provided tax-related advisory services are associated with fewer restatements, less earnings management, and more accurate tax reserves (e.g., Kinney et al. 2004; Cook et al. 2008; Gleason and Mills 2011; Paterson and Valencia 2011).

auditors for regulatory consulting services. We find banks are more likely to purchase auditor-provided regulatory consulting when the auditors are industry or advisory specialists. Consistent with stronger governance, these banks have a greater percentage of independent directors, a higher likelihood of having risk committees, and a higher likelihood of chief risk officers serving on management teams.

As the most prominent and significant accrual for banks, the loan loss provision has been identified as means to smooth and manipulate GAAP earnings for managing capital market expectations and regulatory capital (Beatty et al. 1995; Collins et al. 1995; Kim and Kross 1998; Ahmed et al. 1999; Liu and Ryan 2006; Beatty and Liao 2014).[3] Therefore, our primary analysis examines banks' financial reporting quality as reflected in loan loss provision estimates.[4] Specifically, we define "loan loss provision validity" as the nearness to a one-to-one correlation between the loan loss provision and subsequent charge-offs, all else equal. We examine this aspect of the loan loss provision because auditors are most concerned about the application of GAAP, which involves determining whether the incurred loss criteria have been met in the current period.

Our analysis focuses on the years following Dodd-Frank adoption and on banks subject to Dodd-Frank stress-testing requirements (i.e., banks with greater than $10 billion in total assets). In our research design, the treatment group consists of banks selecting their external auditors to provide regulatory consulting. To mitigate endogeneity in the choice of regulatory consultants, we follow prior research and use entropy balancing to weight the control observations to achieve covariate balance (e.g., Bonsall and Miller 2017; Shroff et al. 2017; Wilde 2017). In the unbalanced

[3] Banks' financial reporting discretion has implications beyond earnings management, as explicit capital adequacy calculations rely on GAAP inputs and can result in accounting discretion being used to improve regulatory capital.
[4] We cannot examine financial reporting restatements and material weaknesses, common outcome-based measures of financial reporting quality in the literature, due to a lack of variation in those outcomes in our sample. Specifically, our sample banks have six material weaknesses and four restatements over our sample period.

and entropy-balanced samples, we find a positive association between auditor-provided regulatory consulting and loan loss provision validity. The marginal effect is economically significant as banks with auditor-provided regulatory consulting are approximately 12 percent closer to obtaining one-to-one correlations between current-period loan loss provisions and subsequent charge-offs. This evidence suggests that, rather than compromising auditor independence, allowing external audit firms to also consult in this setting improves financial reporting quality.[5]

We conduct a series of additional analyses to expand on our findings, including an examination of (1) the mechanism for knowledge spillovers, (2) the expected benefits from regulatory consulting, and (3) the influence of auditor competency. We conduct two analyses to explore spillovers within the audit firm, from the regulatory consulting team to the financial audit team.[6] First, using the different audit requirements for quarterly and annual reporting, we examine the relation between regulatory consulting and loan loss provision validity for interim (review only) versus fourth quarter (audited) reporting. We find a stronger association between regulatory consulting and loan loss provision validity in the fourth quarter, when the financial audit team completes most year-end audit procedures, consistent with a spillover effect.[7]

Second, we exploit a timing difference between bank regulatory filings (i.e., Y-9Cs) and annual financial statement filings (i.e., 10-Ks). Because external audits are incomplete when banks file year-end regulatory reports with the Federal Reserve Boards, audit adjustments discovered

[5] By including bank specialist and advisory specialist variables in the entropy balancing model, we can isolate the treatment effect in the balanced sample.

[6] We recognize managerial sophistication may play a role in our setting. However, all sample banks are required to conduct stress testing, which suggests bank managers will learn from the additional regulatory requirements, regardless of how banks comply. We focus on the *differential* effect of engaging the audit firm across banks, allowing us to uniquely capture the auditor learning channel.

[7] One could argue the fourth quarter is also a time when management focuses on fairly presenting the bank's financial performance. If so, the slope estimate for the main effect of loan loss provision should differ between the interim and fourth quarters. This is not the case in our sample. However, we cannot rule out the possibility that managerial effort increases during the fourth quarter.

during financial statement audits can cause restatements of previously filed regulatory reports. We find income-reducing regulatory report restatements are more likely for banks with auditor-provided regulatory consulting. This evidence is consistent with knowledge from regulatory consulting "spilling over" to the financial audit teams.[8]

We next test whether the positive relation between regulatory consulting and financial reporting quality strengthens in settings where the expected benefits of regulatory consulting services are greater. First, as audit firm tenures increase, auditors acquire more client-specific experiences, and knowledge spillover benefits from regulatory consulting services are likely lessened. Consistent with this assertion, we find regulatory consulting is more beneficial in the early years of client-auditor relationships when auditors are less familiar with the operations and risks of their clients (DeAngelo 1981; Johnson et al. 2002). Second, we document that the association between regulatory consulting services and loan loss provision validity is concentrated among banks with weaker audit committee oversight, consistent with the heightened roles played by auditors in poorly governed firms (Larcker and Richardson 2004). Third, we find the effect of regulatory consulting strengthens when banks have more lenient state regulators because external auditors have a greater influence on reporting outcomes (Nicoletti 2018).

Finally, we examine whether audit firm competency influences loan loss provision validity. Specifically, we use audit firms' responsiveness to PCAOB regulatory scrutiny as an indicator of competency. Following Stuber and Hogan (2021) and DeFond and Lennox (2017), we examine loan loss-related deficiencies in audit firms' PCAOB inspection reports. We find audit firms most

[8] Regulatory consulting may not be the sole factor driving improved financial reporting quality. The increased regulatory requirements may result in banks taking less risk after Dodd-Frank, allowing managers to better predict loan losses, thereby explaining our results. After examining several risk-taking proxies from the literature, we do not find a shift in risk-taking for banks with auditor-provided regulatory consulting, relative to other banks (see Section 5.6).

responsive to PCAOB inspection issues are most effective at assisting banks with Dodd-Frank compliance, consistent with auditor competency playing a role in our setting.

Our findings are subject to three important caveats. First, an alternative explanation is that our results are driven by auditors exerting more effort during external audits because of increased regulatory scrutiny after the passage of Dodd-Frank. If this is the case, financial reporting quality should increase for all Dodd-Frank banks and not only banks with regulatory consulting. We do not find this. Regardless, we conduct additional analyses related to auditor effort, and our inferences are unchanged.

Second, data availability presents limitations in identifying *how* banks choose to comply with Dodd-Frank (i.e., employing external audit firms, employing alternate third-party providers, using internal resources). We can only observe regulatory consulting fees paid to banks' external audit firms. We cannot observe the purchases of regulatory consulting services from public accounting firms that are not the external auditors or from other types of consultants. Our treatment effect is based on benchmarking all other consulting and internal resource arrangements against external audit firms as regulatory consultants and does not identify heterogeneous effects by different types of consultants.

Third, concerns about self-selection and endogeneity are challenges in all archival studies in the auditor-provided services literature. The specific concern in our setting is the selection into the group of banks using auditor-provided regulatory consulting. In addition to using entropy balancing in our primary analyses, we use alternative approaches (i.e., propensity score matching, bivariate probit selection model) to mitigate these endogeneity concerns and measure how large an omitted variable would need to be to nullify our primary inference. While our results are robust to several econometric techniques that evaluate or correct for endogeneity, endogeneity cannot be

ruled out outside of an experimental setting.

Our study adds to the inconclusive literature on auditor-provided consulting.[9] Our results demonstrate that auditor-provided consulting related to the information underlying financial statements *enhance* financial reporting quality. While our study focuses on the loan loss provision, managers in many industries create complex financial estimates; our results suggest auditor-provided advisory services related to *judgmental* areas may improve financial reporting quality. We also contribute to research focusing on banking regulation and specifically Dodd-Frank by examining the financial reporting consequences associated with managerial compliance choices and the effects these choices have on loan loss provision validity.

Our study has implications for practice. In September 2024, the Public Company Accounting Oversight Board (PCAOB) expressed concerns that auditors are inappropriately communicating the scope of auditor-provided consulting to audit committees and the potential effect of these services on auditor independence (PCAOB 2024). While we have identified a setting with a positive association between regulatory consulting and financial reporting quality, our study does not examine the associated costs of these services, such as the possibility external audit firms providing regulatory consulting may find themselves auditing their own work, directly violating the SEC's general standard of auditor independence.

2 Background and hypothesis development

2.1 Institutional background

[9] Many studies focusing on nonfinancial institutions fail to find an association between auditor-provided consulting and restatements (e.g., Kinney et al. 2004; Paterson and Valencia 2011), modified audit opinions (e.g., DeFond et al. 2002; Hay et al. 2006; Li 2009), discretionary accruals (e.g., Chung and Kallapur 2003; Knechel et al. 2012), and earnings conservatism (e.g., Ruddock et al. 2006); other studies suggest specific services, such as tax, information technology, and corporate social responsibility assurance, improve the performance of financial audits because such services enhance the external auditors' knowledge of clients' business risks (e.g., Kinney et al. 2004; Koh et al. 2013; Maso et al. 2020). Few studies focus on the banking industry. One notable exception is the work of Kanagaretnam et al. (2010a), who find abnormal fees paid to auditors are associated with earnings management in small banks but not large ones, suggesting auditor independence issues related to economic bonding are nuanced.

In July 2010, the Dodd-Frank Act was enacted to restore investor confidence in the banking system after the financial crisis. To improve overall safety and soundness, Dodd-Frank has increased bank supervision through additional analysis and reporting requirements, including routine stress testing, known as the Dodd-Frank Act Stress Tests (DFASTs). The objective of stress testing is to determine whether banks have the capital to absorb losses and continue operations under adverse conditions.[10] Required annually for banks with total assets greater than $10 billion, stress testing begins with the balance sheet as "day zero." Loss projections are added to the balance sheet to assess the sensitivity of banks' health to different economic and financial market scenarios defined by the Federal Reserve.[11] In reviewing stress testing results, management and boards of directors formulate actions they intend to take or will likely take (e.g., in the event of negative economic scenarios) to manage bank operations within their desired risk profiles.

DFASTs require banks to submit regulatory filings detailing their stress testing methodology and pro forma results for various hypothetical economic scenarios. Stress testing involves econometric techniques to estimate pre-provision net revenues, credit losses, and projected capital over a nine-quarter horizon. These ongoing assessments require banks to invest in data analysis tools and information systems to provide relevant information for developing the necessary quantitative models as well as for reporting and monitoring the outputs of these models. The analyses involve the skills of statisticians, economists, model developers, and data integrity managers. Data requirements of DFAST compliance entail significant upfront costs and demand collaboration across bank holding companies (Sparks 2015). Offsetting the costs, banks subject to

[10] In 2018, the Economic Growth, Regulatory Relief, and Consumer Protection Act eased regulatory asset thresholds for stress tests, which some critics argue contributed to Silicon Valley Bank's failure in 2023 (e.g., Chotiner 2023).
[11] The Federal Reserve's economic scenarios for stress testing include numerous economic indicators, such as changes in unemployment rates, exchange rates, rates of GDP growth, and treasury yield curves (FDIC 2018). The scenarios also vary in terms of their severity (e.g., baseline, adverse, severely adverse).

DFAST testing have noted improved processes and controls around internally generated data (Wakim 2019).

2.2 Related literature and hypothesis development

The literature on banking regulation and financial accounting includes many studies examining managerial responses to regulation. Prior research shows managers respond to regulation by reducing risk-taking (e.g., Jin et al. 2013; Akhigbe et al. 2016), altering risk disclosures (e.g., Bischof et al. 2016), managing earnings and regulatory capital through loan loss provisions (e.g., Ahmed et al. 1999; Kim and Kross 1999), and reducing growth to avoid regulatory costs (e.g., Ballew et al. 2022; Bouwman and Johnson 2018). Building on this literature, we focus on the post-Dodd-Frank period. One benefit of the Dodd-Frank setting is our sample of banks faces similar resource needs relative to regulatory compliance.

For decades, regulators have opposed the provision of auditor-provided advisory services to external audit clients. Although consulting provides higher margins than financial statement auditing (Alexander et al. 2002), regulators have argued auditor-provided consulting services negatively affect financial reporting because consulting creates economic bonds between auditors and clients (SEC 2000). These economic bonds can motivate auditors to accept managerial financial reporting choices and to lower their professional skepticism. Causholli et al. (2014) find nonfinancial firms willing to purchase future auditor-provided advisory services are more likely to manage earnings. Rice and Weber (2012) show that audit firms with incentives to receive advisory fees are less likely to disclose material weaknesses for firms misstating their financial statements. In the banking industry, Kanagaretnam et al. (2010a) find an association between abnormal fees paid to audit firms and earnings management in smaller banks. Therefore, regulatory consulting may create economic bonds between external audit firms and their clients, impairing

financial reporting quality.

However, consulting provides an opportunity for auditors to enhance their knowledge of clients through knowledge spillovers (Simunic 1984). Client knowledge is an important factor in determining audit outcomes (e.g., Libby and Luft 1993; Knechel et al. 2013). For nonbanking firms, Maso et al. (2020) find audit firms providing corporate social responsibility (CSR) and financial statement assurance have more accurate assessments of going concern risk, and Prawitt et al. (2012) find client firms with (at least some) auditor-provided internal audit functions have lower fraud risk. Other studies show auditor-provided tax advisory services are associated with fewer restatements, greater tax planning, and more accurate tax reserves (e.g., Kinney et al. 2004; Cook et al. 2008; Gleason and Mills 2011; Paterson and Valencia 2011). These findings suggest external audit firm involvement in consulting enhances client-specific knowledge.

We build on prior studies by examining a recent regulatory change to the demand for consulting in the banking industry.[12] The consulting services we study relate to financial reporting outcomes in banks through assessments of capital adequacy, evaluations of risk, and modeling of loan losses. We contend that the additional analysis and reporting requirements of Dodd-Frank, coupled with the short timeframe for compliance, increase banks' demand for regulatory consulting. Banks subject to Dodd-Frank are not required to engage their external audit firms as regulatory advisors. In fact, Dodd-Frank is silent on how banks are to meet the outlined regulatory requirements. Some banks may perform the requirements internally. Others may engage third-party firms, including their external audit firms, as regulatory advisors.[13] This variation in banks'

[12] We are unaware of studies specifically examining regulatory consulting.

[13] We are unaware of discussions on auditor independence during the Dodd-Frank deliberations. However, we recognize that SEC independence rules govern auditor-provided advisory services and that audit committees are required to approve auditor-provided advisory services. Based on conversations with Big Four audit partners working in the banking industry, the decision to bid on regulatory consulting services is largely driven by the willingness of both engagement partners and audit committees.

use of their external audit firms for regulatory consulting allows us to assess more directly whether auditor-provided advisory services affect financial reporting quality.

In our setting, auditor-provided regulatory consulting services focus on evaluating current and future capital adequacy and the risk of loss. Specifically, the DFAST models identify areas where risk of loss and exposure to economic conditions are likely to be significant (see Appendix 1). By helping to build the regulatory models, audit firms increase their knowledge of bank operations and improve their awareness of banks' exposure to loan losses and incentives to manage regulatory capital. We contend this understanding provides a better basis for auditor judgments, particularly when auditing estimates such as loan loss provisions, and leads to higher financial reporting quality. However, because of the opposing arguments and mixed evidence in the literature, we state our hypothesis in null form:

> HYPOTHESIS 1. *Regulatory consulting services provided by external audit firms are not associated with financial reporting quality.*

3 Research design

3.1 Measure of regulatory consulting services

Because we are interested in understanding the relation between regulatory consulting services and financial reporting quality, we focus on the period following Dodd-Frank and on the subset of banks required to comply. (See the online appendix for a list of sample banks.) The provisions in Dodd-Frank are based on specific asset thresholds. The asset thresholds are designed to target the largest banks, whose risks are more likely to influence the safety and soundness of the banking industry, and to exempt the smaller banks, who bear high compliance costs.

To identify banks with regulatory consultants, we hand-collect this data from bank proxy statements. The Securities and Exchange Act of 1934, Section 14A Information Required in Proxy Statement, Item 9, details the required disclosures for fees paid to audit firms. Item 9, e(1) to e(4),

requires four captions in proxy statements: audit fees, audit-related fees, tax fees, and all other fees. We read each of the proxy statements and identify banks with auditor-provided regulatory consulting if the banks explicitly state that their external audit firms provided regulatory consulting or if the banks list individual services associated with Dodd-Frank, such as "model building support for DFAST," "information system support for DFAST compliance," "stress test model support," "assessment of regulatory model results," "annual resolution plan," "CCAR," "data validation for Dodd-Frank compliance," and "model validation for Dodd-Frank." As shown in Appendix 2, banks using their external audit firms for regulatory consulting list the other fees paid to their audit firms and, in some cases, describe the work performed. For example, in 2015, Huntington Bancshares Incorporated employed its external audit firm, Pricewaterhouse Coopers, to perform over $1.2 million in regulatory consulting for creating the annual resolution plan, assessing various regulatory models, and developing information technology and operational benchmarking. We define *REGCONSULTING* as an indicator variable equal to one if banks disclose fees paid to their external audit firms for regulatory consulting and zero otherwise.[14]

We argue this sample provides a powerful setting to examine the relation between regulatory consulting services and financial reporting quality. However, data availability does present limitations in identifying *how* banks comply with Dodd-Frank (i.e., employing external audit firms, employing alternate third-party providers, using internal resources). We can only observe regulatory consulting fees paid to banks' external audit firms. We cannot observe purchases of regulatory consulting from public accounting firms that are not the external auditors or from other types of consulting firms because banks are not required to disclose such

[14] Because we rely on management-produced proxy statements, some control banks may be misclassified if these banks fail to follow SEC regulations for proxy statement disclosures (e.g., bundling regulatory consulting services in audit fees). However, we do not believe managers uniformly have incentives to bundle regulatory consulting with audit fees in proxy statements because regulation precludes them from doing so.

arrangements. In addition, we cannot determine the amount of regulatory consulting fees because the services are generally included under the "all other fees" category in proxy statements and are bundled with other services provided by external auditors (e.g., access to technical accounting research software). We acknowledge that our ability to draw inferences for the broader universe of consulting firms providing regulatory compliance services is limited.

3.2 Empirical model

Because we focus on a single industry, we study the specific account most likely to provide an opportunity for accounting discretion, the loan loss provision. The loan loss provision is typically a bank's largest operating accrual and has been the subject of significant accounting research related to capital and earnings management. Prior research finds loan loss provisions and loan charge-offs are used to smooth and manipulate earnings and enhance regulatory capital (Beatty et al. 1995; Collins et al. 1995; Kim and Kross 1998; Ahmed et al. 1999; Liu and Ryan 2006). Consistent with the literature, we expect greater provision validity to be a signal of higher financial reporting quality (Altamuro and Beatty 2010). The validity of the provision is consistent with the role and objective of auditors to opine on bank financial reporting relative to GAAP.

To test our hypothesis, we examine provision validity by determining how well the loan loss provision maps into subsequent charge-offs. According to Staff Accounting Bulletin (SAB) 102, which is the SEC guidance for estimating loan losses, a bank's loan loss allowance method is considered valid when it "include(s) procedures that adjust loan loss estimation methods to reduce differences between estimated losses and actual subsequent charge-offs." We estimate the following model with standard errors clustered by bank:

$$CHGO_{t+1} = \beta_0 + \beta_1 LLP_t + \beta_2 REGCONSULTING_t + \beta_3 LLP_t * REGCONSULTING_t + \beta_4 \Delta NPL + \beta_5 SIZE_t + \beta_6 LLP_t * SIZE_t + \beta_7 TIER1_t + \beta_8 RESIDENTIAL\ LOANS_t + \beta_9 CONSUMER\ LOANS_t + \beta_{10} CRE\ LOANS_t + \beta_{11} BANK\ SPECIALIST_t + \quad (1)$$

$$\beta_{12}ADVISORY\ SPECIALIST_t + \beta_{13}INDEPDIR_t + \beta_{14}ANALYST\ FOLLOWING_t + \beta_{15}RISKCOMM_t + \beta_{16}CRO_t + \beta_{17}AUDITOR\ RESPONSIVENESS_t + Year\ FE + \varepsilon_t.$$

The dependent variable is loan charge-offs (*CHGO*) in year *t*+1, scaled by beginning total assets. We measure the loan loss provision (*LLP*) in year *t*, scaled by beginning total assets. The variable representing auditor-provided regulatory consulting services is *REGCONSULTING*. The primary variable of interest is the interaction, *LLP * REGCONSULTING*.

We control for several bank characteristics shown in the literature to affect loan charge-offs. We follow Altamuro and Beatty (2010) by including bank asset size (*SIZE*) and the interactive effect of the loan loss provision on bank size (*LLP * SIZE*). We also control for the change in nonperforming loans (*ΔNPL*) to capture changes in loan portfolio quality. To proxy for loan portfolio risk, we use the Tier 1 capital ratio (*TIER1*). Further, we control for loan composition related to residential real estate loans (*RESIDENTIAL LOANS*), consumer loans (*CONSUMER LOANS*), and commercial and real estate loans (*CRE LOANS*).

We augment the models from the literature with significant determinants of auditor-provided regulatory consulting (see the online appendix). We include indicator variables for industry (*BANK SPECIALIST*) and advisory specialists (*ADVISORY SPECIALIST*). Following Stuber and Hogan (2021) and DeFond and Lennox (2017), we control for auditor responsiveness to regulatory scrutiny (*AUDITOR RESPONSIVENESS*) as a proxy for auditor competency. We also control for corporate governance quality using the number of independent directors on the board (*INDEPDIR*), the existence of a risk committee (*RISKCOMM*), and the presence of a chief risk officer on the top management team (*CRO*). To control for banks' information environments, we include analyst following (*ANALYST FOLLOWING*). Variables are defined in Appendix 3.

3.3 Endogeneity

Although Dodd-Frank increases regulation of banks, banks may choose *how* to comply

(i.e., employing external audit firms, employing alternate third-party providers, using internal resources). Banks' decision to use their external audit firms to assist with regulatory compliance may be associated with external audit firms' characteristics (e.g., high quality auditors). Because banks do not randomly select regulatory compliance strategies, selection bias plays an important role in our setting.

To mitigate concerns related to selection bias, we estimate our analyses in entropy-balanced samples. Unlike other commonly used matching procedures, entropy balancing reweights observations in the control sample (i.e., banks without auditor-provided regulatory consulting), such that the underlying variable distributions of the control sample become similar to the treatment sample (i.e., banks with auditor-provided regulatory consulting) (Hainmueller 2011). This reweighting reduces the impact of observable characteristics on the treatment variable and reduces concerns that treatment outcomes are a function of observable characteristics rather than the treatment variable (Hainmueller and Xu 2013).

To execute entropy balancing, we identify observable differences between treatment and control observations by constructing a model for the choice to hire the external audit firm for regulatory consulting.[15] Our choice model covariates include the significant variables from the determinants model along with bank size.[16] The area under the receiver operator characteristic (ROC) curve for the choice model is 0.819, suggesting the model has acceptable discrimination between a bank with and a bank without auditor-provided regulatory consulting (Hosmer and Lemeshow 2013). The online appendix provides both the choice model and the descriptive statistics for the sample before (after) entropy balancing.

[15] We recognize entropy balancing has limitations because it matches on observable characteristics. We use alternative approaches to mitigate endogeneity concerns in Section 5.

[16] To ensure the robustness of our results, we re-examine the entropy balancing procedure using all variables from Equation (1) and find consistent results (untabulated).

4 Results

4.1 Descriptive statistics

The main provision driving the increase in demand for regulatory consulting is stress test modeling, which is required for banks with assets greater than $10 billion. Therefore, our sample includes banks with assets greater than $10 billion as of December 2011. For our primary analyses, we use financial statement data from Bank Compustat, loan portfolio data from bank holding companies' (BHC) Y9-C reports, audit fee data and related items from Audit Analytics, analyst information from I/B/E/S, and governance data from BoardEx. The sample focuses on bank holding companies with available data between 2011 and 2018. Our sample ends in 2018 because the Economic Growth, Regulatory Relief, and Consumer Protection Act modified several Dodd-Frank regulations.[17] The final sample contains 530 bank-years for 90 banks.

Table 1 Panel A reports the distribution of observations by year for our variable of interest, *REGCONSULTING*. The sample is fairly evenly distributed across banks choosing and not choosing their external audit firms for regulatory consulting services. Approximately 52.1 percent of observations have auditor-provided regulatory consulting.

Table 1 Panel B provides the sample distribution across external audit firms. Of the 276 observations with auditor-provided regulatory consulting services, 242 (87.7 percent) are audited by Big Four firms. The Big Four firms vary in the extent to which they provide regulatory consulting for external audit clients, with 2.8 percent for Deloitte and 19.8 percent for EY.

Table 2 Panel A provides descriptive statistics for the full sample. The sample has a mean of 0.002 for loan charge-offs (*CHGO*), which is largely in line with expectations based on the

[17] The Economic Growth, Regulatory Relief, and Consumer Protection Act has raised the threshold for company-run stress tests from $10 billion to $250 billion in assets and required supervisory stress tests for banks with assets between $100 billion and $250 billion. Bouwman and Johnson (2018) find banks near and below regulatory thresholds alter their lending (e.g., slowing growth) to avoid crossing these thresholds.

literature. The sample has significant variation in the change in nonperforming loans (*ΔNPL*) with a range of -0.241 (lower quartile) to 0.010 (upper quartile). The sample banks have assets with a mean of $149 billion and a median of $23 billion (untabulated). The sample of banks is well capitalized, with an average Tier 1 capital ratio (*TIER1*) of 12.5 percent.

Table 2 Panel B provides descriptive statistics, bifurcated based on auditor-provided regulatory consulting. We present normalized differences because they are insensitive to sample size, unlike standard *t*-tests (Imbens and Wooldridge 2009). A few covariates have a normalized difference greater than 0.25, which provides further support for the use of entropy balancing to adjust for covariate differences. Overall, the descriptive statistics indicate that, compared to banks without auditor-provided regulatory consulting, banks with auditor-provided regulatory consulting are generally larger, have greater analyst coverage, and better governance (i.e., more independent directors). Banks using the same audit firms for regulatory consulting services and financial statement audits are slightly less well capitalized but have less growth in nonperforming loans. These comparisons should be interpreted with caution, as they do not control for differences in bank characteristics.

4.2 Regulatory consulting and the validity of the loan loss provision

We examine whether banks with auditor-provided regulatory consulting are associated with loan loss provision validity, our measure of financial reporting quality. In Table 3, we present the results of estimating Equation (1) when the dependent variable is subsequent loan charge-offs (*CHGO*). The primary coefficient of interest is the loan loss provision for banks engaging their external audit firms as their regulatory advisors (*LLP * REGCONSULTING*). Column (1) presents the results for the unbalanced sample with control variables that follow prior literature. The coefficient on the main effect of *LLP* is positive and significant, suggesting an association between

the loan loss provision and future charge-offs. The coefficient on our main variable of interest, *LLP * REGCONSULTING*, is also positive and significant (*t*-statistic of 2.26). Column (2) presents the results for the entropy-balanced sample. The coefficient on *LLP * REGCONSULTING* continues to be positive and significant (*t*-statistic of 2.43). Column (3) presents the results for the entropy-balanced sample after controlling for the significant variables from our determinants analysis (see the online appendix). We continue to see a positive association between banks' accruals and operating activity, indicating higher financial reporting quality for banks with auditor-provided regulatory consulting (*t*-statistic of 2.16).[18]

We recognize selection bias plays a role in our setting. Because we cannot rule out endogeneity, our strategy is to mitigate concerns related to selection bias. In addition to entropy balancing, we use other techniques as discussed in Section 5. The consistent evidence across the different empirical techniques alleviates but does not rule out selection bias concerns.

5 Additional analysis

5.1 Knowledge spillover mechanism: Quarterly reporting

The results of the primary analysis indicate a positive association between financial reporting quality (i.e., loan loss provision validity) and a bank's use of regulatory consulting. Next, we provide additional evidence that knowledge spillover enhances the auditor's understanding of banks' risk management, capital sensitivity, loan portfolio quality, and financial position compared to an audit firm performing only the financial statement audit. Because regulatory consulting is directly linked to significant accounts in the financial statements, provision of these services provides a better basis for judgment in auditing subjective accounts.

We examine whether the association between regulatory consulting and loan loss provision

[18] Our results are robust to interacting bank variables with *LLP*, as shown in Section 5 of the online appendix.

validity differs across quarters. We rely on the distinction of auditor effort required for interim (review only) versus fourth quarter (audited) reporting. If the financial audit team is gaining a greater understanding of the loan portfolio from the regulatory consultants, we expect a stronger association between regulatory consulting and loan loss provision validity in the fourth quarter when the external audit requires greater effort.

Using quarterly observations, we estimate Equation (1) across two subsamples of interim and fourth quarter observations. Table 4 presents the results. For the unbalanced sample, Columns (1) and (2) report the baseline model. Columns (3) and (4) report the results for the entropy-balanced sample. Columns (5) and (6) report the results with the entropy-balanced sample and the full set of control variables. Consistent with our prediction, the coefficient on *LLP * REGCONSULTING* is positive and statistically significant for the fourth quarter but statistically insignificant for the interim quarters. Additionally, a test for coefficient differences across the subsamples indicates the coefficient on *LLP * REGCONSULTING* is statistically larger for the fourth quarter subsample in all cases. Collectively, these results suggest knowledge from the regulatory consulting team appears to spill over to the financial audit team.

We recognize that financial statements are a joint product between management and the external auditors and cross-sectional results cannot delineate the recipient of the regulatory knowledge. Thus, our results may also be evidence of bank management providing greater effort in the fourth quarter. Our inability to distinguish between auditor and managerial effort is a limitation of this analysis.

5.2 Knowledge spillover mechanism: Regulatory report restatements

Although using loan loss provision validity as a proxy for financial reporting quality has significant appeal, we examine a second proxy using a unique regulatory reporting requirement in

the banking industry. Publicly traded banks must follow SEC financial statement reporting requirements. In addition, bank holding companies must file regulatory reports (i.e., Y-9Cs) with the Federal Reserve. Regulators use the reports when evaluating the risk profile and capital adequacy of banks. Accurate and timely regulatory reporting shapes regulatory oversight and supervision.

We exploit the timing difference between the filings of financial statements and regulatory reports. Banks are required to file regulatory reports within 45 days of fiscal year-end. However, annual financial statements are not filed with the SEC until 60 to 90 days after fiscal year-end, depending on the banks' accelerated filer status.[19] This timing difference between regulatory and SEC filing requirements can cause restatements of *regulatory* reports because of audit adjustments identified during financial statement audits. If audit firms that conduct regulatory consulting and financial audits have greater knowledge of the loan portfolios, they should make better audit judgments about loan loss provisioning. We interpret a greater likelihood of income-reducing regulatory report restatements as enhancing the accuracy and reliability of regulatory reports, consistent with auditors helping to constrain earnings management (e.g., Kanagaretnam et al. 2010b; Gunther and Moore 2003).

To test our conjecture, we separate regulatory report restatements into negative and positive restatements. Negative (positive) regulatory report restatements involve income-decreasing (income-increasing) restatements originating from the correction of accounting errors, or changes in accounting principles, or both, resulting in reductions (increases) in the level of capital and retained earnings. We estimate the following model:

[19] For example, assume a bank has a fiscal year-end of December 31, 2022. The Federal Reserve requires this bank to file its Y9-C with the regulator by February 14, 2023 (Federal Reserve Board 2023). The bank's annual financial statements must be filed with the SEC by either (1) March 1, 2023, if the bank is a large accelerated filer; (2) by March 16, 2023, if the bank is an accelerated filer; or (3) by March 31, 2023, if the bank is a non-accelerated filer.

$$Y9C\ REPORT\ RESTATE_{t+1} = \beta_0 + \beta_1 REGCONSULTING_t + \beta_2 SIZE_t + \beta_3 \Delta NPL + \beta_4 TIER1_t + \beta_5 RESIDENTIAL\ LOANS_t + \beta_6 CONSUMER\ LOANS_t + \beta_7 CRE\ LOANS_t + \beta_8 DEPOSITS_t + \beta_9 OTHER\ RE_t + \beta_{10} UNUSED\ COMMITMENT\ RATIO_t + \beta_{11} BANK\ SPECIALIST_t + \beta_{12} ADVISORY\ SPECIALIST_t + \beta_{13} INDEPDIR_t + \beta_{14} ANALYST\ FOLLOWING_t + \beta_{15} RISKCOMM_t + \beta_{16} CRO_t + \beta_{17} AUDITOR\ RESPONSIVENESS_t + Year\ FE + \varepsilon_t. \quad (2)$$

The dependent variable, *Y9C REPORT RESTATE*, is one of the following outcome variables: *NEGATIVE Y9C REPORT RESTATEMENT* or *POSITIVE Y9C REPORT RESTATEMENT*. *NEGATIVE (POSITIVE) Y9C REPORT RESTATEMENT* is an indicator variable equal to one if the bank has an income-decreasing (income-increasing) restatement in its year-end regulatory report (which is filed before the 10-K filing date) and zero otherwise. Our primary variable of interest continues to be *REGCONSULTING.*

Following prior literature, we control for bank size using total assets (*SIZE*). We control for loan portfolio risk using the Tier 1 capital ratio (*TIER1*) and loan portfolio quality using the change in nonperforming loans (Δ*NPL*). We also include control variables related to loan portfolio composition, including the portions of residential loans (*RESIDENTIAL LOANS*), consumer loans (*CONSUMER LOANS*), and commercial and real estate loans (*CRE LOANS*). In addition, following Costello et al. (2019), we include control variables for total deposits (*DEPOSITS*), other real estate owned (*OTHER RE*), and the liquidity ratio (*UNUSED COMMITMENT RATIO*).[20] Finally, as in previous tests, we control for significant determinants of auditor-provided regulatory consulting.

Table 5 presents the results. To mitigate selection bias concerns, we estimate Equation (2) using an entropy-balanced sample. Columns (1) and (2) report the results for the balanced sample,

[20] Costello et. al. (2019) include in their model an indicator variable for whether a bank's Tier 1 capital ratio exceeds the regulatory requirement (i.e., *WELLCAP*). Because all banks in our sample have Tier 1 capital ratios above the well-capitalized threshold, we use a continuous measure of the Tier 1 capital ratio as a proxy for loan portfolio risk.

where the dependent variable is *NEGATIVE Y9C REPORT RESTATEMENT* and *POSITIVE Y9C REPORT RESTATEMENT*, respectively. In Column (1), the coefficient on *REGCONSULTING* is positive and significant. In Column (2), the coefficient on *REGCONSULTING* is insignificant. The results show banks with auditor-provided regulatory consulting services are associated with a greater incidence of income-decreasing restatements. Columns (3) and (4) report the results for the entropy-balanced sample. Columns (5) and (6) report the results with the entropy-balanced sample and the full set of control variables. The coefficient on *REGCONSULTING* is significantly positive (insignificant) when *NEGATIVE (POSITIVE) Y9C REPORT RESTATEMENT* is the dependent variable. This evidence is consistent with knowledge from the regulatory consulting team spilling over to the financial audit team. Because the audit is ongoing during the filing of the first quarter regulatory reports, audit judgments for audit firms providing both consulting and audit services appear to improve the financial statements and result in more frequent income-reducing regulatory report restatements.

5.3 Validation tests

In this section, we provide supporting evidence that the association between financial reporting quality and regulatory consulting services is more likely related to the audit team (rather than management) by showing the association's magnitude strengthens when the expected benefits of regulatory consulting are greater. Specifically, we conduct cross-sectional tests by partitioning the sample on (1) auditor tenure, (2) bank governance, and (3) bank regulatory strictness.

First, we examine whether the magnitude of the relation between financial reporting quality and regulatory consulting services is greater for shorter client-auditor relationships. Client-specific knowledge is critical for an audit, particularly in the complex industry of banking (Bratten et al. 2019). During the early years of an audit engagement, the auditor lacks experience with the client,

making the audit more difficult to conduct (Johnson et al. 2002; Bell et al. 2015). When the auditor lacks client-specific knowledge, the financial audit team can learn the most from the experience and knowledge acquired by regulatory consultants. In contrast, as the length of the client-auditor relationship increases, there is less opportunity for knowledge from regulatory consulting to incrementally benefit the financial audit and therefore bank outcomes. Thus, we expect the positive relation between financial reporting quality and regulatory consulting services to strengthen earlier in the auditor's tenure.

We partition the sample on client-auditor relationship tenure, measured as the number of years the audit firm has performed the financial statement audit (*TENURE*).[21] When the length of the client-auditor relationship is less than or equal to (greater than) 10 years, tenure is considered short (long) (Singer and Zhang 2018). Table 6 Panel A presents the results. Columns (1) and (2) present the results for the unbalanced sample. Columns (3) and (4) report the results for the entropy-balanced sample. Columns (5) and (6) report the results with the entropy-balanced sample and the full set of control variables. Consistent with our prediction, the coefficient on *LLP * REGCONSULTING* is positive and statistically significant for the short auditor tenure subsample. For the long tenure subsample, the coefficient on *LLP * REGCONSULTING* is also positive but statistically insignificant. A test for coefficient differences across both subsamples indicates the coefficient on *LLP * REGCONSULTING* is statistically larger for the short tenure subsample across model specifications. Consistent with our expectation, the benefit of regulatory consulting services is greater when the client-auditor relationship is newer.

Next, we consider the role of bank governance. The board of directors and its committees are responsible for monitoring management. The audit committee performs a key role because it

[21] We rely on Audit Analytics to measure tenure and use 2004 as the initial year of the auditor-client relationship.

must approve advisory services performed by the external audit firm and oversee the financial reporting process.[22] Within banking, Cornett et al. (2009) show that effective corporate governance constrains earnings management. Vyas (2011) finds corporate governance is positively related to loan write-down timeliness. When a bank has weak governance, the auditor's role as an external monitor becomes more significant and influential. The auditor likely has a greater effect on earnings quality via the loan loss provision when audit committee oversight is lacking. Therefore, we expect the relation between regulatory consulting and financial reporting quality to strengthen when a bank has weak governance.

To evaluate the role of governance, we partition the sample based on the number of audit committee experts (*AUDIT COMMITTEE EXPERTISE*). Audit committee experts are defined as audit committee members with at least one of these qualifications: CPA, certified accountant, certified fraud examiner, certified internal auditor, certified management accountant, certified public accountant, certified in financial forensics, chartered accountant, or chartered global management accountant. Observations above (below) the median (i.e., two experts) are defined as high (low) expertise. Panel B presents the results. Columns (1) and (2) present the results for the unbalanced sample. Columns (3) and (4) report the results for the entropy-balanced sample. Columns (5) and (6) report the results with the entropy-balanced sample and the full set of control variables. Consistent with our prediction, the coefficient on *LLP * REGCONSULTING* is positive and statistically significant for the low audit committee expertise subsample but negative or insignificant for the high audit committee expertise subsample. A test for coefficient differences

[22] Bank audit committee responsibilities include (1) reviewing accounting estimates, financial reporting judgments, and financial statement disclosures; (2) monitoring and disciplining management accountable for addressing identified deficiencies (e.g., violations of laws or regulations); (3) overseeing internal control systems and the internal and external audit functions; and (4) meeting with bank examiners at least once during each supervisory cycle (Office of the Comptroller of the Currency 2016; Federal Reserve Board 2017).

across the high and low expertise subsamples indicates the coefficient on *LLP * REGCONSULTING* is statistically larger for the low expertise subsample across model specifications. These results support our expectation that regulatory consulting services affect financial reporting quality to a greater extent in a bank with weak governance.

Our third validation test examines the role of bank regulators. Prior literature has shown that banks with stricter regulators are associated with a higher portion of nonperforming loans, higher regulatory capital, and a higher likelihood of negative call report restatements (Agarwal et al. 2014; Costello et al 2019). More closely related to this analysis, Nicoletti (2018) finds auditors are positively associated with loan loss provision timeliness (i.e., higher financial reporting quality) when bank regulators are more lenient. Therefore, we expect the relation between auditor-provided regulatory consulting and financial reporting quality to strengthen in a more lenient bank regulatory environment because external auditors have more influence over financial reporting.

We partition the sample based on regulatory strictness. Because our sample banks are regulated by the same federal regulator, we rely on the location of bank branches for regulatory variation. Specifically, we compute the average of the Agarwal et al. (2014) leniency index for all branches based on their state locations, creating a time-variant measure due to acquisitions and closures (*REGULATORY LENIENCY*). Observations below (above) the median are defined as strict (lenient) state regulators. Panel C presents the results. For the lenient regulator subsample, the coefficient on *LLP * REGCONSULTING* is positive and statistically significant across model specifications. For the strict regulator subsample, the coefficient on *LLP * REGCONSULTING* is negative and insignificant. A test for coefficient differences across the strict and lenient subsamples indicates the coefficient on *LLP * REGCONSULTING* is statistically larger for the lenient regulator subsample. Consistent with our expectation, the effect of regulatory consulting

services strengthens when banks have more lenient regulators.

5.4 Alternative explanation: Auditor competency

Auditors, like their banking clients, face regulatory scrutiny. In our sample, the PCAOB is the primary regulator of external audit firms. Inspecting audit firm engagements is one method the PCAOB uses to oversee audit firms. The literature finds audit firms react to PCAOB inspection deficiencies by increasing the assurance of adverse internal control opinions (DeFond and Lennox 2017), improving audit quality on individual audit engagements (Aobdia 2018), and enhancing their internal quality control processes (Aobdia 2020). It is possible that audit firms most responsive to PCAOB inspection deficiencies are also the audit firms most effective at assisting banks with Dodd-Frank compliance.

We use PCAOB inspection issue responsiveness as an indicator of auditor competency. Following Stuber and Hogan (2021), we count the number of issuers with allowance for loan loss-related deficiencies in PCAOB inspection reports, scaling this value by the total number of issuers with inspection findings (*AUDITOR RESPONSIVENESS*). To ensure the robustness of our results, we also follow DeFond and Lennox (2017), aggregating the number of issuers with allowance for loan loss-related deficiencies in PCAOB inspection reports and scaling by the total number of issuers inspected. We define observations above the median as high responsiveness (*HIGH RESP*) and observations below the median as low responsiveness (*LOW RESP*).

Table 7 presents the results. Columns (1) and (2) present the results following the methodology of Stuber and Hogan (2020); Columns (3) and (4) report the results following DeFond and Lennox (2017). The coefficient on *LLP * REGCONSULTING* is positive and statistically significant for the high responsiveness subsample. For the low responsiveness subsample, the coefficient on *LLP * REGCONSULTING* is positive but insignificant. A test for

coefficient differences across the high and low responsiveness subsamples indicates the coefficient on *LLP * REGCONSULTING* is statistically larger for the high responsiveness subsample. These results are consistent with the effect of regulatory consulting being more pronounced for audit firms that have been the most responsive to PCAOB inspection scrutiny.

5.5 Alternative explanation: Auditor effort

While Dodd-Frank increases the demand for regulatory consulting from a bank management perspective, Dodd-Frank may also increase regulatory pressure and scrutiny from an external audit perspective. Prior work documents the differing incentives of the regulator (i.e., focus on safety and soundness) and the auditor (i.e., focus on material misstatements) in evaluating loan loss provision timeliness (Nicoletti 2018; Balla et al. 2012). If the auditor perceives an increase in regulatory scrutiny, the auditor may exert more effort during the external audit, which may improve financial reporting quality. We conduct additional analyses to address the alternative explanation that greater auditor effort is driving our results.

First, if auditor effort is driving our results, then audit fees for all banks should increase. We remove observations with the highest audit fees as a percentage of total assets and re-estimate our main analysis. Table 8 Panel A presents the results after dropping observations with audit fees greater than one standard deviation from the mean. Using the baseline model, Columns (1) and (2) present the results for the unbalanced and balanced samples, respectively. Column (3) presents the results for the entropy-balanced sample with the full set of control variables. Across specifications, we see a positive and significant coefficient on *LLP * REGCONSULTING.*

Next, banks using their external audit firms for regulatory consulting may also have the greatest increase in auditor effort, confounding our inferences for auditor-provided regulatory consulting. To explore this possibility, we first analyze whether banks with auditor-provided

regulatory consulting have greater audit fees. For these banks (i.e., *REGCONSULTING* = 1), the average audit fee scaled by total assets is 0.075. For other banks (i.e., *REGCONSULTING* = 0), the average audit fee scaled by total assets is 0.088. While there is a statistical difference between the two groups based on a two-sample *t*-test (*p*-value = 0.002), the averages show banks with regulatory consulting services have *lower* audit fees as a percentage of assets, suggesting less effort is expended by these financial audit teams.[23]

While the univariate comparison suggests auditor effort does not drive our results, audit fees may impact financial reporting quality discontinuously. To address this possibility, we use decile bins of audit fees as fixed effects in Equation (1) to isolate the effect of regulatory consulting services *within* audit fee bins. Table 8 Panel B presents the results. Column (1) presents the results for the unbalanced sample using the baseline model, Column (2) presents the results for the balanced sample with the baseline model, and Column (3) presents the results for the entropy-balanced sample with the full set of control variables. Across all three specifications, we continue to see a positive and significant coefficient on *LLP * REGCONSULTING.* Overall, these results suggest any additional auditor effort is not driving the results of improved financial reporting quality.

5.6 Alternative explanation: Managerial risk-taking

Another alternative explanation is banks are changing their risk-taking while simultaneously engaging in regulatory consulting services. If banks are taking less risk after Dodd-Frank, it may be easier for managers to predict loan losses, which could explain our results. We evaluate several risk-taking variables from the literature, including bank fee mix (*FEEMIX*),

[23] We also test for differences in audit fees without scaling by assets. For banks with auditor-provided regulatory consulting services (i.e., *REGCONSULTING* = 1), the average audit fee is $5.3 million. For banks without auditor-provided regulatory consulting services (i.e., *REGCONSULTING* = 0), the average audit fee is $4.1 million. There is no statistical difference between the two groups based on a two-sample *t*-test (*p*-value = 0.221).

revenue mix (*REVMIX*), the Tier 1 capital ratio (*TIER1*), the level of risk-weighted assets (*RWA*), the change in the allowance (*ΔRWA*), and financial health (*Z-SCORE*) (e.g., Ballew et al. 2022). Table 9 presents the results. We do not find that banks with auditor-provided regulatory consulting, relative to other banks, are taking less risk. We do not consider absence of statistical evidence to be conclusive and recognize that changes in managerial risk-taking may still be occurring.[24]

5.7 Difference-in-differences design

In the primary analysis, we control for a host of factors that may influence financial reporting quality, including the bank's information environment, corporate governance, and audit firm characteristics. To address concerns about correlated omitted variables and selection bias, we examine our research question using a difference-in-differences design centered on the pre- and post-Dodd-Frank periods. This design helps mitigate concerns that macroeconomic factors and time trends may affect financial reporting quality and our results.

To conduct this analysis, we use bank-year observations from 2004 to 2018. We exclude 2008 and 2009 because of the financial crisis and the volatile economic conditions experienced by banks. We further exclude 2010 because of the passage of Dodd-Frank. Thus, our analysis compares banks with regulatory consulting and those without regulatory consulting for the period before (2004–2007) and after (2011–2018) Dodd-Frank. We perform our analysis using both the unbalanced and entropy-balanced samples and present the results in Table 10.[25] Our primary variable of interest is *LLP * REGCONSULTING * POST*. We find evidence that banks with

[24] Comparing banks subject to Dodd-Frank stress test disclosures with banks not subject to such disclosures, Schmidt (2019) documents an increase in risk-taking for Dodd-Frank banks through additions of risk-weighted assets. Degl'Innocenti et al. (2024) find that complex banks subject to Dodd-Frank increase their credit risk.

[25] We are unable to include the *AUDITOR RESPONSIVENESS* variable in our entropy balancing procedure and regressions for this analysis as the data are not available in the pre-period.

auditor-provided regulatory consulting have improved financial reporting quality after Dodd Frank, consistent with the inferences from our primary analysis.[26]

5.8 Alternative approaches to address self-selection

Because banks select *how* they comply with Dodd-Frank (i.e., employing external audit firms, employing alternate third-party providers, using internal resources), we use entropy balancing in our main analyses. While entropy balancing has advantages, we recognize it does not rule out selection bias, which is a multi-stage issue in our setting.[27] The bank selects an external audit firm and chooses whether to obtain regulatory consulting from that firm. To examine the factors affecting both choices, we use a bivariate probit model and find results consistent with our primary analysis (see the online appendix). As an alternative approach, we assess how large omitted variable bias would need to be to invalidate our primary inference (i.e., robustness of inference to replacement) (Frank et al. 2021; Xu and Frank 2021).[28] Following Xu et al. (2019), we calculate that an omitted variable would need to change the treatment effect to a null effect in 154 of the currently significant cases to overturn the OLS results. While we cannot rule out omitted variable bias, we conclude it is unlikely this concern can overturn our main finding.

6 Sensitivity tests

As discussed in Section 6 of the online appendix, we conduct several robustness tests,

[26] In an untabulated analysis, we examine whether DFAST outcomes differ across banks with and without auditor-provided regulatory consulting. This analysis is limited to 90 bank observations with DFAST test results, of which 39 (51) have (do not have) auditor-provided regulatory consulting. Comparing these subsamples, we find banks with consulting have greater average differences between actual and predicted Tier 1 capital levels under the severely adverse scenario based on a two-sample *t*-test (*p*-value of 0.03). This suggests these banks benefit by having greater capital to weather negative economic events.

[27] In an untabulated analysis, we also use a propensity-score-matched sample to address selection bias. We match each observation with auditor-provided regulatory consulting, one-to-one, to an observation without auditor-provided regulatory consulting based on the closest propensity score without replacement. Results from the matched sample are similar to the main results in Table 3, and our inferences are unchanged.

[28] Because our primary variable of interest is an interaction term, we do not use the impact threshold for a confounding variable (ITCV) that has been used to address concerns about omitted variables in prior accounting research (e.g., Larcker and Rusticus 2010), as ITCV may be invalid for interaction terms (Busenbark et al. 2022).

including examining our primary results by year and by audit firm, measuring loan portfolio quality using the level of nonperforming loans, dropping systemically important financial institutions, and remeasuring our long and short tenure windows in our cross-sectional analysis.

7 Conclusion

This study expands the understanding of auditor-provided advisory services and financial reporting quality by using proxy statement disclosures of fees paid to auditors for audit and regulatory consulting immediately after the enactment of Dodd-Frank. Our results indicate banks with auditor-provided regulatory consulting are associated with higher financial reporting quality (i.e., loan loss provision validity). In cross-sectional analyses, we find this result concentrated in the fourth versus interim quarters, suggesting knowledge obtained by regulatory consultants spills over to financial statement auditors. We corroborate our primary inference by showing the results are strongest where the expected benefits of regulatory consulting are greater: early in the client-auditor relationship, when banks have weaker governance, and when bank regulators are more lenient. Because selection bias plays an important role in our setting, we attempt to mitigate these concerns but recognize that none of our analyses rule out endogeneity. Thus, readers should interpret our inferences with caution.

Given the lack of consensus in the literature about whether auditor-provided advisory services are associated with financial reporting quality, our findings should be of particular interest to academics. Additionally, given recent PCAOB concerns about auditor independence violations, these findings suggest restricting the types of auditor-provided advisory services may result in lower financial reporting quality, and these findings should interest regulators as they continue to monitor the impact of regulation in the banking industry. Banks are undergoing the most significant financial reporting change in decades with the FASB's new standard related to

measuring credit impairment based on current expected credit loss (CECL). Many Dodd-Frank regulatory requirements are inputs to the CECL models. In the (near) future, regulators may need to decide whether the benefits of improved financial reporting quality, as documented in this study, exceed the costs of the perceived lack of independence between auditors and their banking clients.

Appendix 1
Hypothetical supervisory stress test[29]

This appendix elaborates on the background in Section 2 concerning stress tests and describes a *hypothetical* process of a supervisory stress test conducted by a bank subject to Dodd-Frank.[30] Under Dodd-Frank, a bank is required to implement stress tests across each of its legal entities, across three economic scenarios (i.e., baseline, adverse, severely adverse) and over a nine-quarter horizon. Stress tests are meant to provide forward-looking information to evaluate the effect of various adverse economic conditions on the bank's ability to absorb losses.

Inputs to and outputs of a stress test model vary significantly by bank based on the bank's unique business model, geographic concentration, risk appetite, investment portfolio, and loan composition. Specific to the loan portfolio, forecasting losses typically occurs by segment with loans grouped based on risk characteristics (e.g., exposure size, borrower quality rating, borrower industry). To estimate loan losses, a bank may use models based on the probability of default, the magnitude of loss conditional upon default, the exposure at default, or a combination.

The process of stress test modeling is challenging for several reasons. One challenge is data inputs to the models originate from multiple areas within the bank. Another challenge is model outcomes cannot be based on one economic condition and must be jointly estimated. This process is iterative and often involves refining assumptions to ensure the robustness of results.

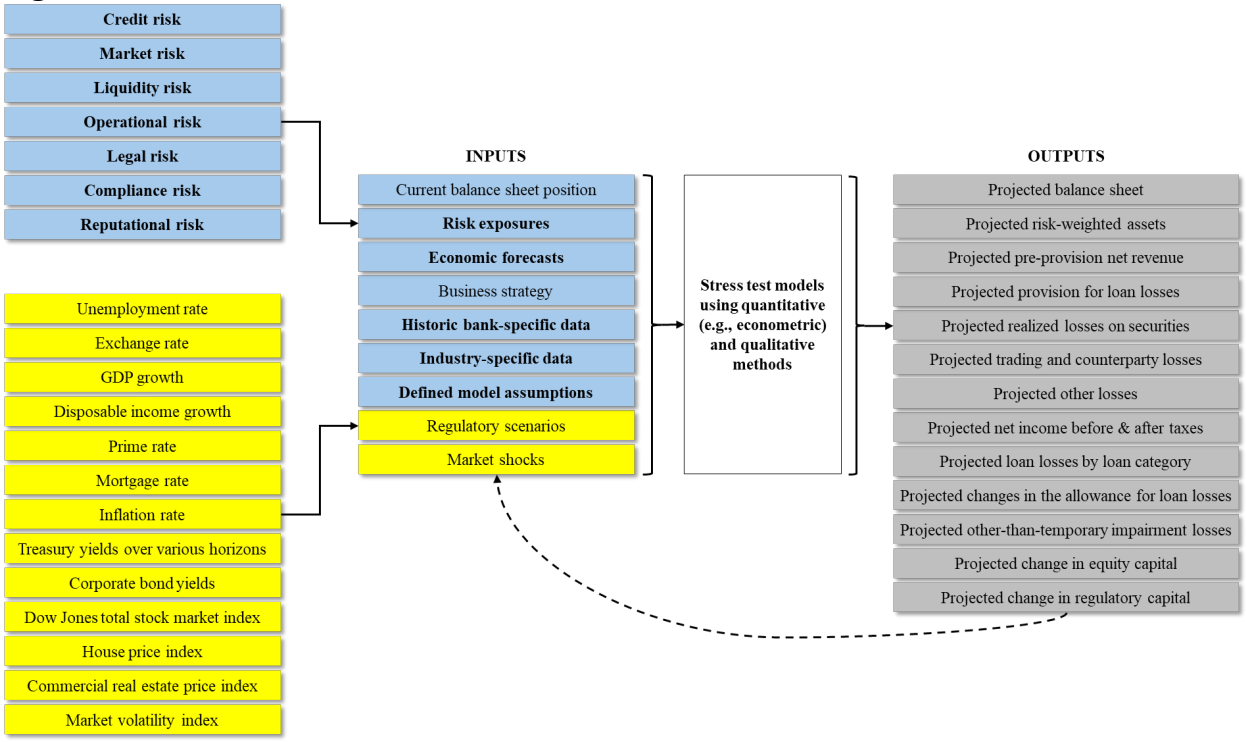
A bank passes a stress test when the projected regulatory capital levels exceed the minimum capital requirements during the hypothetical regulatory scenarios and regulator-defined market shocks. If projected outputs from the stress test model do not align with the bank's desired risk profile, management and the board of directors can implement corrective actions.

Figure 1 depicts the process of stress modeling at a high level. Data inputs from management with approval from the board of directors are denoted in blue. Examples of specific conditions historically provided to the bank by the Federal Reserve and the Office of the Comptroller of the Currency are denoted in yellow. These scenarios feature data on domestic, European, and Asian markets. In addition, the Federal Reserve provides market shocks for the bank (e.g., counterparty default, large and unexpected changes in market liquidity). Data outputs of the stress test model disclosed to regulators are denoted in gray. The outputs are measured based on quarter-end amounts. Areas where a regulatory consultant may assist management are denoted in bold. The dashed arrow depicts the iterative nature of the stress test process.

[29] This appendix is not meant to reflect a specific economic condition nor a specific bank.
[30] Dodd-Frank banks are also required to conduct mid-year stress tests using company-developed scenarios.

Appendix 1 (continued)

Figure 1



Appendix 2
Proxy statement examples for regulatory consulting services

Example 1: Huntington Bancshares Incorporated is classified as a bank using its external audit firm, Pricewaterhouse Coopers LLP, for regulatory consulting based on the 2015 proxy statement below:

Audit Fees, Audit-Related Fees, Tax Fees and All Other Fees

The table below reflects the aggregate fees and out of pocket expenses billed by PricewaterhouseCoopers LLP for services rendered for us for 2015.

Fees Billed by PricewaterhouseCoopers LLP for Year Ended December 31, 2015	
Audit Fees(1)	$3,051,499
Audit-Related Fees (2)	710,424
Tax Fees (3)	100,000
All Other Fees (4)	1,276,746
Total	$5,138,669

(1) Audit fees are fees for professional services rendered for the integrated audits of our annual consolidated financial statements, including the audit of the effectiveness of our internal control over financial reporting, quarterly reviews of the condensed consolidated financial statements included in Form 10-Q filings, and services that are normally provided by PricewaterhouseCoopers LLP in connection with statutory/subsidiary financial statement audits, attestation reports required by statute or regulation, and comfort letters and consents related to SEC filings.

(2) Audit-related fees generally include fees for assurance and related services that are traditionally performed by the independent registered public accounting firm. These services include attestation and agreed-upon procedures which address accounting, reporting and control matters that are not required by statute or regulation, pension plans and service organization control examinations. These services are normally provided in connection with the recurring audit engagement.

(3) The tax-related services were all in the nature of tax compliance.

(4) All other fees were for advisory services rendered supporting management's development of the annual resolution plan, assessment of regulatory model results, and information technology and operational benchmarking.

Example 2: International Bancshares Corporation is classified as a bank not using their external audit firm, McGladrey LLP, for regulatory consulting services based on the 2012 proxy statement below:

	December 31,	
	2012	2011
Audit Fees(1)	$1,230,428	$1,223,545
Audit-Related Fees	—	—
Audit and Audit Related Fees	1,230,428	1,223,545
Tax Fees(2)	177,132	197,109
All Other Fees	—	—
Total Fees	$1,407,560	$1,420,654

(1) Audit fees consist of fees billed for professional services rendered in connection with the audit of the annual consolidated financial statements of the Company, quarterly financial statements included in Forms 10Q, and services that are normally provided in connection with statutory or regulatory filings or engagements.

(2) Tax Fees consisted of fees for tax consultation and tax compliance services.

Appendix 3
Variable definitions

Variable	Definition and data source
Dependent variables	
Δ*RWA*	Change in risk weighted assets, scaled by total assets (Y9-C Regulatory Reports).
CHGO	Net loan charge-offs, scaled by beginning total assets (Compustat).
FEEMIX	Total noninterest income minus deposit service changes and trading revenue, scaled by interest revenue (Y9-C Regulatory Reports).
NEGATIVE Y9C REPORT RESTATEMENT	Indicator variable equal to one if the bank makes a negative regulatory report restatement on its Y9-C report because of material accountings errors or changes in accounting principles, and zero otherwise (Y-9C Regulatory Reports).
POSITIVE Y9C REPORT RESTATEMENT	Indicator variable equal to one if the bank makes a positive regulatory report restatement on its Y9-C report because of material accountings errors or changes in accounting principles and zero otherwise (Y-9C Regulatory Reports).
REVMIX	Total noninterest revenue, scaled by interest revenue (Y-9C Regulatory Reports).
RWA	Risk weighted assets, scaled by total assets (Y-9C Regulatory Reports).
Z-SCORE	The natural log of the z-score, calculated as ROA plus capital divided by the standard deviation of ROA over the previous eight quarters (Y-9C Regulatory Reports).
Variables of interest	
LLP	Loan loss provision, scaled by beginning total assets (Compustat).
REGCONSULTING	Indicator variable equal to one if the bank uses its external audit firm for regulatory consulting and zero otherwise (proxy statements).
Control variables	
Δ*NPL*	Change in nonperforming loans, scaled by nonperforming loans in the prior period (Compustat).
ADVISORY SPECIALIST	Indicator variable equal to one if the audit firm is a non-Big Four firm that offers advisory services and zero otherwise (proxy statements).
ANALYST FOLLOWING	The number of analysts providing earnings per share forecasts for the bank (I/B/E/S).
AUDIT COMMITTEE EXPERTISE	The number of audit committee members with accounting expertise. Accounting expertise is defined as having at least one of these qualifications: cpa, certified accountant, certified fraud examiner, certified internal auditor, certified management accountant, certified public accountant, certified in financial forensics, chartered accountant, or chartered global management accountant (BoardEx).
AUDITFEE	Audit fees, scaled by total assets (Audit Analytics).
AUDITOR RESPONSIVENESS	The number of issuers with allowance for loan loss-related deficiencies identified in the PCAOB inspection reports, scaled by the total number of issuers with inspection findings, following Stuber and Hogan (2021).

Appendix 3 (continued)

Variable	Definition and data source
Control variables	
BANK SPECIALIST	Indicator variable equal to one if the bank is audited by an audit firm with over 25% of the banking clients in our sample and zero otherwise (proxy statements).
CONSUMER LOANS	Consumer loans, scaled by total loans (Y-9C Regulatory Reports).
CRE LOANS	Commercial and real estate loans, scaled by total loans (Y-9C Regulatory Reports).
CRO	Indicator variable equal to one if the chief risk officer is one of the top five executives in the bank and zero otherwise (Execucomp).
DEPOSITS	The natural log of total deposits (Y-9C Regulatory Reports).
INDEPDIR	The number of independent directors on the board of directors (BoardEx).
MISMATCH	Current liabilities less cash, scaled by total liabilities (Y9-C Regulatory Reports).
NONINTEXPENSE	Noninterest expense, scaled by interest revenue (Y9-C Regulatory Reports).
OTHER RE	Other real estate owned, scaled by total assets (Y-9C Regulatory Reports).
REGULATORY LENIENCY	The average of the Agarwal et al. (2014) leniency index for all bank branches, which is determined based on the location of the branches.
RESIDENTIAL LOANS	Residential real estate loans, scaled by total loans (Y-9C Regulatory Reports).
RISKCOMM	Indicator variable equal to one if the bank has a Risk Committee and zero otherwise (BoardEx).
ROA	Net income, scaled by total assets (Y9-C Regulatory Reports).
SIZE	The natural log of total assets (Compustat).
TENURE	Number of years of the auditor-client relationship (Audit Analytics).
TIER1	Tier 1 capital scaled by risk weighted assets (Compustat).
UNUSED COMMITMENT RATIO	Unused commitments, scaled by the sum of unused commitments and total loans (Y-9C Regulatory Reports).

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Table 1
Sample distribution of regulatory consulting services

Panel A: Distribution of observations by year

Year	With Auditor-Provided Regulatory Consulting (% of total)	Without Auditor-Provided Regulatory Consulting (% of total)	Total
2011	30 (5.66)	27 (5.09)	57
2012	33 (6.23)	29 (5.47)	62
2013	36 (6.79)	34 (6.42)	70
2014	36 (6.79)	32 (6.04)	68
2015	34 (6.42)	33 (6.23)	67
2016	37 (6.98)	34 (6.42)	71
2017	37 (6.98)	34 (6.42)	71
2018	33 (6.23)	31 (5.85)	64
Total	276 (52.08)	254 (47.92)	530

Panel B: Distribution of observations by external audit firm

External Audit Firm	With Auditor-Provided Regulatory Consulting (% of total)	Without Auditor-Provided Regulatory Consulting (% of total)	Total
Deloitte	15 (2.83)	34 (6.42)	49
EY	105 (19.81)	36 (6.79)	141
KPMG	85 (16.04)	100 (18.87)	185
PwC	37 (6.98)	41 (7.74)	78
Non-Big 4 Firms	34 (6.42)	43 (8.11)	77
Total	276 (52.08)	254 (47.92)	530

Notes: Panel A presents the frequency of observations over time for banks with (and without) auditor-provided regulatory consulting. Panel B presents the frequency of observations by external audit firm.

Table 2
Sample descriptive statistics

Panel A: Full sample descriptive statistics

Variable	N	Mean	p25	Median	p75	Std Dev
$CHGO_{t+1}$	530	0.002	0.001	0.001	0.002	0.002
REGCONSULTING	530	0.521	0.000	1.000	1.000	0.500
LLP_t	530	0.002	0.001	0.002	0.003	0.003
ΔNPL	530	-0.065	-0.241	-0.121	0.010	0.365
$SIZE_t$	530	5.822	4.927	5.443	6.349	1.345
$TIER1_t$	530	12.504	10.910	12.100	13.470	2.420
$RESIDENTIAL\ LOANS_t$	530	0.259	0.176	0.256	0.330	0.140
$CONSUMER\ LOANS_t$	530	0.067	0.012	0.036	0.123	0.069
$CRE\ LOANS_t$	530	0.279	0.164	0.272	0.379	0.156
$BANK\ SPECIALIST_t$	530	0.615	0.000	1.000	1.000	0.487
$ADVISORY\ SPECIALIST_t$	530	0.102	0.000	0.000	0.000	0.303
$INDEPDIR_t$	530	10.421	9.000	10.000	12.000	2.160
$ANALYST\ FOLLOWING_t$	530	68.157	42.000	63.000	96.000	34.354
$RISK\ COMM_t$	530	0.802	1.000	1.000	1.000	0.399
CRO_t	530	0.226	0.000	0.000	0.000	0.419
AUDITOR $RESPONSIVENESS_t$	530	0.173	0.000	0.150	0.250	0.167

Panel B: Observations with and without auditor-provided regulatory consulting services

	With Auditor-Provided Regulatory Consulting Services (N=276)		Without Auditor-Provided Regulatory Consulting Services (N=254)		Normalized
Variable	Mean	Std Dev	Mean	Std Dev	Difference
$CHGO_{t+1}$	0.002	0.003	0.002	0.002	0.091
LLP_t	0.002	0.003	0.002	0.003	0.072
ΔNPL_t	-0.055	0.415	-0.076	0.303	0.041
$SIZE_t$	6.077	1.298	5.544	1.343	0.285
$TIER1_t$	12.179	2.207	12.857	2.591	-0.199
$RESIDENTIAL\ LOANS_t$	0.232	0.114	0.288	0.159	-0.285
$CONSUMER\ LOANS_t$	0.068	0.065	0.065	0.073	0.031
$CRE\ LOANS_t$	0.266	0.163	0.293	0.148	-0.125
$BANK\ SPECIALIST_t$	0.688	0.464	0.535	0.500	-0.130
$ADVISORY\ SPECIALIST_t$	0.123	0.329	0.079	0.270	-0.117
$INDEPDIR_t$	10.953	2.079	9.843	2.102	0.390
$ANALYST\ FOLLOWING_t$	76.116	32.878	59.508	33.889	0.352
$RISK\ COMM_t$	0.877	0.329	0.720	0.450	-0.416
CRO_t	0.312	0.464	0.134	0.341	0.079
$AUDITOR\ RESPONSIVENESS_t$	0.156	0.165	0.191	0.168	-0.658

Notes: Panel A presents descriptive statistics for the full sample. Panel B provides descriptive statistics and normalized differences comparing observations with and without auditor-provided regulatory consulting. The normalized difference is used to assess the covariate balance between the subsamples and is calculated as $\frac{\bar{X}_a - \bar{X}_b}{\sqrt{s_a^2 + s_b^2}}$, where $\bar{X}$ and s^2 are the subsample mean and variance, respectively. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles.

Table 3
Regulatory consulting services and the validity of the loan loss provision

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Variables	(1)	(2)	(3)
LLP_t	0.282***	0.259***	0.263***
	(0.049)	(0.047)	(0.044)
REGCONSULTING	0.053*	0.040*	0.037
	(0.031)	(0.024)	(0.026)
LLP_t * *REGCONSULTING*	0.129**	0.129**	0.119**
	(0.057)	(0.053)	(0.055)
Δ*NPL*	0.016	0.007	0.014
	(0.030)	(0.026)	(0.031)
$SIZE_t$	0.014	0.027	0.017
	(0.021)	(0.018)	(0.016)
LLP_t * $SIZE_t$	0.012	0.025	0.027
	(0.040)	(0.032)	(0.031)
$TIER1_t$	0.013	0.017	0.016
	(0.016)	(0.022)	(0.020)
RESIDENTIAL LOANS$_t$	0.004	0.011	0.011
	(0.008)	(0.009)	(0.010)
CONSUMER LOANS$_t$	0.030**	0.028*	0.036
	(0.014)	(0.016)	(0.023)
CRE LOANS$_t$	-0.002	-0.001	-0.001
	(0.008)	(0.010)	(0.011)
BANK SPECIALIST$_t$			0.023
			(0.032)
ADVISORY SPECIALIST$_t$			0.016
			(0.034)
INDEPDIR$_t$			-0.007
			(0.014)
ANALYST FOLLOWING$_t$			0.007
			(0.006)
RISKCOMM$_t$			0.007
			(0.035)
CRO_t			0.002
			(0.024)
AUDITOR RESPONSIVENESS$_t$			0.001
			(0.011)
Entropy-Balanced Sample?	No	Yes	Yes
Observations	530	530	530
R-squared	0.622	0.634	0.636

Notes: This table presents the results of estimating Equation (1) with loan charge-offs (*CHGO*) in year *t*+1 as the dependent variable. Column (1) reports the results for the unbalanced sample. Columns (2) and (3) report the results for the entropy-balanced sample. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 4
Knowledge spillover mechanism: Interim versus fourth quarter reporting

DV =	$CHGO_{QUARTER+4}$	$CHGO_{QUARTER+4}$	$CHGO_{QUARTER+4}$	$CHGO_{QUARTER+4}$	$CHGO_{QUARTER+4}$	$CHGO_{QUARTER+4}$
QUARTER =	*Q1-Q3*	*Q4*	*Q1-Q3*	*Q4*	*Q1-Q3*	*Q4*
Variables	(1)	(2)	(3)	(4)	(5)	(6)
$LLP_{QUARTER}$	0.350***	0.331***	0.371***	0.368***	0.364***	0.334***
	(0.134)	(0.094)	(0.103)	(0.080)	(0.115)	(0.107)
REGCONSULTING	0.023	0.036	0.015	0.018	0.013	0.016
	(0.038)	(0.025)	(0.035)	(0.026)	(0.038)	(0.033)
$LLP_{QUARTER}$ * *REGCONSULTING*	0.095	0.173***	0.117	0.152***	0.115	0.160*
	(0.098)	(0.064)	(0.089)	(0.053)	(0.101)	(0.090)
$\Delta NPL_{QUARTER}$	-0.075***	-0.040***	-0.038***	-0.033**	-0.039***	-0.025**
	(0.021)	(0.015)	(0.011)	(0.015)	(0.011)	(0.012)
$SIZE_{QUARTER}$	0.041*	0.041**	0.032**	0.045**	0.008	0.010
	(0.023)	(0.018)	(0.015)	(0.018)	(0.016)	(0.019)
$LLP_{QUARTER}$ * $SIZE_{QUARTER}$	0.027	-0.009	-0.009	-0.022	-0.003	-0.004
	(0.054)	(0.039)	(0.028)	(0.036)	(0.030)	(0.029)
$TIER1_{QUARTER}$	0.009	0.005	0.013	0.024	0.010	0.013
	(0.011)	(0.012)	(0.014)	(0.019)	(0.013)	(0.018)
$RESIDENTIAL\ LOANS_{QUARTER}$	0.013*	0.018**	0.017	0.006	0.018*	0.026**
	(0.007)	(0.009)	(0.012)	(0.010)	(0.011)	(0.012)
$CONSUMER\ LOANS_{QUARTER}$	0.008	0.007	0.010	0.014	0.019*	0.018
	(0.009)	(0.011)	(0.011)	(0.014)	(0.011)	(0.013)
$CRE\ LOANS_{QUARTER}$	0.007	0.007	0.007	0.009	0.004	0.001
	(0.007)	(0.009)	(0.009)	(0.012)	(0.010)	(0.013)
Full Set of Controls?	No	No	No	No	Yes	Yes
Entropy-Balanced Sample?	No	No	Yes	Yes	Yes	Yes
Observations	1,588	530	1,588	530	1,588	530
R-squared	0.728	0.760	0.787	0.793	0.799	0.808
Wald tests for coefficient differences:						
*[Q1-Q3]LLP * REGCONSULTING – [Q4] LLP * REGCONSULTING = 0*	Chi-Sq:	2.77*	Chi-Sq:	5.02**	Chi-Sq:	3.63*

Notes: This table presents the results of estimating Equation (1) across two subsamples, interim and fourth quarter observations. Tests for coefficient differences between the subsamples are conducted by using seemingly unrelated estimation and the Wald test. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 5

Knowledge spillover mechanism: Regulatory report restatements

	NEGATIVE Y9C REPORT	*POSITIVE Y9C REPORT*	*NEGATIVE Y9C REPORT*	*POSITIVE Y9C REPORT*	*NEGATIVE Y9C REPORT*	*POSITIVE Y9C REPORT*
DV =	$RESTATEMENT_{t+1}$	$RESTATEMENT_{t+1}$	$RESTATEMENT_{t+1}$	$RESTATEMENT_{t+1}$	$RESTATEMENT_{t+1}$	$RESTATEMENT_{t+1}$
Variables	(1)	(2)	(3)	(4)	(5)	(6)
REGCONSULTING	0.068***	-0.047	0.073***	-0.050	0.075***	-0.056*
	(0.023)	(0.033)	(0.024)	(0.032)	(0.025)	(0.033)
$SIZE_t$	0.020	0.062	-0.107	0.166	-0.122	0.118
	(0.025)	(0.047)	(0.095)	(0.132)	(0.104)	(0.152)
ΔNPL	-0.009	-0.096*	-0.014	-0.085*	-0.015	-0.088*
	(0.051)	(0.050)	(0.054)	(0.045)	(0.055)	(0.052)
$TIER1_t$	-0.018	-0.023	-0.014	-0.029	-0.017	-0.031
	(0.014)	(0.021)	(0.015)	(0.022)	(0.015)	(0.023)
$RESIDENTIAL\ LOANS_t$	0.018	0.017	0.023	0.008	0.025	0.004
	(0.013)	(0.022)	(0.016)	(0.020)	(0.016)	(0.019)
$CONSUMER\ LOANS_t$	-0.004	-0.025	-0.001	-0.039	-0.005	-0.023
	(0.012)	(0.018)	(0.014)	(0.025)	(0.014)	(0.028)
$CRE\ LOANS_t$	-0.022	-0.014	-0.016	-0.033	-0.021	-0.027
	(0.013)	(0.017)	(0.017)	(0.024)	(0.018)	(0.026)
$DEPOSITS_t$			0.087	-0.056	0.107	-0.033
			(0.070)	(0.100)	(0.080)	(0.132)
$OTHER\ RE_t$			-0.004	0.013	-0.006	0.011
			(0.007)	(0.010)	(0.006)	(0.008)
$UNUSED\ COMMITMENT\ RATIO_t$			0.013	-0.026	0.007	-0.012
			(0.020)	(0.028)	(0.024)	(0.029)
Full Set of Controls?	No	No	No	No	Yes	Yes
Entropy-Balanced Sample?	No	No	Yes	Yes	Yes	Yes
Observations	530	530	530	530	530	530
R-squared	0.086	0.167	0.090	0.179	0.102	0.212

Notes: This table presents the results of estimating Equation (2) for negative (i.e., income decreasing) and positive (i.e., income increasing) restatements. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 6
Validation tests

Panel A: Auditor tenure

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Subsample =	*LONG TENURE*	*SHORT TENURE*	*LONG TENURE*	*SHORT TENURE*	*LONG TENURE*	*SHORT TENURE*
Variables	(1)	(2)	(3)	(4)	(5)	(6)
LLP_t	0.253***	0.260***	0.274***	-0.012	0.252***	0.233***
	(0.054)	(0.069)	(0.059)	(0.110)	(0.055)	(0.067)
REGCONSULTING	0.022	0.062*	0.003	0.120***	-0.007	0.113**
	(0.025)	(0.036)	(0.023)	(0.038)	(0.022)	(0.049)
LLP_t * *REGCONSULTING*	0.038	0.198***	0.049	0.335***	0.016	0.161***
	(0.054)	(0.066)	(0.048)	(0.070)	(0.045)	(0.056)
ΔNPL	-0.013	0.041	-0.026	0.036	-0.023	0.050
	(0.026)	(0.061)	(0.023)	(0.077)	(0.029)	(0.063)
$SIZE_t$	0.041***	-0.036	0.038***	-0.019	0.002	0.096
	(0.013)	(0.042)	(0.012)	(0.053)	(0.013)	(0.076)
LLP_t * $SIZE_t$	0.059*	-0.020	0.030	0.115	0.044*	0.015
	(0.034)	(0.065)	(0.028)	(0.072)	(0.023)	(0.077)
$TIER1_t$	-0.003	0.026	-0.000	0.031*	-0.010	-0.012
	(0.013)	(0.020)	(0.016)	(0.017)	(0.012)	(0.021)
$RESIDENTIAL\ LOANS_t$	-0.001	0.007	0.006	0.008	0.003	0.011
	(0.008)	(0.013)	(0.008)	(0.014)	(0.007)	(0.029)
$CONSUMER\ LOANS_t$	0.021**	0.048	0.020*	0.078	0.022***	0.051
	(0.008)	(0.030)	(0.011)	(0.050)	(0.009)	(0.045)
$CRE\ LOANS_t$	-0.002	-0.015	0.001	0.010	-0.007	-0.017
	(0.008)	(0.015)	(0.009)	(0.021)	(0.006)	(0.024)
Full Set of Controls?	No	No	No	No	Yes	Yes
Entropy-Balanced Sample?	No	No	Yes	Yes	Yes	Yes
Observations	346	184	346	184	346	184
R-squared	0.736	0.566	0.770	0.566	0.800	0.596
Wald tests for coefficient differences:						
*[LONG]LLP * REGCONSULTING – [SHORT]LLP * REGCONSULTING = 0*	Chi-Sq:	3.63*	Chi-Sq:	3.63*	Chi-Sq:	4.12**

Panel B: Audit committee oversight

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Subsample =	*HIGH AC EXP*	*LOW AC EXP*	*HIGH AC EXP*	*LOW AC EXP*	*HIGH AC EXP*	*LOW AC EXP*
Variables	(1)	(2)	(3)	(4)	(5)	(6)
LLP_t	0.191***	0.284***	0.331***	0.130**	0.310***	0.098
	(0.066)	(0.052)	(0.107)	(0.053)	(0.109)	(0.088)
REGCONSULTING	-0.024	0.069**	0.014	0.067**	0.022	0.083**
	(0.019)	(0.033)	(0.026)	(0.029)	(0.024)	(0.042)
LLP_t * *REGCONSULTING*	-0.104**	0.180***	0.007	0.232***	0.052	0.244***
	(0.051)	(0.040)	(0.077)	(0.055)	(0.063)	(0.084)
ΔNPL	0.079**	-0.044	0.042	-0.026	0.033	-0.027
	(0.036)	(0.042)	(0.031)	(0.042)	(0.023)	(0.040)
$SIZE_t$	0.071***	0.005	-0.032	0.038**	-0.078**	0.037*
	(0.017)	(0.026)	(0.031)	(0.016)	(0.039)	(0.023)
LLP_t * $SIZE_t$	0.112**	-0.005	-0.050	0.051	-0.084	0.062
	(0.044)	(0.042)	(0.055)	(0.035)	(0.069)	(0.039)
$TIER1_t$	-0.019	0.034	-0.038*	0.041	-0.021	0.052
	(0.013)	(0.021)	(0.023)	(0.030)	(0.019)	(0.034)
RESIDENTIAL LOANS$_t$	0.010	0.009	0.022*	0.012	0.013	0.018
	(0.009)	(0.016)	(0.013)	(0.013)	(0.014)	(0.017)
CONSUMER LOANS$_t$	0.015*	0.052*	0.025***	0.033	0.032**	0.046
	(0.008)	(0.027)	(0.008)	(0.027)	(0.015)	(0.034)
CRE LOANS$_t$	0.004	0.004	-0.032**	0.017	-0.020	0.019
	(0.008)	(0.016)	(0.014)	(0.018)	(0.012)	(0.021)
Full Set of Controls?	No	No	No	No	Yes	Yes
Entropy-Balanced Sample?	No	No	Yes	Yes	Yes	Yes
Observations	230	300	230	300	230	300
R-squared	0.683	0.649	0.637	0.639	0.684	0.648
Wald tests for coefficient differences: *[HIGH]LLP * REGCONSULTING – [LOW]LLP * REGCONSULTING = 0*	Chi-Sq:	19.20***	Chi-Sq:	5.75**	Chi-Sq:	3.32*

Panel C: Bank regulatory leniency

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Subsample =	*LENIENT REG*	*STRICT REG*	*LENIENT REG*	*STRICT REG*	*LENIENT REG*	*STRICT REG*
Variables	(1)	(2)	(3)	(4)	(5)	(6)
LLP_t	0.268***	0.164**	0.253***	0.146**	0.229***	0.148***
	(0.053)	(0.072)	(0.048)	(0.074)	(0.061)	(0.053)
REGCONSULTING	0.063**	-0.026	0.061**	-0.059	0.075**	-0.050
	(0.030)	(0.033)	(0.025)	(0.043)	(0.031)	(0.037)
LLP_t * *REGCONSULTING*	0.136***	-0.006	0.127***	-0.049	0.133***	-0.069
	(0.049)	(0.077)	(0.047)	(0.094)	(0.052)	(0.079)
ΔNPL	0.064	-0.048*	0.046	-0.046*	0.059	-0.052**
	(0.045)	(0.028)	(0.039)	(0.024)	(0.043)	(0.026)
$SIZE_t$	-0.021	0.053**	0.005	0.080***	0.017	-0.031
	(0.034)	(0.022)	(0.027)	(0.027)	(0.025)	(0.035)
LLP_t * $SIZE_t$	0.012	0.096	0.042	0.139**	0.047	0.117**
	(0.042)	(0.059)	(0.032)	(0.067)	(0.034)	(0.047)
$TIER1_t$	0.019	-0.015	0.016	0.009	0.012	-0.013
	(0.015)	(0.014)	(0.022)	(0.017)	(0.018)	(0.013)
RESIDENTIAL LOANS$_t$	0.002	0.009	0.014	-0.002	0.011	-0.011
	(0.009)	(0.015)	(0.011)	(0.017)	(0.014)	(0.014)
CONSUMER LOANS$_t$	0.064**	-0.010	0.040*	0.001	0.057	-0.005
	(0.028)	(0.010)	(0.024)	(0.014)	(0.038)	(0.011)
CRE LOANS$_t$	-0.004	-0.029***	-0.009	-0.020	-0.003	-0.032***
	(0.010)	(0.011)	(0.010)	(0.013)	(0.016)	(0.006)
Full Set of Controls?	No	No	No	No	Yes	Yes
Entropy-Balanced Sample?	No	No	Yes	Yes	Yes	Yes
Observations	297	233	297	233	297	233
R-squared	0.647	0.649	0.650	0.660	0.659	0.728
Wald tests for coefficient differences: *[STRICT]LLP * REGCONSULTING – [LENIENT]LLP * REGCONSULTING = 0*	Chi-Sq:	2.44	Chi-Sq:	2.81*	Chi-Sq:	4.57**

Notes: Panels A, B, and C report the results of estimating Equation (1) across two subsamples: long and short auditor tenure (i.e., *TENURE*), high and low audit committee expertise (i.e., *AC EXP*), and high and low regulator leniency (i.e., *LENIENT REG, STRICT REG*), respectively. Tests for coefficient differences between the subsamples are conducted by using seemingly unrelated estimation and the Wald test. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 7
Alternative explanation: Auditor competency

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Subsample =	*HIGH RESP*	*LOW RESP*	*HIGH RESP*	*LOW RESP*
Variables	(1)	(2)	(3)	(4)
LLP_t	0.251***	0.238***	0.229***	0.249***
	(0.043)	(0.072)	(0.041)	(0.070)
REGCONSULTING	0.087*	-0.007	0.083*	-0.000
	(0.048)	(0.029)	(0.047)	(0.027)
LLP_t * *REGCONSULTING*	0.190***	0.012	0.176***	0.027
	(0.051)	(0.058)	(0.049)	(0.057)
ΔNPL	-0.003	0.079*	-0.001	0.071*
	(0.035)	(0.042)	(0.039)	(0.040)
$SIZE_t$	0.023	0.034	0.017	0.037
	(0.027)	(0.029)	(0.027)	(0.029)
LLP_t * $SIZE_t$	0.001	0.047	0.016	0.041
	(0.036)	(0.053)	(0.033)	(0.054)
$TIER1_t$	0.014	-0.007	0.018	-0.008
	(0.015)	(0.013)	(0.015)	(0.013)
RESIDENTIAL LOANS$_t$	-0.003	0.014	-0.004	0.010
	(0.012)	(0.010)	(0.013)	(0.010)
CONSUMER LOANS$_t$	0.043**	0.019*	0.055***	0.018*
	(0.017)	(0.011)	(0.020)	(0.010)
CRE LOANS$_t$	-0.002	0.000	-0.003	0.001
	(0.009)	(0.012)	(0.009)	(0.012)
Full Set of Controls?	Yes	Yes	Yes	Yes
Entropy-Balanced Sample?	Yes	Yes	Yes	Yes
Observations	275	255	265	265
R-squared				
*[HIGH]LLP * REGCONSULTING – [LOW]LLP * REGCONSULTING = 0*	Chi-Sq:	10.82***	Chi-Sq:	7.70***

Notes: This table reports the results of estimating Equation (1) across two subsamples, high and low auditor responsiveness to PCAOB oversight. A test for coefficient differences between the subsamples are conducted by using seemingly unrelated estimation and the Wald test. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 8
Alternative explanation: Auditor effort

Panel A: Removing observations with the largest audit fees

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Variables	(1)	(2)	(3)
LLP_t	0.292***	0.262***	0.271***
	(0.053)	(0.052)	(0.049)
REGCONSULTING	0.049	0.039	0.034
	(0.033)	(0.026)	(0.027)
LLP_t * *REGCONSULTING*	0.126**	0.130**	0.118**
	(0.062)	(0.057)	(0.059)
ΔNPL	0.012	0.005	0.012
	(0.029)	(0.025)	(0.030)
$SIZE_t$	0.012	0.028	0.018
	(0.023)	(0.018)	(0.016)
LLP_t * $SIZE_t$	0.008	0.023	0.023
	(0.043)	(0.032)	(0.032)
$TIER1_t$	0.011	0.015	0.013
	(0.016)	(0.023)	(0.021)
RESIDENTIAL LOANS$_t$	0.003	0.011	0.011
	(0.008)	(0.009)	(0.010)
CONSUMER LOANS$_t$	0.031**	0.028*	0.036
	(0.015)	(0.016)	(0.023)
CRE LOANS$_t$	-0.004	-0.002	-0.003
	(0.007)	(0.010)	(0.011)
BANK SPECIALIST$_t$			0.025
			(0.034)
ADVISORY SPECIALIST$_t$			0.021
			(0.035)
$INDEPDIR_t$			-0.007
			(0.015)
ANALYST FOLLOWING$_t$			0.008
			(0.006)
$RISKCOMM_t$			0.003
			(0.034)
CRO_t			0.004
			(0.021)
AUDITOR RESPONSIVENESS$_t$			-0.000
			(0.011)
Entropy-Balanced Sample?	No	Yes	Yes
Observations	523	523	523
R-squared	0.617	0.628	0.631

Panel B: Using audit fee bins as fixed effects

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Variables	(1)	(2)	(3)
LLP_t	0.288***	0.276***	0.282***
	(0.047)	(0.045)	(0.041)
REGCONSULTING	0.060*	0.043	0.042
	(0.034)	(0.030)	(0.032)
LLP_t * *REGCONSULTING*	0.137**	0.138**	0.131**
	(0.058)	(0.060)	(0.063)
Δ*NPL*	0.014	0.006	0.009
	(0.030)	(0.024)	(0.027)
$SIZE_t$	0.021	0.030*	0.019
	(0.021)	(0.018)	(0.017)
LLP_t * $SIZE_t$	-0.006	0.007	0.007
	(0.045)	(0.036)	(0.036)
$TIER1_t$	0.003	0.014	0.013
	(0.013)	(0.019)	(0.018)
RESIDENTIAL LOANS$_t$	0.007	0.016	0.018
	(0.009)	(0.010)	(0.011)
CONSUMER LOANS$_t$	0.031**	0.034*	0.041
	(0.015)	(0.020)	(0.026)
CRE LOANS$_t$	0.002	0.009	0.008
	(0.010)	(0.017)	(0.017)
BANK SPECIALIST$_t$			0.021
			(0.033)
ADVISORY SPECIALIST$_t$			0.030
			(0.043)
$INDEPDIR_t$			-0.008
			(0.014)
ANALYST FOLLOWING$_t$			0.010*
			(0.005)
$RISKCOMM_t$			-0.002
			(0.039)
CRO_t			-0.002
			(0.024)
AUDITOR RESPONSIVENESS$_t$			-0.005
			(0.009)
Entropy-Balanced Sample?	No	Yes	Yes
Observations	530	530	530
R-squared	0.641	0.655	0.657

Notes: Panel A presents the results after removing observations with the highest audit fees (i.e., audit fees greater than one-half of a standard deviation from the mean). Panel B presents the main results with audit fee bin fixed effects. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 9
Alternative explanation: Managerial risk-taking

DV =	$FEEMIX_{t+1}$	$REVMIX_{t+1}$	$TIER1_{t+1}$	RWA_{t+1}	ΔRWA	$Z\text{-}SCORE$
Variables	(1)	(2)	(3)	(4)	(5)	(6)
REGCONSULTING	0.009	0.007	0.025	-0.037	0.139	0.194
	(0.056)	(0.045)	(0.041)	(0.077)	(0.102)	(0.132)
$SIZE_t$	0.187***	0.188***	-0.015	0.009	-0.207**	-0.278***
	(0.063)	(0.052)	(0.034)	(0.084)	(0.080)	(0.102)
$TIER1_t$	-0.010	0.001	0.952***	-0.128	0.008	0.026
	(0.059)	(0.046)	(0.046)	(0.078)	(0.114)	(0.107)
RESIDENTIAL LOANS$_t$	0.006	-0.008	-0.003	-0.324***	-0.057	-0.086
	(0.044)	(0.036)	(0.025)	(0.078)	(0.067)	(0.070)
CONSUMER LOANS$_t$	-0.039	-0.041	0.004	-0.014	0.055	0.004
	(0.049)	(0.032)	(0.022)	(0.063)	(0.071)	(0.075)
CRE LOANS$_t$	0.042	-0.002	0.002	-0.315**	-0.097	-0.177*
	(0.070)	(0.050)	(0.026)	(0.125)	(0.094)	(0.097)
NONINTEXPENSE$_t$	0.910***	0.903***	0.004	-0.042	-0.106**	0.196**
	(0.066)	(0.046)	(0.023)	(0.102)	(0.052)	(0.094)
DEPOSITS$_t$	0.067	0.047	-0.001	-0.575***	0.046	-0.083
	(0.058)	(0.043)	(0.017)	(0.059)	(0.052)	(0.066)
MISMATCH$_t$	-0.025	0.008	-0.014	-0.317***	0.013	0.051
	(0.067)	(0.051)	(0.029)	(0.085)	(0.067)	(0.105)
ROA_t	0.351***	0.304***	-0.003	0.034	-0.023	-0.060
	(0.089)	(0.077)	(0.044)	(0.060)	(0.126)	(0.134)
Entropy Balanced Sample?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	530	530	530	530	530	530
R-squared	0.916	0.941	0.791	0.789	0.129	0.139

Notes: This table presents the results related to managerial risk-taking. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.

Table 10
Difference-in-differences design

DV =	$CHGO_{t+1}$	$CHGO_{t+1}$	$CHGO_{t+1}$
Variables	(1)	(2)	(3)
LLP_t	0.899***	0.907***	0.940***
	(0.324)	(0.238)	(0.226)
REGCONSULTING	-0.343**	-0.309**	-0.319***
	(0.152)	(0.121)	(0.118)
LLP_t * *REGCONSULTING*	-0.670*	-0.616**	-0.634**
	(0.344)	(0.273)	(0.263)
$REGCONSULTING_t$ * $POST_t$	0.391**	0.343***	0.351***
	(0.162)	(0.121)	(0.116)
LLP_t * $POST_t$	-0.667*	-0.679***	-0.706***
	(0.337)	(0.232)	(0.219)
LLP_t * $REGCONSULTING_t$ * $POST_t$	0.804**	0.744**	0.759***
	(0.364)	(0.284)	(0.273)
ΔNPL	0.083**	0.043**	0.043**
	(0.037)	(0.021)	(0.021)
$SIZE_t$	0.045**	0.039**	0.027
	(0.021)	(0.017)	(0.020)
LLP_t * $SIZE_t$	0.061	0.052	0.050
	(0.045)	(0.033)	(0.034)
$TIER1_t$	0.023	0.020	0.023
	(0.015)	(0.017)	(0.017)
RESIDENTIAL LOANS$_t$	-0.010	-0.003	-0.002
	(0.010)	(0.009)	(0.009)
CONSUMER LOANS$_t$	0.016	0.029**	0.030
	(0.014)	(0.014)	(0.018)
CRE LOANS$_t$	-0.006	0.001	0.002
	(0.012)	(0.010)	(0.011)
BANK SPECIALIST$_t$			0.008
			(0.026)
ADVISORY SPECIALIST$_t$			0.007
			(0.031)
$INDEPDIR_t$			0.011
			(0.016)
ANALYST FOLLOWING$_t$			0.007
			(0.007)
$RISKCOMM_t$			0.006
			(0.032)
CRO_t			0.018
			(0.022)
Entropy-Balanced Sample?	No	Yes	Yes
Observations	684	684	684
R-squared	0.641	0.656	0.657

Notes: This table presents the results of estimating Equation (1) using a difference-in-differences design. Column (1) reports the results for the unbalanced sample. Columns (2) and (3) report the results for the entropy-balanced sample. Year fixed effects are included in each model. Standard errors are clustered at the bank level and are shown in parentheses. The constant is unreported. Variables are defined in Appendix 3. Continuous variables are winsorized at the first and 99th percentiles and standardized to a mean of zero and a standard deviation of one. ***, **, and * denote two-tailed statistical significance of coefficient estimates at the 1, 5, and 10 percent levels, respectively.