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Abstract

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JEL Classification: G21; G28; M41; M48

Keywords: Audit committee; Financial reporting quality; Bank holding companies; Dodd-Frank Act; Loan loss provisioning; Board busyness.

1. Introduction

A lack of internal controls and audit committee oversight contributed to the management failures and subsequent financial instability at many banks during the global financial crisis (Kirkpatrick, 2009; Financial Crisis Inquiry Commission, 2011; Hagendorff, 2019). As part of the post crisis reform agenda, new regulations were enacted, which require banks to engage in more effective audit committee oversight. In this study, we investigate the impact of audit committee oversight on the financial reporting quality of US bank holding companies.

Improvements in the quality of financial reporting information can reduce information asymmetries and improve the ability of regulators, auditors, and other outside stakeholders in monitoring the performance and risk of firms (Bushman and Smith, 2001). However, assessing the financial reporting quality of banks presents a significant challenge given that assets held by financial institutions are often complex, opaque and difficult to value (Morgan, 2002; Jones et al., 2012; Flannery et al., 2013; Jiang et al., 2016). Given the critical role that banks play in the financial system and real economy, it is crucial that disclosed financial information is accurate and transparent so that outside stakeholders (depositors, equity-holders, bondholders, regulators) can accurately assess and monitor the financial condition of banks.¹

In order to investigate the impact of audit committee oversight on the financial reporting quality of bank holding companies, we use the US banking industry as a setting. Prior to the financial crisis, the audit committees of bank holding companies were tasked with the oversight and monitoring of both financial reporting quality and risk management. However, following the global financial crisis of 2007-2009, policymakers strengthened prudential standards for corporate governance arrangements at banks via the passing of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Section 165h of the Dodd Frank Act requires that publicly traded bank holding companies with total assets exceeding \$10 billion (as of 30th June 2014) establish a risk committee that is distinct and independent of the existing audit committee. The deadline for compliance was 1st July 2015 (Federal Register, 2014).

Prior to the passage of Section 165h of the Dodd-Frank Act, in addition to the core task of overseeing financial reporting and effective communication to stakeholders, audit

¹ Banks operate the payments system, act as a conduit for monetary policy and are a major source of credit for households, corporations and governments (Allen et al., 2019). They act as a haven for household, corporate and government deposits funds and create liquidity by transforming relatively liquid liabilities in relatively illiquid assets both on- and off- balance sheet (Berger et al., 2020).

committees were required to identify, monitor and report on significant risk exposures, and articulate any actions taken to address these. These arrangements led to possible concerns that members of bank audit committees had insufficient capacity to handle the volume and multiplicity of tasks required to ensure appropriate financial reporting quality (Ernst & Young, 2014; KPMG, 2014).

Regulatory reforms proposed under Section 165h of the Dodd-Frank Act provide the setting for the current study, which investigates the impact of audit committees on the financial reporting quality of bank holding companies. Given that Section 165h requires a separation of audit and risk committees, we posit that following the introduction of the new regulation, audit committees have more capacity to focus on core internal control and audit functions. This increased focus leads to an improvement in financial reporting quality.

The setting used for the current study (which allows us to identify bank holding companies subject to the introduction of Section 165h versus counterparts that were not subject to the new regulation) allows for a more rigorous research design than that utilized by many prior studies of financial reporting quality (Carcello and Neal 2000; Klein 2002; Abbott et al., 2003, 2004; Bédard et al., 2004; Karamanou and Vafeas, 2005). While all publicly traded banks with total assets exceeding \$10 billion were required to comply with Section 165h, some bank holding companies already had distinct audit and risk committees prior to the introduction of the new regulation. Consequently, it is possible to identify a group of affected and unaffected bank holding companies before (pre-treatment) and after (post-treatment) the introduction of Section 165h. This provides the basis for a robust research design to test our research hypothesis.

Financial reporting quality cannot be observed directly. Consequently, following established practice in prior literature, we utilize discretionary loan loss provisions as a proxy for financial reporting quality. Loan loss provisions are the most important accrual on bank balance sheets and should reflect the quality of loan portfolios. However, prior evidence suggests that bank managers exercise considerable discretion in loan loss provisioning via earnings smoothing, signaling and capital management activities (Beatty and Liao, 2014).²

² Schipper and Vincent (2003), Francis et al. (2006) and Dechow et al. (2010) provide extensive overviews of the measurement and determinants of financial reporting quality. Banks may have an incentive to smooth reported earnings via loan loss provisions to make reported earnings appear stable over time and meet pre-defined prudential regulatory requirements or satisfy opportunistic financial reporting objectives. The inclusion of loan loss reserves in the calculation of regulatory capital can lead bank managers to manipulate loan loss provisions in order to report regulatory capital above a certain minimum. Banks may also use loan loss provisions to signal information regarding loan quality and future earnings prospects to firm stakeholders (investors, customers, regulators).

Following prior literature, we use the absolute value of residuals derived from an estimable model, which allows us to disentangle the discretionary and non-discretionary components of loan loss provisions. The resultant discretionary loan loss provisions are used as our primary outcome variable of interest in our empirical analysis.

In order to assess the impact of the separation of audit and risk committee (via the introduction of Section 165h of the Dodd-Frank Act) on financial reporting quality, we adopt a difference-in-differences framework. Our treatment group comprises bank holding companies that were required to separate audit and risk oversight functions following the introduction of Section 165h. Our control group comprises bank holding companies that already had separate audit and risk committees prior to the passage of Section 165h, and thus were unaffected by the regulatory change. The period of our investigation spans 2007 through 2016, and straddles the enactment of Section 165h of the Dodd-Frank Act.

By way of preview, the results of an extensive empirical analysis suggest that bank holding companies affected by the separation of audit and risk committees reduce discretionary loan loss provisions relative to unaffected counterparts. Our results are economically significant and indicate that the separation of the audit and risk committee leads to an improvement in financial reporting quality. We conduct an additional analysis to investigate the mechanism through which the separation of audit and risk committees improves financial reporting quality. Specifically, we examine whether several characteristics related to audit committee effectiveness affect bank financial reporting quality following the introduction of Section 165h of Dodd-Frank Act. The results suggest that bank holding companies with busy audit committee members serving on other committees within the same (*intra-bank busyness*) or other bank boards (*inter-bank busyness*) experience a decline in financial reporting quality relative to counterparts with less busy directors. We rule out an alternative explanation for our results that the over-provisioning for loan losses taking place prior to Section 165h was a prudential response of audit committee members to higher credit risk facing treated banks.

Our results are robust to alternative measures of financial reporting quality and are not affected by other events such as: the participation of bank holding companies in the Trouble Asset Relief Program; changes in state corporate income taxes facing banks; or participation in stress testing programs, which occurred around the time of the introduction of Section 165h of the Dodd-Frank Act. We assess the internal validity of our findings via a placebo test where we assume falsely that the separation of the audit and risk committees

took place in 2008 rather than 2010. The results of this placebo test are statistically insignificant, thus supporting the causal interpretation of our main findings.

Our study contributes to four strands of literature. First, we add to literature that assesses the impact of audit committees and regulatory interventions on bank financial reporting quality.³ Cornett et al. (2009) provide evidence that effective audit committees constrain earnings management behavior at large US bank holding companies prior to the passage of the Sarbanes-Oxley Act. Altamuro and Beatty (2010) assess the impact of the introduction and implementation of internal control requirements (as part of the provisions of the Federal Deposit Insurance Corporation Improvement Act) on the financial reporting quality of banks.⁴ The authors find that the implementation of mandated internal control requirements leads to improved financial reporting quality. Delis et al. (2018) find that US banks subject to accounting related regulatory enforcement actions subsequently improved financial reporting quality. In the current study, we augment this literature to investigate the impact of regulations regarding the scope of audit committees on financial reporting quality. We find that the separation of audit and risk committees mandated by the introduction of Section 165h of the Dodd-Frank Act leads to an improvement in the financial reporting quality of bank holding companies.

Second, we contribute to an emerging literature that examines whether the increasing scope and multiplicity of tasks required of audit committees leads members to become overloaded with responsibilities, and thus less able to execute core functions of overseeing financial reporting quality. Prior research shows that firms with a higher proportion of audit committee members who hold fewer multiple directorships (are less inter-bank busy) or sit on fewer committees on the same board (are less intra-bank busy) produce higher quality financial reporting information (Fich and Shivdasani, 2006; Dhaliwal et al., 2010; Sun and Liu, 2014; Chen and Wu, 2016). Using a sample of non-financial firms, Ashraf et al., (2020) investigate whether increases in audit committee responsibilities impair the quality and reliability of financial statements. The authors find that audit committees, which are allocated responsibilities (such as risk management) unrelated to financial reporting produce lower quality financial information. We complement this literature using a sample of US bank

³ Extensive overviews of the financial reporting quality literature in banking are provided by Wall and Koch (2000), Beatty and Liao (2014) and Bushman (2014). A selective overview of this literature is also provided in section 3 below.

⁴ Banks with total assets exceeding \$500 million were required to compile a report (certified by the external auditor) which disclosed the effectiveness of internal controls over financial reporting. LaFond and You (2010) suggest that the findings produced by Altamuro and Beatty (2010) are confounded by other events taking place during the long sample period.

holding companies. The difference-in-differences design allows us to identify the causal impact of the separation of audit and risk committees on financial reporting quality. We find that affected bank holding companies improve reporting quality (by constraining earnings management) via a reduction in discretionary loan loss provisions. This finding is robust to alternative measures of financial reporting quality such as small positive earnings changes and avoiding (negative earnings surprises).

Third, our study contributes to the literature on bank opacity. The increasing size and complexity of financial institutions has gained the attention of both academics and policymakers following the global financial crisis (Copeland, 2012; Avraham et al., 2012; Cetorelli et al, 2014; Liu et al, 2020). Cetorelli and Goldberg (2014) suggest that managerial incentives are a significant contributory factor in the increasing complexity and resultant opacity of banks. Our results suggest that by allowing audit committees to focus on core functions, financial reporting quality and resultant bank transparency are improved. This improves the quality of information available to bank stakeholders. As such the results of our analysis have relevance for market discipline in the banking industry given that transparent, timely and reliable information can aid internal (depositors) and external stakeholders (investors, regulators) in taking actions to mitigate excessive risk (Bushman and Williams, 2012; Nguyen, 2013; Cohen et al. 2014; Flannery, 2009; Flannery and Bliss, 2019).

Finally, we contribute to an emerging literature regarding the impact of various provisions of the Dodd-Frank Act on bank behavior (FSOC, 2011; FSOC, 2012; FSOC; 2016). Prior evidence suggests that the implementation of various provisions embodied in the Dodd-Frank Act improved financial stability and market discipline. Balasubramnian and Cyree (2014), Akhigbe et al. (2016) and Gao et al. (2018) provide evidence which suggests that the Dodd-Frank Act lessened too-big-to-fail (TBTF) issues at large banks. Evans and Schwartz (2014) offer evidence that the burden of regulatory compliance is disproportionately higher for smaller banks, while Cyree (2016) finds that small bank compliance costs increase significantly. Leledakis and Pyrgiotakis (2019) find that the acquisition of small banks increased after the passage of the Dodd-Frank Act. Our results suggest that imposing stricter requirements on large bank holding companies leads to changes in financial reporting quality.

The rest of this paper is organized as follows. Section 2 provides a background to the functions and evolution of audit committees. In Section 3 we provide a review of the research evidence on bank financial reporting quality. This section also reviews research that

investigates the role of audit committees in influencing the behavior of both non-financial and financial firms. Section 4 discusses the research design. In section 5, we discuss the dataset used, while section 6 presents the results of our empirical analysis. Section 7 presents the results for a series of additional tests, while Section 8 concludes.

2. Background

The primary purpose of an audit committee is to oversee the financial reporting process, hire external auditors and evaluate the results produced by internal and external audit. Members of the audit committee review significant financial reporting issues and make judgements, which affect the preparation of financial statements, interim reports, preliminary announcements, and other formal statements. The audit committee also reviews the clarity and completeness of any disclosures made in financial statements. It is also the responsibility of the audit committee to monitor and review the internal audit activities. In cases where there is no internal audit function, the audit committee considers (on an annual basis) whether there is a need for an internal audit function and reports the outcome of these deliberations to the board. A relevant section of the annual report is used to explain any absence of internal audit. In the absence of separate arrangements, the audit committee also assesses the scope and effectiveness of the systems established by management to identify, manage, and monitor financial and non-financial risks. Members of the audit committee are also responsible for addressing any issues arising from risk management procedures and report them to the board. Finally, the audit committee is responsible for overseeing relations with the external auditor. Members of the audit committee have primary responsibility for making recommendations on the appointment, reappointment, and removal of external auditors. These recommendations are made to the board, and then put to a shareholder vote at the annual general meeting. If the board does not accept the audit committee's recommendation, it should provide a rationale for any contrary position in the annual report.

The origin of audit committees in the United States dates back to 1940, when the US Securities and Exchanges Commission (SEC) recommended that listed (financial and non-financial) firms appoint an audit committee to propose and subsequently monitor the work of an external auditor. In the late 1980s, the Treadway Commission strengthened the supervisory and oversight roles of audit committees in the financial reporting process.⁵ This

⁵ The Treadway Commission was formed in 1985 to investigate, analyze and make recommendations regarding fraudulent corporate financial reporting. Audit committees were identified by the commission as essential parts of any system designed to prevent fraudulent financial reporting (Sommer, 1991).

continued throughout the 1990s as relevant authorities published guidelines aimed at improving and enforcing audit committee quality and performance (Blue Ribbon Committee, 1999; Securities and Exchanges Commission, 1999b; American Institute of Certified Public Accountants, 1999; National Association of Corporate Directors, 2000). While the aforementioned changes strengthened the supervisory and oversight roles of audit committees, high profile corporate failures (including Enron and WorldCom) raised further concerns regarding the quality of audit committees and corporate governance more generally. This led to an overhaul and implementation of a variety of regulations regarding audit committee effectiveness, many of which were included in the Sarbanes-Oxley Act (Healy and Palepu, 2003; Coffee, 2005).⁶

Passed in 2002, the Sarbanes-Oxley Act established standards relating to the audit committees of publicly listed firms. Sections 301 and 407 of the Act significantly increased the importance and responsibilities of audit committees (Linck et al., 2009; Beasley et al. 2009; Cohen et al., 2010). Under the provisions of Sarbanes Oxley Act, audit committees were deemed responsible for monitoring financial reporting processes, evaluating internal control and organizing and overseeing the external audit. Moreover, audit committees should be composed of independent members including at least one financial expert.

In 2002, the New York Stock Exchange (NYSE) Corporate Accountability and Listing Standards Committee recommended that audit committees should discuss guidelines and policies governing the assessment and management of risk (Bates and Leclerc, 2009). Critics of changes enacted under the Sarbanes-Oxley Act and the earlier Blue-Ribbon Committee expressed concerns that the scale and scope of activities undertaken by audit committees had expanded too far, leading to them becoming over-stretched and deviating from their core function and area of expertise (Zaman, 2001; Claypool et al., 2004).

In the wake of the global financial crisis, policy makers questioned the appropriateness of the corporate governance regimes in the banking industry. Risk management and corporate governance deficiencies were at the core of many bank failures.⁷ As a result, the role of audit committees attracted scrutiny (Aebi et al., 2012). A KPMG survey suggests that members of the audit committee expressed concerns that current

⁶ Zalewska (2014) provides a review of corporate governance reforms in the US and the UK as a result of major accounting scandals.

⁷ The weakness observed in the banking sector during the financial crisis was at least partly due to an accumulation of excessive risks by some banks (Srivastav and Hagendorff, 2016). This raised questions that directors who served bank boards were ineffective monitors of risk (Kirkpatrick, 2009; Hagendorff, 2019).

responsibilities for risk oversight distracted the audit committee from the core function of monitoring financial reporting quality (KMPG, 2009).

Based on the premise that the financial crisis was caused, at least in part, by corporate governance failures, the US Senate introduced, but failed to pass the Shareholder Bill of Rights Act, which recommended assigning board risk oversight responsibility to a separate risk committee (Honig, 2009). In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was passed. The Act included a specific provision, Section 165h, which required publicly traded bank holding companies with total assets exceeding \$10 billion to establish a stand-alone risk committee independent from the existing audit committee. Proponents of this policy argued that the establishment of stand-alone risk committees would bring relief to over-stretched audit committees by allowing them to focus on their core functions (Protiviti, 2011).

3. Literature Review

In this section, we present a selective review of the relevant literature. Section 3.1 provides an overview of the financial reporting quality literature. In Section 3.2 and 3.3 we provide an overview of the literature regarding audit committee effectiveness for non-financial and financial services firms respectively.

3.1 Financial reporting quality in the banking industry

The importance of bank financial reporting quality for the banking industry and global economy has been stressed by bank regulators for many years (Crockett, 2002). Financial reporting information that is transparent, timely and reliable can assist stakeholders in assessing the financial condition of banks (Flannery, 2009; Flannery and Bliss, 2019). Consequently, it is critical to understand the underlying factors driving the financial reporting quality of banks.

In the empirical bank accounting literature, financial reporting quality is measured most commonly by loan loss provisions. Evidence produced by early studies suggests that the accuracy of bank loan loss provisioning plays a critical role in determining the quality of financial reporting information (Wall and Koch, 2000).⁸ However, there is a general consensus that bank managers routinely use discretion in loan loss provisioning in such a

⁸ Loan loss provisions are made up of non-discretionary and discretionary components. The non-discretionary component represents loan loss provisions made to cover expected credit losses (Wahlen, 1994; Beaver and Engel, 1996). This component is related to the identification of non-performing loans, and exhibits a cyclical pattern (decreasing during periods of economic buoyancy and increasing as economic conditions deteriorate (Laeven and Majnoni, 2003; Bikker and Metzmakers, 2005). The discretionary component captures loan loss provisions made for managerial objectives such as income smoothing, capital management or signalling (Ahmed et al., 1999; Kanagaretnam et al., 2004; Fonseca and Gonzalez, 2008; Kanagaretnam et al., 2009).

way as to make reporting earnings appear stable over time (Greenawalt and Sinkey, 1988; Wahlen, 1994).

A number of empirical studies examine the relationship between discretionary loan loss provisions and earnings. No clear consensus emerges with some studies finding a positive correlation between earnings and discretionary loan loss provisions, consistent with earnings smoothing (Collins et al., 1995; Kanagaretnam et al., 2004; Liu and Ryan, 2006; El Sood, 2012; Bouvatier et al., 2014; Curcio and Hasan, 2015; Curcio et al., 2017), while others fail to find any significant association between earnings and loan loss provisions (Beatty et al., 1995; Ahmed et al., 1999).

Another strand of literature investigates whether banks use discretionary loan loss provisioning in order to manage capital. Bank managers have incentives to influence the level of reported loan loss provisions in order to meet minimum capital requirements (Moyer, 1990; Barth et al., 2017). Prior studies that test the capital management hypothesis focus on the association between discretionary loan loss provisions and Tier 1 capital before loan loss provisions. Much of the evidence presented (with the notable exception of Beatty et al., 1995 who find that discretionary loan loss provisions are positively related to capital) suggests that there is a negative correlation between discretionary loan loss provisions and Tier 1 capital before deductions for loan losses. This is consistent with the view that bank use loan losses to manage capital (Beaver and Engel, 1996; Collins et al., 1995; Kim and Kross, 1998; Ahmed et al., 1999; and Curcio and Hasan, 2015).

Prior research also investigates whether bank managers use loan loss provisions to signal private information regarding bank loan portfolio quality to outsiders (Wahlen, 1994; Liu and Ryan, 1995; Beaver and Engel, 1996). The signaling hypothesis derives from the positive association between discretionary loan loss provisions and one-year forward earnings. Kanagaretnam et al. (2003) find that managers of banks with low external credit ratings use loan loss provisions to increase the level of reported earnings in order to send a positive signal regarding future earnings prospects. In a similar vein, Kanagaretnam et al. (2005) produce evidence, which suggests that banks use discretionary loan loss provision to signal future earnings prospects.

An important strand of the banking literature examines how banks vary loan loss provisions over the business cycle. Much of the evidence presented suggests that loan loss provisions are pro-cyclical with banks decreasing (increasing) lending and increasing (decreasing) loan loss provisions during economic downturns (upturns). This amplifies

general economic and financial conditions (Laeven and Majnoni, 2003; Bikker and Metzmakers, 2005; Bouvatier and Lepetit, 2008; Beatty and Liao, 2011; Agenor and Zilberman, 2015; Huizinga and Laeven, 2019).

3.2 The Role of Audit Committees in non-financial firms

The role of the audit committee (in overseeing financial reporting processes and mitigating opportunistic managerial behavior) derives from information asymmetries and resultant agency issues inherent in the separation of ownership and managerial control (Jensen and Meckling, 1976; Fama and Jensen, 1983). Prior studies of audit committee effectiveness tend to focus on non-financial firms. However, since the global financial crisis of 2007-2009, an evidence base for the financial services industry has emerged.

Prior literature examines audit committee effectiveness in terms of authority, size, independence, financial literacy of members and frequency of meetings (DeZoort et al., 2002; Bédard and Gendron 2010; Cohen et al., 2014). Research has sought to measure audit committee effectiveness in delivering on the core task of monitoring the financial reporting process with reference to a variety of proxies of reporting quality. Early research investigates differences in the financial reporting quality of firms with and without an audit committee. McMullen (1996) finds that the presence of an audit committee is associated with higher financial reporting quality. Following the emergence of high-profile accounting scandals during the early 2000s, research shifted toward investigating the characteristics of effective audit committees. Abbott et al., (2000) find a lower incidence of accounting misbehaviour (less SEC accounting enforcement sanctions) at firms with independent members on their respective audit committees. Abbott and Parker (2000) find that independent audit committee members demand a high level of audit quality in order to assure against potential reputational losses arising from poor financial reporting quality. Klein (2002) finds that audit committee independence constrains earnings manipulation.

A lack of financial literacy of audit committee members may impact on financial reporting quality. Members of audit committees may emanate from a wide variety of backgrounds and may not have the requisite experience for effective accounting oversight. Moreover, the audit committee's oversight role may be criticized if external auditors believe that the audit committee does not have the collective knowledge necessary to understand financial reporting matters (Cohen et al., 2002). Abbott et al., (2004) present evidence suggesting a lower incidence of financial re-statements for firms with audit committees with

at least one financial expert.⁹ Schmidt and Wilkins (2013) find that financial reporting quality (measured as the time elapsed between the discovery of a firm's need for a restatement and the actual disclosure of the restatement) is higher for firms with more financial experts. Badolato et al. (2014) find that firms with audit committees comprising members with financial expertise are less likely to engage in earnings management.

Bédard et al. (2004) investigate whether member independence and financial literacy impact financial reporting quality. Using a sample of firms with high and low levels of discretionary accruals, the authors find that audit committee member independence and financial literacy reduce the likelihood of aggressive earnings management. DeFond et al. (2005) find a positive market reaction to the appointment of audit committee members with higher levels of financial expertise. Karamanou and Vafeas (2005) find more accurate earnings forecasts for firms with audit committees comprising independent and financial literate members. Using accruals quality (estimated using cash flow realizations) as a proxy for financial reporting quality, Dhaliwal et al. (2010) find that financial reporting quality is higher in firms with a larger proportion of accounting experts and independent members on the audit committee.

Accounting related scandals in the United States and elsewhere and the increased numbers of financial re-statements highlight the importance of more conservative financial reporting and effective internal control (Krishnan, 2005; Ettredge et al., 2012; Chen et al. (2014). Using a sample of firms from Standard and Poor's 500, Krishnan and Visvanathan (2008) find that the appointment of individuals with prior financial expertise to audit committees leads to increased accounting conservatism (which ensures the negative news is reflected in earnings announcement more quickly than good news). Hoitash et al. (2009) find that there is a lower incidence of material weakness disclosures in internal control for firms with financial experts on their audit committees.

The effectiveness of audit committees in monitoring the financial reporting quality depends on resources deployed. Evidence regarding whether greater resources afforded to larger audit committees are more effective in ensuring financial reporting quality is rather mixed. Xie et al. (2003) and Abbott et al. (2004) find no evidence that the size of audit committees has an impact on accruals and restatements, while Bédard et al. (2004) find that

⁹ Evidence also suggests that industry expertise (Cohen et al., 2014), legal expertise (Krishnan et al., 2011) and task-specific expertise (Shepardson, 2019) of members of audit committees are positively related to measures of financial reporting quality.

the size of audit committees is associated with less aggressive earnings management behavior.

Prior research also investigates whether the frequency of audit committee meetings matters for financial reporting quality. With the exception of studies by Sharma and Iselin (2012) and Krishnan and Visvanathan (2008) who find that the number of audit committee meetings is associated with more restatements and more internal control weakness, prior research shows more frequent meetings are associated with: less aggressive earnings management (Bédard et al., 2004); higher external audit quality (Abbott and Parker, 2000; Abbott and Parker, 2002); fewer restatements (Abbott et al., 2004); higher quality of earnings (Vafeas, 2005); and less fraud (Farber, 2005). Bratten et al. (2022) find that financial reporting quality improves when audit committees are more proactive in monitoring external audits.

3.3 The Role of Audit Committees in Financial Firms

In the financial sector, there is a paucity of evidence regarding the effectiveness of audit committees. According to recent guidelines, bank audit committee responsibilities include: reviewing accounting estimates, financial reporting judgements, and financial statement disclosures; monitoring and disciplining management accountable for addressing identified deficiencies (such as violations of law or regulation); overseeing internal control systems and the internal and external audit functions; and meeting with bank examiners at least once each supervisory cycle (Office of the Comptroller Currency (OCC), 2016; Federal Reserve Board, 2017b). Given the complexity and size of banking organizations, Cornett et al. (2009) use the size and the frequency of meetings of audit committees as instrumental variables in order to investigate the prevalence of earnings management behaviour in large US bank holding companies in the period prior to the passing of the Sarbanes-Oxley Act of 2002. The authors find that effective audit committees constrain earnings manipulation. Conditions leading up to and surrounding the global financial crisis prompted increased concerns regarding excessive bank risk-taking. Using a sample of publicly listed financial institutions, Sun and Liu (2014) find that banks with audit committees comprising members with long tenure are associated with lower total and idiosyncratic risk. They also present evidence that banks with directors on their audit committees who also sit in other boards (inter-bank busyness) had higher total and idiosyncratic risk. In the case of the Dodd-Frank Act, Hines et al. (2015) document that the mandatory creation of a stand-alone risk committee is associated with higher audit fees. However, the authors present evidence

suggesting that when members of audit committees sit also on risk committees, there is a reduction in audit fees. Using a cross-country sample and including years before the financial crisis, Garcia-Sanchez et al. (2017) find that members of audit committees with prior financial expertise decrease bank risk-taking in countries where the bank regulatory system is weak, and investors feel unprotected. Beyond the oversight of financial reporting quality, members of audit committees supervise external audit quality. Recent evidence suggests that the incidence of earnings management at banks decreases when audit committees include former external auditors as members (Ittonen et al., 2018).

Overall, the extant literature finds that effective audit committees improve financial reporting quality. While there is an abundance of evidence for non-financial firms, research regarding the role of audit committees in ensuring financial reporting quality at banks remains somewhat limited. In the remainder of this paper, we investigate whether the separation of audit and risk committees (required by Section 165h of the Dodd-Frank Act) leads to an improvement in the financial reporting quality of US bank holding companies.

4. Research design

To estimate the importance of audit committee oversight on the financial reporting quality of banks, we focus on a specific policy change incorporated in Section 165h of the 2010 Dodd Frank Act. Section 165h requires publicly traded bank holding companies with assets exceeding \$10 billion to have separate committees for audit and risk oversight. Many of the provisions within the Dodd-Frank Act outline specific asset thresholds for compliance, often exempting smaller banks for which compliance is likely to be prohibitively costly. In the current setting, Section 165h focuses on publicly traded bank holding companies with assets exceeding \$10 billion. The Dodd-Frank Act was signed into law on 21st July 2010. The deadline for compliance with Section 165h for publicly traded bank holding companies whose asset size exceeding \$10 billion was 1st July 2015. The relevant asset size was that prevailing as of June 2014 (Federal Register, 2014).

Taking into consideration that banks have five years to comply with Section 165h, we follow a special procedure to form our sample of bank holding companies. Following prior literature, we begin with publicly traded bank holding companies with total assets exceeding \$10 billion after 2010 (Balasubramanian et al., 2019). We identify 60 bank holding companies with assets exceeding \$10 billion as of June 2014. Of the 60 bank holding companies, eight have total assets less than \$10 billion in the pre-2014 period. While we

observe that these eight institutions exceed the \$10 billion threshold in the post 2010 period, our sample only includes the 52 bank holding companies with total assets exceeding \$10 billion in 2010.¹⁰

In order to identify affected (treated) and unaffected (control) institutions, we investigate whether bank holding companies have a joint audit and risk committee one year prior to the passage of Section 165h of the Dodd Frank Act. Specifically, bank holding companies with a joint audit and risk committee in 2009 are assigned to a treatment group, while counterparts that have both an independent risk committee and an independent audit committee are assigned to the control group. This results in seven more bank holding companies being excluded from our sample, because they have a joint risk committee with another committee. We identify 45 bank holding companies, of which 23 were non-compliant as of the signing of the law, and these institutions constitute the treatment group. The remaining 22 bank holding companies, which do not have a joint audit and risk committee, when the law was passed, constitute our control group.

In order to construct the discretionary loan loss provisions measure, we follow Beatty and Liao (2014) and estimate the following model:

$$\begin{aligned}
 LLP_{it} = & \beta_0 + \beta_1 \Delta NPA_{it+1} + \beta_2 \Delta NPA_{it} + \beta_3 \Delta NPA_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 \Delta LOANS_{it} \\
 & + \beta_6 ALW_{it-1} + \beta_7 CO_{it} + \beta_8 CSRET_{it} + \beta_9 \Delta GSP_{it} + \beta_{10} \Delta UNEMP_{it} \\
 & + \varepsilon_{it}
 \end{aligned} \tag{1}$$

Where LLP_{it} represents loan loss provisions, ΔNPA_{it} represents the change in non-performing assets between year t and $t-1$, $SIZE_{it-1}$ is the natural logarithm of total assets in year $t-1$, $\Delta LOANS_{it}$ is the change in total loans over the year, ALW_{it-1} represents loan loss allowances in year $t-1$ and CO_{it} is net charge-offs in year t . The model also includes $CSRET_{it}$, ΔGSP_{it} and $\Delta UNEMP_{it}$. These variables denote the return on the Case-Shiller Real Estate Index, the change in gross state product and the change in the rate of state unemployment, respectively.¹¹ Full definitions of these aforementioned variables are provided in panel B of

¹⁰ In Section 7 we consider whether our findings are sensitive to the inclusion of those banks that grew in size to exceed the regulatory threshold of \$10 billion as of June 2014. By way of preview our findings remain qualitatively unchanged.

¹¹ We include ΔGSP to capture effects of macroeconomic conditions on loan loss provisions (Laeven and Majnoni, 2003; Bikker and Metzmakers, 2005; Fonseca and Gonzalez, 2008). Our results are consistent with pro-cyclical loan loss provisioning behavior.

Table 1, summary statistics are tabulated in Table A1 while the results obtained from estimating Equation (1) are presented in Table A2.

The absolute value of residuals from Equation (1) are discretionary loan loss provisions. We posit that a reduction in the amount of discretionary loan loss provisions for affected banks after the enactment of Section 165h of Dodd-Frank Act would imply higher financial reporting quality. This is consistent with our prediction that when audit committees focus on the core function of reporting oversight, financial reporting quality is improved via a reduction in discretionary loan loss provisions.

To investigate the impact of the separation of audit and risk committees on financial reporting quality, we use a difference-in-differences approach. This approach compares the difference in reporting quality between the treated and control bank holding companies in the pre- and post- event periods. We estimate a model of the form:

$$Y_{i,t} = \beta_1(Affected_i * Post Event_t) + \delta X_{i,t} + v_i + \gamma_t + \varepsilon_{i,t}, \quad (2)$$

where i indexes bank and t indexes time. $Y_{i,t}$ denotes the financial reporting quality measure. $Affected_i$ is a dummy variable equal to one if a bank holding company has a joint audit and risk committee one year prior to the passage of Section 165h of the Dodd Frank Act., and zero otherwise. $Post Event_t$ is a dummy variable for the post-treatment period. This variable takes the value of one for years 2010 onwards, and zero otherwise. $Affected_i * Post Event_t$ is an interaction term which takes the value of one if the bank holding company is forced to separate audit and risk committees after Section 165h came into force, and zero otherwise. Our coefficient of interest is β_1 , which represents the impact of the separation of audit and risk committees on the financial reporting quality of bank holding companies.

$X_{i,t}$ represents a vector of bank holding company-level control variables that vary across bank holding companies and over time. These control variables include size, dividends, the one-year lag of loan loss provisions, capital, earnings before taxes and loan loss provisions and the one-year ahead change in earnings before taxes and loan loss provisions. Prior evidence suggests that larger banks produce higher quality financial reporting information (Altamuro and Beatty 2010; Delis et al., 2018). Dividends could also influence financial reporting quality, given the likely negative association with higher earnings persistence (Lawson and Wang, 2016). Prior research also suggests that one-year lag loan

loss provisions are associated with financial reporting quality (Kanagaretnam et al., 2010; Jiang et al., 2016).

We also control for possible relationships between discretionary loan loss provisions and capital management, earnings smoothing and signaling. A negative association between discretionary loan loss provisions and capital indicates that bank managers use loan loss provisions to manage capital (Ahmed et al., 1999; Kanagaretnam et al., 2004; Curcio and Hasan, 2015). A positive association between discretionary loan loss provisions and earnings before taxes and loan loss provisions is consistent with income smoothing behavior (Liu and Ryan, 2006; Fonseca and Gonzalez, 2008; Curcio and Hasan, 2015). Positive correlations between discretionary loan loss provisions and changes in future earnings are consistent with signaling behavior (Ahmed et al., 1999; Curcio and Hasan, 2015).

Finally, we introduce six additional covariates, which prior literature suggests are important drivers of audit committee effectiveness. These comprise the size of the audit committee, the financial expertise of members of the audit committee, the frequency of audit committee meetings, the intra-bank busyness, the inter-bank busyness and the tenure of audit committee directors. Table 1 provides a full list of variables included in the model along with their respective definitions. Equation (2) also includes time fixed effects, γ_t , as well as bank fixed effects v_i , which control for unobserved bank heterogeneity. Standard errors $\varepsilon_{i,t}$, are clustered at the bank level to account for possible autocorrelation.

[Insert Table 1 near here]

5. Data and summary statistics

We construct our dataset from three main data sources. At individual bank holding company level, we collect data from the S&P Global Market Intelligence (previously SNL financial) database. Information on analyst forecasts and on corresponding actual earnings per share is collected from Institutional Brokers Estimate System (I/B/E/S). Our sample period spans from 2007 to 2016. This period straddles the introduction of Section 165h of Dodd-Frank Act in 2010. In order to identify the structure and characteristics of audit committees, we assemble a hand collected dataset using the annual (10-K) reports and definitive proxy (DEF 14A) statements submitted by banks at the Securities and Exchanges

Commission (SEC) and made available via the EDGAR database. Finally, macroeconomic variables are collected from the Bureau of Economic Analysis.

Assigning institutions to treatment and control groups as described in Section 4 results in a final sample of 45 unique bank holding companies (23 treated and 22 control banks) with 422 bank holding company-year observations due to missing values. We classify observations from 2007-2009 and 2010-2016 as the pre- and post-treatment periods respectively. A key identifying assumption underlying our estimation strategy is that in the absence of Section 165h the average discretionary loan loss provisions made by both affected and unaffected banks would have evolved in a parallel fashion. This implies a similar trend for the outcome variable for both the treatment and control group in the pre-treatment period. To mitigate any concerns regarding the violation of the parallel trend assumption, we construct a control group using an entropy balanced matching procedure, which exhibits a trend in discretionary loan loss provisions during the pre-treatment period similar to that of the treated group. Unlike propensity score matching, entropy balancing reweights observations in the control group such that the distribution of the control banks matches that of the affected banks (Hainmueller, 2012). Moreover, this is achieved without discarding observations in the process.

Table 2 provides descriptive statistics for the main variables for the banks in the treated group, and the banks in the control group before and after matching, spanning the entire period of investigation. Panels A and B tabulate these descriptive statistics for the period before and after the passage of Section 165h of the Dodd Frank Act, while Panel C tabulates the evolution of the outcome variable for the pre-treatment period. The descriptive statistics indicate that the trend in discretionary loan loss provisions is similar between affected and unaffected banks after the matching procedure in the pre-treatment period. Figure 1 provides a graphical illustration of this finding. It depicts the evolution of discretionary loan loss provisions for bank holding companies in the treatment and control group after the matching procedure. In the years prior to 2010 (pre-treatment period), discretionary loan loss provisions of affected and unaffected banks follow similar paths. However, from 2010 (the year that Section 165h of Dodd-Frank Act came into effect), we observe diverging trends for the affected and control bank holding companies. These findings lend support to the notion that the parallel trend assumption is not violated in our setting (the results of more formal tests are reported in Section 7).

[Insert Table 2 near here]

[Insert Figure 1 near here]

6. Results

6.1 Baseline results

Table 3 presents the results of estimating Equation (2) using discretionary loan loss provisions as a dependent variable. Column 1 presents results of our baseline regression. We find a significantly negative coefficient on our primary variable of interest (*Affected x Post Event*) at the 1% level. The point estimate suggests that the amount of discretionary loan loss provisions of affected bank holding companies declines by 22 basis points. This decline is also economically significant, given that this represents almost 85% of the discretionary loan loss provisions made by the average bank holding company in the sample (which is equal to 26 basis points). Affected bank holding companies reduce loan loss provisions by \$257 million.¹² This suggests that relative to unaffected counterparts, bank holding companies affected by the introduction of Section 165h of Dodd-Frank Act are less likely to use discretionary loan loss provisions. This is in line with prior evidence, which suggests that lower discretionary loan loss provisions imply higher financial reporting quality (Wahlen 1994; Kanagaretnam et al., 2004; Fonseca and Gonzales 2008; Kanagaretnam et al., 2010; DeBoskey and Jiang, 2012).

In our analysis thus far, we have used the absolute value of residuals to measure discretionary loan loss provisions. We augment this analysis to investigate the direction of change in discretionary loan loss provisions. Prior evidence suggests that managers have incentives to overstate earnings using negative discretionary loan loss provisions (Huizinga and Laeven, 2012; Norden and Stoian, 2014; Jiang et al., 2016). On the other hand, banks may engage in over-provisioning in order to accumulate additional resources that could be used to boost their earnings at a later date (Norden and Stoian, 2014). Following prior literature (Danisewicz et al., 2021), we measure positive and negative discretionary loan loss provisions in Equation (1) and use these derived estimates as dependent variables in re-estimated versions of Equation (2). The results are presented in columns 2 and 3 of Table 3, respectively. In the case of positive discretionary loan loss provisions, we find a negative and

¹² Economic significance is calculated by multiplying the coefficient of interaction term by the amount of total loans of the average bank in our sample.

significant coefficient on our variable of interest (*Affected x Post Event*) at the 1% level, while for negative discretionary loan loss provisions, the interaction term does not enter the regression with a statistically significant coefficient. These results suggest that the decrease in the absolute value of discretionary loan loss provisions is driven by the decline in income-decreasing provisioning.

Turning to our control variables, we focus our discussion on the baseline specification (column 1) in Table 3. We control for the effectiveness of audit committees using: audit committee size; extent of membership financial expertise; frequency of meetings, percentage of busy audit committee directors (both intra- and inter-bank busyness); and average tenure of directors (Bédard et al., 2004; Yang and Krishnan, 2005; Krishnan and Visvanathan, 2008; Dhaliwal et al., 2010, Sun and Liu, 2014). *Audit Committee Size* enters the regression with positive, but insignificant coefficient, while *Financial Expert*, *Intra-bank busyness* and *Inter-bank busyness* enter the regression with negative, but insignificant coefficients. Finally, *Meetings* and *Tenure* enter the regression with positive and significant coefficients. Regarding our bank holding company level control variables, *Size* enters the regression with a negative, but statistically insignificant coefficient, while *lag_LL* and *Dividends* enter the regression with a positive, but insignificant coefficient. We also find that better capitalized bank holding companies make lower discretionary loan loss provisions (as indicated by the negative and statistically significant coefficient on capital). This is in line with prior literature, which suggests that banks use discretionary loan loss provisions to satisfy regulatory capital requirements (Ahmed et al., 1999; Curcio and Hasan, 2015). Furthermore, *EBTLLP* enters the regression with a negative, but statistically insignificant coefficient. Finally, we do not find evidence of the signaling hypothesis as indicated by the negative and statistically coefficient in future earnings.

[Insert Table 3 near here]

Overall, the results of our empirical analysis suggest that affected bank holding companies improve financial reporting quality following the introduction of Section 165h of Dodd-Frank Act.

6.2 Underlying mechanisms

The results of our empirical analysis (described in Section 6.1) suggest that affected bank holding companies improve financial reporting quality following the introduction of Section 165h of Dodd-Frank Act. The separation of the joint audit and risk committee into two independent committees after the introduction of Section 165h of the Dodd-Frank Act decreases the scope of responsibilities of the audit committee members, thus allowing for increased focus on the core function of financial reporting quality oversight. This suggests that when members of the audit committees are not overloaded, they are more effective at their core functions with subsequent improvement in financial reporting quality. In this section we explore the mechanisms through via which this outcome is realised. We identify five such channels based on audit committee characteristics including size, financial expertise, frequency of meetings, intra- and inter-bank busyness and tenure that relate to the audit committee's effectiveness.

The size of the audit committee is an important factor in enhancing financial reporting quality. This is due to the fact that larger audit committees can rely on a wider knowledge base and varied expertise of members. As such they can undertake their role more effectively (Vafeas, 2005). If audit committee size affects financial reporting quality, then any resultant impact of the separation of audit and risk committees following the introduction of Section 165h of Dodd-Frank Act should be higher among affected bank holding companies with larger audit committees.

Regulators have also shown a considerable interest in the financial expertise of audit committee members. In the United States, following the Sarbanes-Oxley Act (2002) audit committees ought to comprise at least one financial expert, while the other members need to be financially literate. Prior research suggests that the presence of financial expertise on the audit committee is positively associated with financial reporting quality (Xie et al., 2003; Abbott et al., 2003; Abbott et al., 2004; Bedard et al., 2004). Therefore, we would expect the impact of the introduction of Section 165h of Dodd-Frank Act on financial reporting quality to be higher among bank holding companies with a higher proportion of audit committee members with financial expertise.

The activity level of audit committees plays an important role in overseeing and monitoring the financial reporting process. It is argued that frequent audit committee meetings play a crucial role in addressing agency problems between management and various stakeholders. A number of prior studies provide evidence in support of the

importance currently attached to the level of activity undertaken by the audit committee (Abbott et al., 2003; Vafeas, 2005; Hoitash et al., 2009; Sharma et al., 2009; Engel et al., 2010). These studies suggest that more frequent audit committee meetings result in less aggressive earnings management. Therefore, if the separation of audit and risk committees affects financial reporting quality via a change in the frequency of audit committee meetings, then any resultant impact of Section 165h of Dodd-Frank Act should be higher among bank holding companies with a higher frequency of audit committee meetings.

The relationship between multiple directorships and firm performance remains a major concern for regulators and academics. Existing evidence shows that serving on numerous boards –inter-bank busyness (Shivdasani and Yermack, 1999; Fich and Shivdasani, 2006) or on numerous committees on the same board –intra-bank busyness (Chen and Wu, 2016) can result in busy and overstretched directors that may not be effective monitors of corporate management. Dhaliwal et al. (2010) document that audit committee members with fewer directorships are associated with less earnings management. In light of these arguments, we expect that if the separation of audit and risk committees affects financial reporting quality via a change in the composition of audit committee membership, then any resultant impact of Section 165h of Dodd-Frank Act on financial reporting quality should be higher for bank holding companies with audit committees comprising less busy directors.

The length of tenure of audit committee directors is likely to determine the effectiveness via which audit committees perform their monitoring role. Prior literature suggests that companies with audit committees where members have a long tenure exhibit lower financial reporting quality (Vafeas, 2005; Dhaliwal et al., 2010). Therefore, we expect that the introduction of Section 165h will have a higher impact on financial reporting quality among banks with higher tenure audit committee members.

To determine which of these aforementioned non-mutually exclusive mechanisms explain how the separation of audit and risk committees results in an improvement in financial reporting quality oversight, we re-estimate Equation (2) after sequentially replacing the respective audit committee characteristics as dependent variables. We express the dependent variables (Size, Financial Expert, Meetings and Tenure) in logarithmic form in order to make the estimated coefficients comparable across the different models. The results are presented in columns 1-6 of Table 4. The only cases that the interaction term enters the regression with a significant coefficient are in columns 4 and 5, where *Intra-bank busyness*

and *Inter-bank busyness* are the dependent variables, respectively. The sign of the coefficient is negative in both cases. Moreover, the effect is more prominent in the case of *Intra-bank busyness* with the magnitude of the reported coefficient on the interaction term is three times higher than that of the *Inter-bank busyness*. These findings suggest that reducing audit committee members' busyness in general and *Intra-bank busyness* in particular can be an effective channel for improving financial reporting quality.

[Insert Table 4 near here]

6.3 Alternative explanation

Our results, thus far suggest that Section 165h reduced discretionary loan loss provisions at affected banks due to the increased focus of the audit committee on the core function of financial reporting quality oversight. This was achieved via the establishment of independent risk committees resulting in the separation of joint audit and risk committees. However, one could argue that this documented reduction in discretionary loan loss provisions of affected banks was the result of audit committee members being prudent, while in charge of bank risk oversight.

We test whether the level of risk at affected banks changes as a result of the introduction of Section 165h. We re-estimate Equation (2) using credit risk (measured by the ratio of non-performing loans to total loans) as the dependent variable.¹³ We expect credit risk to be higher in cases where risk oversight is undertaken by board members with a lack of requisite knowledge and expertise. In this case, we would expect audit committee members to over-provision. The results of this test, which are tabulated in column 7 of Table 4, show that the level of credit risk at affected banks remains unchanged between the pre- and post-implementation period relative to the banks in the control group. This refutes the alternative explanation of our findings.

7. Additional tests

In this section we investigate the robustness of our main findings by conducting several tests that support the causal interpretation of the results obtained from our analysis

¹³ Our results remain unaltered when using net charge offs as an alternative proxy for credit risk.

above. Furthermore, we explore possible confounding effects that could drive our estimated results.

Falsification tests

The analysis presented thus far has shown that bank holding companies affected by the separation of audit and risk committees through the implementation of Section 165h of the Dodd-Frank Act improve their financial reporting quality. However, the validity of the difference-in-differences estimation requires that in the absence of the treatment, financial reporting quality for both treated and control bank holding companies follow the same behavior. This is referred to as the parallel trend assumption (Abadie, 2005). We complement the initial investigation of the parallel trend assumption reported in Section 5 (Table 2 Panel C) by conducting two additional tests. First, we conduct a placebo test, which falsely varies the timing of the introduction of Section 165h. Following Ignatowski and Korte (2014), we extend our dataset to cover the period 2002 to 2006, which we define as the pre-placebo period. In order to investigate the effect of a placebo treatment, we assume falsely that the separation of the audit and risk committees took place in 2008 rather than in 2010. Therefore, the sample used for this test covers the period 2002 through 2009. The results of this test are displayed in column 1 of Table 5. The coefficient on the interaction term (*Affected x Placebo Post Event*) is statistically insignificant. Second, we investigate the dynamics of financial reporting quality around the introduction of Section 165h, by plotting the annual average gap in the discretionary loan loss provisions of the treated banks relative to their unaffected counterparts. Figure 2 shows that the trend in the discretionary loan loss provisions of the treated banks is statistically not different from that of the control group during the pre-treatment period. This is another indication that the parallel trend assumption is not violated in our sample. Both Figure 2 and the results of the placebo test suggest that the parallel trend assumption is not violated for our analysis and further supports the causal interpretation of our main findings.

Moreover, our analysis includes several time-varying control variables to mitigate the risk of the parallel trend assumption violation. Such inclusion, however, introduces the risk of biasing the estimated treatment effect (Atanasov and Black, 2016). In order to ensure that our results do not suffer from such a bias, we re-estimate Equation (2) without including time-varying control variables. The results of this analysis, which are reported in column 2 of Table 5, show that the magnitude of the coefficient of interest (*Affected x Post Event*) remains virtually unchanged and thus our main conclusions continue to hold. In addition, we utilize a

coefficient stability test in order to investigate possible omitted variable bias in our estimates. The test (proposed by Oster, 2019) quantifies how much stronger the effect of unaccounted (relative to accounted) factors influencing financial reporting quality has to be in order to obtain a zero difference-in-differences estimate. The results of this test indicate that the effect of unobservables would have to be twice as important as the included covariates for the introduction of Section 165h of the Dodd-Frank Act to have no effect on financial reporting quality of banks.¹⁴ This implies that our findings are not driven by unobservable characteristics.

[Insert Figure 2 near here]

[Insert Table 5 near here]

Serial correlation

A concern regarding the validity of a difference-in-differences estimation arises if the standard errors are serially correlated. In such cases, reported standard errors could be biased downwards. To investigate concerns regarding serial correlation, we follow Bertrand et al. (2004), and collapse our sample into two time periods. Specifically, we average our variables before and after the separation of audit and risk committees by the introduction of Section 165h of the Dodd-Frank Act. The results of this exercise, which are reported in column 3 of Table 5 confirm that our findings are not driven by serial correlation as the coefficient of interest (*Affected x Post Event*) retains its significance.

Sensitivity analysis

Another potential driver of our results could arise from the requirement that bank holding companies had to establish independent risk committees after the introduction of Section 165h of the Dodd-Frank Act. Delis et al. (2018) find that enforcement actions related to risk issues improves the accounting quality of US commercial banks. If this is the case and treated bank holding companies display an improved financial reporting quality because of the presence of an independent risk committee and hence a better risk management policy, this could confound our baseline results. In order to investigate this possibility, we re-

¹⁴ Using Oster (2019)'s terminology, we find that $\delta = 2.01$. This result assumes that the R_{max}^2 of the hypothetical regression which contains all unobservable factors of financial reporting quality is the product of the R^2 of the regression including the observable factors multiplied by 1.3. Specifically, we use $R^2 = 0.274$ reported in column 1 of Table 3 in order to obtain $R_{max}^2 = 1.3 * 0.274$.

estimate Equation (2) using as a treated group, bank holding companies that have a joint risk with another committee (compliance committee, capital committee, examination committee, etc.), and as a control group bank holding companies that already had an independent risk committee prior to the introduction of Section 165h of the Dodd-Frank Act.¹⁵ Specifically, in Equation (2) we replace *Affected* with *Joint Risk Committee*, a dummy variable that captures the distinction between the treated and control group described above. Column 1 of Table 6 reports the results of this analysis. The coefficient of the interaction term (*Joint Risk Committee x Post Event*) is statistically insignificant. This finding implies that only bank holding companies that have a joint audit and risk committee before the introduction of Section 165h of the Dodd-Frank Act show an improvement in financial reporting quality. This further confirms that the observed improvement in the financial reporting quality of the affected bank holding companies is driven by the increased focus of the audit committee.

We also investigate whether our results are robust to the selection of our sample of bank holding companies. Our findings are based on those bank holding companies that meet the size threshold set by Section 165h in 2010 when the Dodd-Frank Act was signed into law. After 2010, and during the ensuing five-year period these banks were given to comply with the Act, eight more banks grew to exceed the \$10 billion asset size threshold, and thus had to comply with the Act. In order to ensure that our findings are not driven by the exclusion of these banks we re-estimate Equation (2) with an expanded sample that includes the eight banks with total assets exceeding \$10 billion in the post 2010 period.¹⁶ The results of this analysis, which are reported in column 2 of Table 6, suggest that our main findings remain qualitatively unaltered to the inclusion of these observations.

Finally, another critical issue is the exact timing of when affected bank holding companies split their audit and risk committees given that they had five years to comply with Section 165(h) of Dodd-Frank Act. Our main analysis is conducted under the assumption that the separation of audit and risk committees occurred in 2010 for affected bank holding companies. To alleviate concerns that our results are driven by this assumption, we check our data to identify the year that affected bank holding companies split their audit and risk committees following the introduction of Section 165(h) of Dodd-Frank Act. Scrutiny of the definitive proxy statements (DEF 14A) of affected bank holding companies reveals that five

¹⁵ Following the same data collection procedure as in our baseline analysis (Section 5), we identify seven bank holding companies that have a joint risk with another committee before the introduction of section 165h of the Dodd Frank Act.

¹⁶ Of these eight banks, five are classified as treated. The rest are unaffected by Section 165h and thus are classified as control banks.

bank holding companies split their audit and risk committees in 2010, four in 2011, one in 2012, nine in 2013, three in 2014 and one in 2015. Therefore, we re-estimate Equation (2) by replacing *Post Event* to take the value of one the year that a bank holding company splits the audit and risk committee onwards, and zero otherwise. The results of this test, which are reported in column 3 of Table 6, suggest that our main findings hold.

[Insert Table 6 near here]

Confounding factors

The validity of our approach would be undermined if factors other than the separation of audit and risk committee (following the introduction of Section 165h of the Dodd-Frank Act) are driving our main results. In 2009, the US government introduced the Troubled Asset Relief Program (TARP) to assist distressed banks and stabilise the banking industry. As a result, TARP recipient banks would be subject to more and stricter government supervision (Bouvard et al., 2015). Specifically, banks that received TARP funding are required to be more transparent about how the funds are being used. Therefore, the TARP program could have an impact on bank financial reporting quality similar to that observed following the separation of the audit and risk committee after the introduction of Section 165h of the Dodd-Frank Act. In order to investigate the robustness of our findings to this issue, we introduce the variable *TARP* and its interaction with *Affected* in Equation (2). *TARP* is defined as a dummy variable that is equal to one for the period each bank holding company in our sample receives funding from the US government. The results are presented in column 1 of Table 7. The coefficient of the interaction term (*Affected* x *TARP*) enters the regression negatively and statistically insignificant, while the coefficient on the interaction term of interest (*Affected* x *Post Event*) remains negative and statistically significant. This suggests that our main findings are not driven by the provisions of TARP.

[Insert Table 7 near here]

Another potential effect that could confound the results of our analysis are changes in the state corporate income tax rates facing banks in our sample. Tax rates changes have been shown to influence earnings management behaviour and hence financial reporting quality. For example, Dong and Xu (2019) find that accounting earnings are more likely to be

managed upward via the use of discretionary accruals in response to state tax cuts. If statutory tax rates were reduced in states where bank holding companies in our control group are located around the same time as the introduction of Section 165h of the Dodd-Frank Act, then this could confound the impact of the separation of audit and risk committee on financial reporting quality. In order to check the robustness of our findings to changes in state taxes, we hand collect information on state level statutory corporate income tax rates (from the Tax Foundation) and re-estimate Equation (2) via the introduction of the variable *Tax* and its interaction with *Affected*. We define *Tax* as a dummy variable equal to one if there is a cut in state corporate income tax rate, and zero otherwise. The results are presented in column 2 of Table 7. The interaction term *Affected* \times *Tax* enters the regression with a positive and statistically significant coefficient, while importantly the coefficient of the interaction term of interest (*Affected* \times *Post Event*) remains negative and statistically significant. This suggests that our main findings are not confounded by coincident changes in state corporate income taxes.¹⁷

We also investigate stress tests as a potential confounder to our findings. Prior evidence suggests that banks manage financial performance in order to meet capital ratio targets (Cochrane 2014, Cornett et al., 2020 Fernandes et al., 2020). Therefore, we explore whether our findings are driven by the stress tests exercises rather than the introduction of Section 165h of the Dodd-Frank Act. In order to check the robustness of our findings to stress tests, we re-estimate Equation (2), by incorporating the variable *Stress* and its interaction with *Affected*. Following prior literature, we define *Stress* as a dummy variable that equals one for the years that bank holding companies are part of the stress test exercises (Fernandes et al., 2020). The results, which are tabulated in column 3 of Table 7, indicate that the interaction term *Affected* \times *Stress* is statistically insignificant, while the interaction term of interest *Affected* \times *Post Event* retains its sign and significance. These results suggest that stress tests do not drive our main findings.

Alternative measures of financial reporting quality

We also investigate the sensitivity of our findings to alternative measures of financial reporting quality. Following prior literature, we compute small positive earnings changes and surprise avoidance. Small positive earnings changes capture the tendency of banks to manage earnings (so as to avoid reporting a negative change in earnings). We isolate

¹⁷ The results are robust to the use of an alternative proxy for capturing tax burden variation across states, namely the tax component of the Economic Freedom of North America index. The Economic Freedom index has been shown to correlate with US bank performance (Chortareas et al., 2016).

all bank holding company-years with a marginally positive earnings change. Prior evidence for non-financials suggests that firms that report small marginal positive income increases seek to avoid conveying bad news to investors (Burgstahler and Eames, 2003). Following Vafeas (2005), *Small Positive Earnings Changes* is defined as an indicator variable that equals one if there is a positive change of up to 1.5 percent over last year's net income divided by total assets, and zero otherwise. The surprise avoidance measure is also motivated based on prior evidence, which suggests that managers manipulate earnings upwards in order to avoid negative earnings surprises and meet analyst expectations (Matsumoto, 2002). Again, following Vafeas (2005), *Surprise Avoidance* is an indicator variable that equals one if an earnings surprise is between 0.00 and 0.04 cents over the consensus (median) analyst forecast, calculated as the last forecast prior to the announcement of annual earnings, and zero otherwise.

Table 8 shows that the interaction term *Affected x Post Event* is significantly and negatively associated with these alternative measures of financial reporting quality. This further illustrates the robustness of our main findings.

[Insert Table 8 near here]

8. Conclusion

In the aftermath of corporate governance and risk management failures during the global financial crisis of 2007-2009, US policymakers expressed concerns that audit committees did not have sufficient capacity to execute core responsibilities, leading to a deterioration in financial reporting quality. Resultant regulatory reforms embodied in Section 165h of the Dodd-Frank Wall Street Reform and Consumer Protection Act sought to tackle such issues by stipulating that large publicly traded bank holding companies should have separate, rather than joint audit and risk committees.

Against this backdrop, we investigate the importance of the audit committee for the financial reporting quality of US bank holding companies. The fact that some bank holding companies already had separate audit and risk committees prior to the enactment of the Section 165h of the Dodd-Frank Act allows us to identify a treated and control group of institutions and conduct a difference-in-differences analysis to assess the impact of policy reforms on the financial reporting quality (measured by discretionary loan loss provisions) of affected bank holding companies relative to unaffected counterparts.

The results of the empirical analysis presented in this paper suggest that financial reporting quality significantly improves following the introduction of Section 165h of the Dodd-Frank Act. Specifically, there is a significant reduction in earnings management at bank holding companies via a reduction in discretionary loan loss provisions. Consistent with the notion that directors who serve on many committees on the same board experience a reduced ability to be effective monitors of corporate management, we further find that this reduction in discretionary loan loss provisions is stronger for banks with fewer busy directors. An exhaustive series of additional tests confirm our findings.

Consequently, our results are of relevance for policymakers tasked with monitoring the impact of accounting based regulatory reforms on the behavior and performance of large banks. Specifically, the evidence presented in this paper suggests that active policy reforms aimed at increasing the focus of audit committees lead to improvements in financial reporting quality and resultant information available to industry stakeholders.

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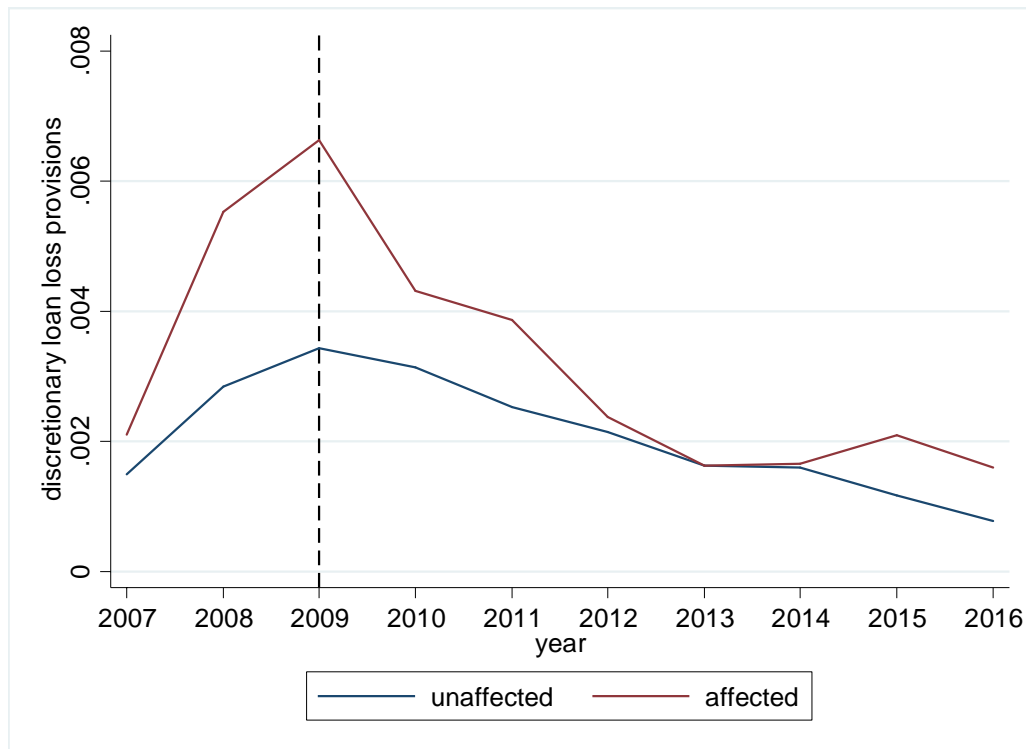
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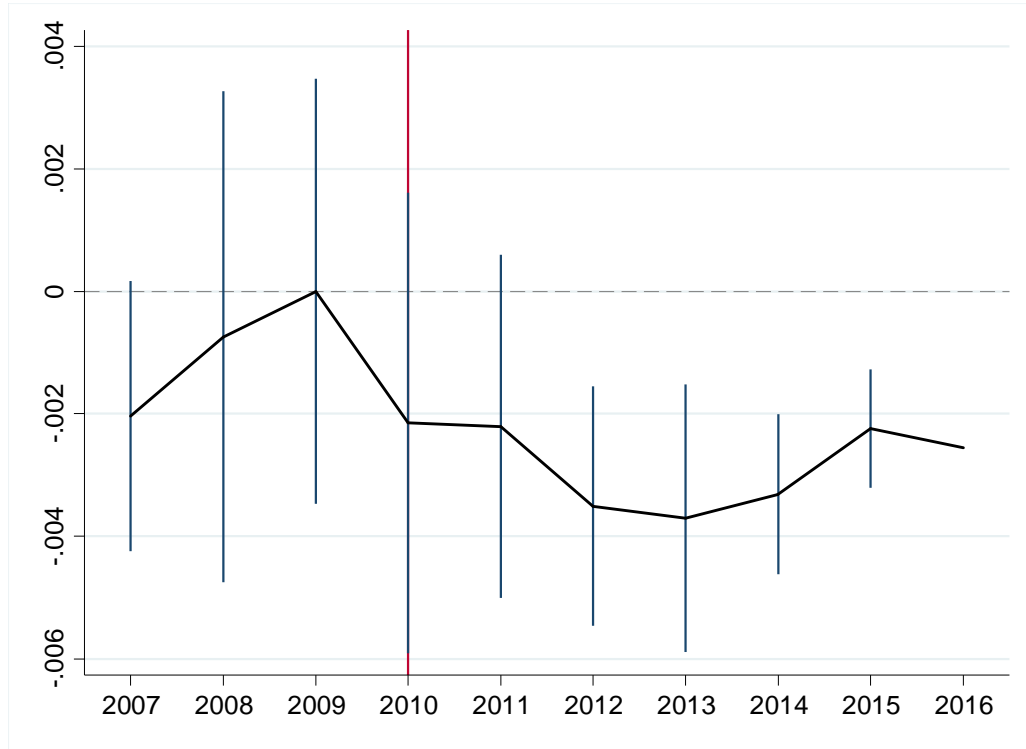
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Figure 1: Evolution of discretionary loan loss provisions from 2007 to 2016.



Note: This graph shows the evolution of discretionary loan loss provisions for affected and unaffected bank holding companies over the period 2007-2016. The dashed vertical line marks 2009, the year immediately before Section 165h of Dodd-Frank act came into effect.

Figure 2: Evolution of the discretionary loan loss provisions after the implementation of Section 165h of Dodd-Frank Act



Note: This graph shows the evolution of discretionary loan loss provisions for affected and unaffected bank holding companies over the period 2007-2016.

Table 1: Variable Definitions

Variable	Definition
<i>Panel A: Variables used in main analysis</i>	
DLLP	The absolute value of the discretionary loan loss provisions (residuals from Eq. (1))
DLLP ⁺	The positive value of the discretionary loan loss provisions (residuals from Eq. (1))
DLLP ⁻	The negative value of the discretionary loan loss provisions (residuals from Eq. (1))
Post Event	Indicator variable equals 1 in the post-Dodd Frank Act period (2010), zero otherwise.
Affected	Indicator variable equals 1 if bank holding companies have a joint audit and risk committee one year before the introduction of Section 165h (2009), zero otherwise.
Audit Committee Size	The size of audit committee.
Financial Expert	The number of members in the audit committee who are financial experts.
Meetings	The number of audit committee meetings held by bank per year.
Intra-bank busyness	The percentage of directors of the audit committee who also sit on other committees in the same bank.
Inter-bank busyness	The percentage of directors of the audit committee who also sit on other committees in a different bank board.
Tenure	The average number of years the audit committee members serve as directors in the audit committee.
Size	The natural logarithm of total assets at the beginning of the year.
Dividends	Total cash dividends paid to common shareholders divided by total equity capital.
lag_LL	One-year lag of loan loss provisions scaled by beginning total loans.
Capital	Bank capital as measured by Tier 1 capital divided by risk-weighted assets.
EBTLLP	Net income before taxes and loan loss provisions scaled by total assets.
Δ EBTLLP	One-year ahead change in net income before taxes and loan loss provisions scaled by total assets.

Panel B: Definition of variables used to estimate discretionary loan loss provisions

LLP	The ratio of loan loss provisions to beginning of the year total loans.
Δ NPA	Change in non-performing assets over the year divided by beginning of the year total loans.
Δ LOANS	Change in total loans over the year divided by beginning of the year total loans.
CSRET	The return on the Case-Shiller Real Estate Index over the year.
Δ GSP	Change in GSP (gross state product) over the year scaled by 100.
Δ UNEMP	Change in unemployment rates over the year.
ALW	Loan loss allowances over the year divided by beginning of the year total loans.
CO	Net charge off over the year divided by beginning of the year total loans.

Panel C: Variables used in sensitivity analyses

Joint Risk Committee	Indicator variable that equals one if a bank holding company has a joint risk with another committee in 2009 (one year prior to the Dodd-Frank Act), and zero otherwise.
TARP	Binary variable that equals one for the period that a bank holding company receives and repays TARP funding, and zero otherwise.
Tax	Binary variable that equals one the year the state in which a bank holding company is headquartered in changes its corporate income tax rate, and zero otherwise
Stress	Binary variable that equals one for the years a bank holding company is part of the stress tests, and zero otherwise.
Small Positive Earnings Changes	Indicator variable that equals one if earnings increase is positive and up to 1.5 percent over last year's net income divided by total assets, and zero otherwise.
Surprise Avoidance	Indicator variable that equals one if an earnings surprise is between 0.00 and 0.04 cents over the consensus (median) analyst forecast, measured as the last forecast prior to the announcement of annual earnings, and zero otherwise.

Note: This table provides the definitions of variables used in this study. *Panel A* shows the variables used in main analysis, *Panel B* shows the variables used to estimate discretionary loan loss provisions and *Panel C* shows the variables used in sensitivity analysis.

Table 2: Summary Statistics

	Affected BHCs		Unaffected BHCs		Difference	Unaffected BHCs (Entropy balancing)		
	N	Mean	N	Mean		N	Mean	Difference
	(1)	(2)	(3)	(4)	(5)=(2)-(4)	(6)	(7)	(8)=(2)-(7)
Panel A: Pre-treatment period (2007-2009)								
DLLP	54	0.0047	63	0.0029	0.0018	63	0.0023	0.0024
DLLP+	19	0.0067	38	0.0038	0.0029	38	0.0031	0.0036
DLLP-	35	-0.0036	25	-0.0015	-0.0021	25	-0.0012	-0.0024
Audit Committee Size	54	5	63	5	0.0000	63	5	0.0000
Financial Expert	54	2	63	3	-1.0000	63	3	-1.0000
Meetings	54	10	63	11	-1.0000	63	11	-1.0000
Intra-bank busyness	54	0.8403	63	0.0232	0.8170	63	0.0358	0.8045
Inter-bank busyness	54	0.2627	63	0.3585	-0.0958	63	0.2259	0.0368
Tenure	54	4	63	4	0.0000	63	4	0.0000
Size	54	17.2962	63	18.2512	-0.9549	63	17.3152	-0.0019
Dividends	54	0.0390	63	0.0365	0.0025	63	0.0298	0.0092
lag_LL	54	0.0093	63	0.0095	-0.0002	63	0.0077	0.0016
Capital	54	0.1146	63	0.1094	0.0052	63	0.1128	0.0018
EBTLLP	54	0.0173	63	0.0150	0.0023	63	0.0149	0.0024
ΔEBTLLP	54	0.0001	63	0.0003	-0.0002	63	0.0006	-0.0005
Panel B: Post-treatment period (2010-2016)								
DLLP	152	0.0024	153	0.0020	0.0004	153	0.0017	0.0007
DLLP+	82	0.0021	79	0.0014	0.0007	79	0.0015	0.0006
DLLP-	70	-0.0028	74	-0.0026	-0.0002	74	-0.0021	-0.0007
Audit Committee Size	152	5	153	6	-1.0000	153	5	0.0000
Financial Expert	152	3	153	3	0.0000	153	3	0.0000
Meetings	152	10	153	11	-1.0000	153	10	-0.0000
Intra-bank busyness	152	0.2972	153	0.0464	0.2508	153	0.0804	0.2168
Inter-bank busyness	152	0.2390	153	0.4385	-0.1995		0.3496	-0.1106
Tenure	152	6	153	5	1.0000	153	5	1.0000
Size	152	17.8683	153	18.4422	-0.5739	153	17.6194	0.2489
Dividends	152	0.0247	153	0.0186	0.0061	153	0.0178	0.0069
lag_LL	152	0.0101	153	0.0101	0.0000	153	0.0103	-0.0002
Capital	152	0.1339	153	0.1270	0.0069	153	0.1260	0.0079
EBTLLP	152	0.0189	153	0.0148	0.0041	153	0.0150	0.0039
ΔEBTLLP	152	-0.0002	153	-0.0003	0.0001	153	-0.0007	0.0005
Panel C: Pre-trend growth rate in discretionary loan loss provisions (2007-2009)								
2007	18	2.0084	21	1.6242	0.3842	21	1.6855	0.3229
2008	18	2.4128	21	36.3507	-33.9379	21	2.0715	0.3413
2009	18	1.2989	21	2.2979	-0.9990	21	1.1131	0.1858

Note: This table reports summary statistics for our sample. Panel A and B show summary statistics for the treated and control group before and after the entropy balancing procedure, for both the pre-treatment period (2007-2009) and the post-treatment period (2010-2016), respectively. Panel C presents trends in the pre-treatment period and the mean comparison of these trends between treated and control banks for the outcome variable. The definitions of the variables are given in Table 1.

Table 3: Audit Committees and Bank Financial Reporting Quality-Baseline Results

	DLLP	DLLP ⁺	DLLP ⁻
	(1)	(2)	(3)
Affected x Post Event	-0.0022*** (0.0006)	-0.0028*** (0.0009)	0.0014 (0.0011)
Audit Committee Size	0.0001 (0.0001)	0.0003 (0.0001)	0.0000 (0.0002)
Financial Expert	-0.0000 (0.0001)	-0.0001 (0.0001)	0.0002 (0.0002)
Meetings	0.0001** (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)
Intra-bank busyness	-0.0002 (0.0006)	-0.0000 (0.0008)	0.0005 (0.0006)
Inter-bank busyness	-0.0000 (0.0008)	-0.0000 (0.0001)	0.0004 (0.0024)
Tenure	0.0002* (0.0001)	-0.0001 (0.0001)	-0.0005** (0.0002)
Size	-0.0007 (0.0011)	0.0020 (0.0013)	0.0051*** (0.0013)
Dividends	0.0079 (0.0130)	-0.0125 (0.0238)	-0.0141 (0.0193)
lag_LL	0.0273 (0.0312)	0.0373 (0.0295)	-0.0341 (0.0407)
Capital	-0.0235** (0.0099)	-0.0121 (0.0121)	0.0333 (0.0237)
EBTLLP	-0.0546 (0.0398)	-0.0403 (0.0458)	0.0865 (0.0831)
ΔEBTLLP	-0.0563** (0.0230)	-0.0248 (0.0277)	0.1652** (0.0677)
Bank fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	422	218	204
No. of banks	45	45	45
R-squared	0.274	0.490	0.348

Note: This table reports the baseline results. The dependent variable is the absolute value of discretionary loan loss provisions. Column 1 investigates the effect of the separation of audit and risk committees following the introduction of section 165h of the Dodd-Frank Act. The variable of interest is *Affected x Post Event* which indicates the improvement in financial reporting quality between affected and unaffected banks following the introduction of section 165h of the Dodd-Frank Act. Column 2 uses positive discretionary loan loss provisions to investigate the impact of the separation of audit and risk committees on bank financial reporting quality. Column 3 uses negative discretionary loan loss provisions to investigate the impact of the separation of audit and risk committees on bank financial reporting quality. All regressions include the following set of control variables: Audit Committee Size, Financial Expert Meetings, Intra-bank busyness, Inter-bank busyness, Tenure, Size, Dividends, Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, One-year forward change in earnings before taxes and loan loss provisions. The definitions of variables are provided in Table 1. Standard errors clustered at bank level are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively.

Table 4: Audit Committees and Bank Financial Reporting Quality-Possible Channels

	Size	Financial Expert	Meetings	Intra-bank busyness	Inter-bank busyness	Tenure	Credit risk
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Affected x Post Event	0.0165 (0.0764)	0.1054 (0.1322)	0.0880 (0.1024)	-0.5495*** (0.0898)	-0.1769*** (0.0414)	0.1777 (0.1121)	-0.0000 (0.0000)
Bank level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A.C. Characteristics	No	No	No	No	No	No	Yes
Bank fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	422	422	422	422	422	422	422
No. of banks	45	45	45	45	45	45	45
R-squared	0.032	0.101	0.125	0.308	0.104	0.277	0.122

Note: This table reports the results of the mechanism analyses (columns 1-6), as well as that of testing for an alternative explanation (column 7) for our observed baseline results. Columns 1-7 report the estimates of Equation (2) for different dependent variables. In column 1 the dependent variable, *Size* is defined as the natural logarithm of the size of the audit committee. In column 2 the dependent variable, *Financial Expert* is defined as the natural logarithm of the number of audit committee members that are considered as financial experts. In column 3 the dependent variable, *Meetings* is defined as the natural logarithm of meetings held by audit committees. In column 4 the dependent variable, *Intra-bank busyness* is defined as the percentage of audit committee members that sit also in other committees in the same bank. In column 5 the dependent variable, *Inter-bank busyness* is defined as the percentage of audit committee members that sit also in other committees in a different bank. In column 6 the dependent variable, *Tenure* is defined as the natural logarithm value of the years that directors serve on the audit committee. In column 7 the dependent variable, *Credit risk* is defined as the ratio of non-performing loans to total loans. All regressions include the following set of control variables but are not reported in the table for brevity: Size, Dividends Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, One-year forward change in earnings before taxes and loan loss provisions. Audit committee characteristics including: *Audit Committee Size*, *Financial Expert Meetings*, *Intra-bank busyness*, *Inter-bank busyness*, *Tenure* are only included in the specification presented in column 7. The definitions of variables are provided in Table 1. Standard errors clustered at bank level are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively.

Table 5: Robustness Tests

	Placebo Event (1)	Covariates Exclusion (2)	Two-period Sample (3)
Affected x Placebo Post Event	0.0011 (0.0011)		
Affected x Post Event		-0.0015*** (0.0003)	-0.0017*** (0.0002)
Bank level controls	Yes	No	Yes
Bank fixed Effects	Yes	Yes	Yes
Year fixed Effects	Yes	Yes	No
Observations	292	422	84
No. of banks	39	45	45
R-squared	0.358	0.231	0.664

Note: This table presents the results of sensitivity checks of our baseline regressions with respect to different model specifications and sample composition, as well as on the validity of the parallel trend assumption. In column (1), we create a hypothetical event two years prior the actual year of event in 2008. The results are estimated using a sample spanning the period before the introduction of Section 165h of Dodd-Frank Act. *Placebo Post Event* is a dummy variable equal to ones for years 2007-2009 and zero for years 2002-2006. In column (2), we exclude covariates from the main model. In column (3), following Bertrand et al. (2004), we collapse our dataset into a two-period panel. Specifically, we average the data before (2007-2009) and after (2011-2016) the separation of audit and risk committees by the introduction of Section 165h of the Dodd-Frank Act in 2010. Column (1) and (3) include a set of control variables: Audit Committee Size, Financial Expert Meetings, Intra-bank busyness, Inter-bank busyness, Tenure, Size, Dividends Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, one year forward change in earnings before taxes and loan loss provisions but are not reported in the table for brevity. Standard errors, clustered at bank level, are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively. The definitions and sources of variables are given in Table 1.

Table 6: Further Robustness Tests

	Joint Risk Committee	Expanded Sample	Split Committee
	(1)	(2)	(3)
Joint Risk Committee x Post Event	-0.0003 (0.0006)		
Affected x Post Event		-0.0011** (0.0005)	-0.0024*** (0.0006)
Bank level controls	Yes	Yes	Yes
Bank fixed Effects	Yes	Yes	Yes
Year fixed Effects	Yes	Yes	Yes
Observations	280	499	422
No. of banks	30	53	45
R-squared	0.159	0.239	0.263

Note: This table presents the results of sensitivity checks of our baseline regressions with respect to different model specifications and sample composition. In column (1), the model is estimated using as a treated group bank holding companies that have a joint risk with another committee (e.g., compliance committee, capital committee, examination committee, etc.) and as a control group the banks that had already an independent risk committee before the introduction of Section 165h. In column (2), we re-estimate the baseline model using an expanded sample that also includes banks that grew in size to exceed the regulatory threshold of \$10 billion as of June 2014. In column (3), we re-estimate the baseline model by changing the treatment period to start after the separation of audit and risk committee has occurred for each bank holding company. In all regressions, we include a set of control variables: Audit Committee Size, Financial Expert Meetings, Intra-bank busyness, Inter-bank busyness, Tenure, Size, Dividends Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, one-year forward change in earnings before taxes and loan loss provisions but are not reported in the table for brevity. Standard errors, clustered at bank level, are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively. The definitions and sources of variables are given in Table 1.

Table 7: Confounding Events

	TARP	State Corporate Income Tax	Stress Test
	(1)	(2)	(3)
Affected x Post Event	-0.0017*** (0.0004)	-0.0023*** (0.0006)	-0.0022*** (0.0007)
TARP	-0.0006 (0.0011)		
Affected x TARP	0.0014 (0.0010)		
Tax		-0.0015*** (0.0005)	
Affected x Tax		0.0037** (0.0014)	
Stress			-0.0007 (0.0005)
Affected x Stress			-0.0015 (0.0015)
Bank level controls	Yes	Yes	Yes
Bank fixed Effects	Yes	Yes	Yes
Year fixed Effects	Yes	Yes	Yes
Observations	422	422	422
No. of banks	45	45	45
R-squared	0.280	0.284	0.291

Notes: This table presents results of the effect of the separation of audit and risk committees following the introduction of section 165h of the Dodd-Frank Act, on bank financial reporting quality, while considering potential confounding events. The dependent variable is discretionary loan loss provisions. The variable of interest is *Affected x Post Event* which indicates the improvement in financial reporting quality between affected and unaffected banks following the introduction of section 165h of the Dodd-Frank Act. In column (1), we include an additional interaction term between the dummy for TARP and variable *Affected*. TARP is defined as a binary variable which equals 1 for the period that bank holding companies purchase and repay the funding. Column (2) includes an additional interaction term between the dummy for *Tax* and variable *Affected*. *Tax* is defined as a binary variable which equals 1 for the year of our sample each state has changed corporate income tax rate relative to previous and next year. Column (3) includes an additional interaction term between the dummy for *Stress* and variable *Affected*. *Stress* is defined as a binary variable which equals 1 for the years that bank holding companies are part of the stress tests. The definitions of variables are given in Table 1. All model specifications are estimated using OLS. In all regressions, we include a set of control variables: In all regressions, we include a set of control variables: Audit Committee Size, Financial Expert Meetings, Intra-bank busyness, Inter-bank busyness, Tenure, Size, Dividends Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, one-year forward change in earnings before taxes and loan loss provisions but are not reported in the table for brevity. Standard errors, clustered at bank level, are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively.

Table 8: Alternative Measures of Financial Reporting Quality

	Small positive earnings changes (1)	Surprise avoidance (2)
Affected x Post Event	-0.0540* (0.0290)	-0.1772* (0.0948)
Bank level controls	Yes	Yes
Bank fixed Effects	Yes	Yes
Year fixed Effects	Yes	Yes
Observations	477	477
No. of banks	45	45
R-squared	0.041	0.166

Note: This table reports the results of sensitivity checks of our baseline estimation with respect to alternative measures of financial reporting quality. In column (1), the dependent variable is replaced with the variable small positive earnings changes. In column (2), the dependent variable is replaced with the variable surprise avoidance. In all regressions, we include a set of control variables: Audit Committee Size, Financial Expert Meetings, Intra-bank busyness, Inter-bank busyness, Tenure, Size, Dividends Loan loss provisions (lagged by one period), Capital, Earnings before taxes and loan loss provisions, one-year forward change in earnings before taxes and loan loss provisions but are not reported in the table for brevity. Standard errors, clustered at bank level, are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively.

Table A1: Summary Statistics for the variables used in Equation (1)

	(1) All BHCs				(2) Affected BHCs				(3) Unaffected BHCs			
	N	Mean	Median	Std	N	Mean	Median	Std	N	Mean	Median	Std
LLP	422	0.0098	0.0046	0.0120	206	0.0097	0.0047	0.0120	216	0.0099	0.0044	0.0121
Δ NPA	422	0.0015	-0.0005	0.0177	206	0.0020	-0.0002	0.0206	216	0.0010	-0.0009	0.0145
Δ LOANS	422	0.0684	0.0481	0.1586	206	0.0755	0.0574	0.1383	216	0.0617	0.0386	0.1759
ALW	422	0.0178	0.0153	0.0100	206	0.0178	0.0149	0.0106	216	0.0178	0.0157	0.0094
CO	422	-0.0096	-0.0050	0.0111	206	-0.0095	-0.0039	0.0120	216	-0.0096	-0.0056	0.0102
Δ GSP	422	3.7424	5.0300	11.6158	206	3.9097	4.8500	12.1581	216	3.5821	5.6650	11.0972
Δ UNEMP	422	-0.0215	-0.4000	1.3811	206	-0.0608	-0.4000	1.3500	216	0.0162	-0.3000	1.4123
CSRET	422	375.450	325.770	136.089	206	386.971	335.630	144.241	216	364.409	322.770	127.146
No. of banks	45				23				22			

Note: This table presents the summary statistics used in Equation 1. Column (1) reports statistics for the general sample, while column (2) and (3) report statistics by treatment status. The definitions of the variables are given in Table 1.

Table A2: Stage-one regression for estimating discretionary loan loss provisions

	(1)
	<i>Loan loss provisions</i>
ΔNPA_{it+1}	0.0969* (0.0489)
ΔNPA_{it}	0.0288** (0.0120)
ΔNPA_{it-1}	0.0397* (0.0215)
$SIZE_{it-1}$	0.0000 (0.0001)
$\Delta LOANS_{it}$	-0.0004 (0.0019)
ALW_{it-1}	0.1718*** (0.0526)
CO_{it}	-0.7247*** (0.0624)
$CSRET_{it}$	0.0000 (0.0000)
ΔGSP_{it}	-0.0000** (0.0000)
$\Delta UNEMP_{it}$	0.0014*** (0.0003)
Observations	422
R-squared	0.8822

Notes: This table reports the results from the estimation of Equation 1 using OLS. The sample consists of 45 BHCs from 2007 through 2016. Standard errors clustered at bank level are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level, respectively. The definitions of variables are given in Table 1.



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