Audit Partner Tenure and Accounting Estimate Quality

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Abstract: This paper examines whether individual partner-client relationships affect the quality of accounting estimates. Using confidential data on audit partner identity in the banking industry, we find that banks systematically report higher loan loss reserves at the beginning of audit partner/client relationships relative to the later years. While this result could suggest increased bank conservatism in the early years of the audit, we also find that the estimate of the loan loss reserve is more accurate early in the partner/client relationship, on average. Collectively, these results suggest that audit partners enforce higher quality accounting estimates in the early years of the relationship which decline in the later years. Additional analyses reveal that while the magnitude of the loan loss reserve is higher for public compared to private banks where regulatory scrutiny and reputational risks are higher, we do not find evidence of significant differences in the quality of the estimate. Our results suggest that audit partner relationships with clients affect the quality of accounting estimates and should be of interest to regulators, auditors, and investors.

1. Introduction

The accuracy of accounting estimates is a vital component of high quality financial reporting. A challenge in producing accurate estimates is that they are subject to significant discretion and uncertainty. Through their objectivity and accounting expertise, auditors can help improve overall accounting estimate quality. However, concerns have been raised that the tenure of the audit/client relationship could potentially impact financial reporting quality (Gipper et al. 2021; Lennox et al. 2014). To mitigate this concern, regulators have mandated audit partner rotation for public companies and audit firms typically have firm-specific policies related to audit partner tenure for private clients. This suggests that audit partner tenure may have an impact on the quality of accounting estimates. In this study, we examine whether and how audit partner tenure affects the quality of the loan loss reserve, a key estimate in the banking industry.

While prior studies have examined the effects of audit partners on various audit outcomes, much of the research is limited by data availability, as individual partner identity is unavailable prior to the implementation of Form AP in 2017. Given limited time series of partner identity, prior studies have attempted to infer partner tenure from a public disclosure (Laurion et al. 2017; Kuang et al. 2020; Krishnan and Zhang 2019) or rely on international data (Lennox et al. 2014; Chi et al. 2009; Carey and Simnett 2006). Other studies rely on broad measures of audit quality and provide little insight into how audit partners affect high-risk areas, such as accounting estimates (Gipper et al. 2021; Aobdia et al. 2015). Importantly, studies of the effect of partner rotation are generally focused on variation in audit outcomes when changing from one partner to a *different* partner. In this study we are interested in accounting estimate quality variation within the tenure of the *same* audit partner on a given client engagement. We overcome limitations of prior research by utilizing confidential data on audit partner identity for bank

audits over an extended time series and by examining the partner effect on a specific account, the loan loss reserve estimate.

Ex ante, the effect of the tenure of an individual audit partner on the quality of accounting estimates is not obvious. While audit partners lead the engagement team, other team members perform initial engagement fieldwork and affect audit decisions regarding the reporting of accounting estimates in audited financial statements (Gipper et al. 2021). Additionally, audit firms use extensive quality control systems (Bedard et al. 2008), which include oversight by engagement quality review partners, who are involved throughout the engagement and tasked with ensuring audit quality and consistency with firm standards (Lennox et al. 2020; Epps and Messier 2007). Further, within the banking industry, banks are subject to oversight by the bank's board of directors, internal audit function, and monitoring by regulatory examiners. Therefore, the impact of the individual audit partners on the quality of accounting estimates may be subsumed by other internal or external regulatory monitors. Such an explanation is consistent with the lack of evidence for differential audit quality effects associated with mandatory audit partner rotation or partner characteristics documented in some prior studies (Gipper et al. 2021; Kuang et al. 2020; Burke et al. 2019).

On the other hand, prior research provides evidence that individual partner characteristics and incentives affect audit quality (Lennox et al. 2020; Gul et al. 2013) or perceived audit quality (Aobdia et al. 2015). The length of partner tenure specifically could affect accounting estimates in several ways. First, early-tenure audit partners could enforce the reporting of higher quality estimates by taking a "fresh look" at firms' financial reporting or exhibiting higher professional skepticism (Nelson 2009). Thus, while new audit partners may enforce higher quality reporting early in the relationship, the partner may become less focused on estimate quality as their time

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with the firm increases (Laurion et al. 2017). Alternatively, new audit partners may need time to learn about the client and its specific problems, leading to lower quality reporting of accounting estimates early in the relationship relative to estimates reported later in the relationship (Lennox and Wu 2018). Additionally, the knowledge of impending rotation may heighten reputation concerns as the current partner considers the successor audit partner's review of her work (Cassell et al. 2016) or a perceived higher risk of regulatory scrutiny upon rotation. In all of these cases, we would expect to observe variation in the effect of audit partners on accounting estimates during the partner/client relationship.

We use the banking industry as a setting to examine variation in the reporting of accounting estimates within a partner/client relationship for several reasons. First, the loan loss reserve, one of the most significant accounting estimates in the banking industry, allows us to measure the quality of the estimate by examining its sensitivity to future loan losses (Beatty and Liao 2014; Stuber and Hogan 2021). Second, all bank holding companies (BHCs) above certain size thresholds are required to file a consolidated financial report, referred to as the Y9C filing, which include confidential line items that such as the name of the audit partner assigned to a bank for a given year.[1] These confidential data allow us to construct a panel data set of audit partner/client relationships between 2010 and 2019.[2] The availability of these data allows us to specifically identify both the timing of partner changes, as well as individual partner tenure. We include bank × partner × engagement fixed effects in our model, effectively allowing us to examine variation in the loan loss reserve estimate within a given partner/client relationship, holding constant partner or client-specific characteristics. Our primary result suggests that loan

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[1] Throughout the paper, we refer to "BHCs" and "banks" interchangeably.
[2] These fields are available from 2005 onwards as we need at least 5 years of leading data to identify partner/client relationships lasting at least five years. Further, examining a sample period from 2010-2019 allows us to avoid the effects of the financial crisis of 2008 – 2009, as well as the COVID-19 pandemic of 2020.

loss reserves are significantly higher in the first two years of an audit partner/client relationship relative to later years, consistent with variation in the reserve based on partner tenure. Economically, the loan loss reserve is 2.45 percent higher in the first two years of the partner tenure, relative to later years of tenure.

Variation in accounting estimates alone does not provide insight into the effect of the audit partner's tenure on estimate *quality*. Thus, we next examine whether higher loan loss reserves in the initial year of the audit partner-client engagement are associated with higher estimate quality. To do so, we examine the relation between the loan loss reserve and subsequent charge-offs in the early years of the relationship relative to later years using two different measures from prior research (Altamuro and Beatty 2010; Stuber and Hogan 2021). We find that the quality of the loan loss reserve estimate is significantly higher in the early years relative to later years, consistent with higher quality financial reporting at the beginning of the relationship.

One reason why accounting estimate quality may change over the course of the audit partner engagement relationship may be partners' heightened professional skepticism due to reputational concerns (Nelson 2009). If this is the case, we would expect the effects of partner tenure on accounting estimates to be strongest for those clients where partners face the greatest reputation risk: public client engagements, which are subject to potential PCAOB inspection. Consistent with partners being particularly concerned with inspection risk on engagements at publicly traded clients in early years of partner's tenure with the client, we find the loan loss reserve is significantly higher in the early years compared to the later years of the relationship for public banks relative to private banks. Collectively these results suggest that incentives to exhibit higher skepticism early in the relationship are strongest when there is a stronger monitoring environment and amongst higher-risk clients. However, while higher professional

skepticism is usually associated with a more effective audit, it is also possible that an auditor can increase scrutiny to the point of being too skeptical, resulting in an inefficient audit (Nelson 2009; Westermann et al. 2019). While we find that the loan-loss reserve in the early years of relationships is higher for public versus private bank clients, we find no evidence that this higher loan-loss reserve results in incremental improvement in the estimate quality for public banks relative to private banks. Thus, the results imply that partners at publicly traded clients are overly skeptical in early years of the relationship as no quality benefits are evidenced.

Overall, this study provides evidence that there is higher quality reporting of the loan loss reserve estimate in the earlier years of the audit partner's tenure with a client. These results suggest some benefits of mandatory audit partner rotation consistent with the "fresh look" hypothesis. However, we also document evidence that when mandatory audit partner rotation is combined with increased regulatory scrutiny and increased reputational risks, audit partners' may be exhibiting too much professional skepticism early in their tenure with the client.

This paper contributes to several streams of literature. First, our results contribute to the auditor rotation and tenure literature. There is continued debate as to whether audit partner rotation is an effective approach to alleviate the concerns that may arise from long partner/client relationships. Though we find some evidence of higher quality loan loss reserve estimates in earlier years of the audit partner/client relationship, we also provide evidence that there is significant variation in the consistency of accounting estimates within a partner/client relationship and that partners may be overly skeptical when reputational risks are heightened. Thus, we find evidence of both the benefits of auditor rotation and a new potential threat to accounting estimate quality.

Second, we contribute to the developing literature on individual audit partners. With the recently available Form AP data revealing partner identity, the focus of auditing research has been on the effect of individual partner characteristics on audit quality. In this study rather than focusing on the partner characteristics, we utilize partner fixed effects to control for partner characteristics and isolate the effect of partner tenure on the consistency and validity of the loan loss reserve estimate.

Our findings are informative to bank regulators as they demonstrate that shifts in the overall governance function in banks leads to reduced consistency of financial reporting and the reporting of bank risk. Our findings are also of interest to auditing standard setters and public accounting firm quality control system administrators, as they weigh both the costs and benefits of audit partner rotation.

2. Background and Theoretical Framework

2.1. The Conceptual Framework and Accounting Estimates

Statement of Financial Accounting Concepts No. 2 (SFAC 2) discusses qualitative characteristics that affect the usefulness of accounting information. Accounting information is useful for decision making if it is both relevant and reliable. For banks, there is little doubt that the reporting of loan portfolio risk is relevant to the users of bank financial statements. For information to be reliable, it must have representational faithfulness, be verifiable, and neutral. However, the relevance and reliability of information is not useful to decision makers unless the information is comparable across firms and there is consistency in the accounting method applied across reporting periods. The importance of qualitative characteristics of accounting information is particularly salient when considering accounting estimates.

Accounting estimates require significant judgement are of critical importance to financial statement users, auditors, and regulators. Prior literature has used investment property appraisals (Dietrich et al. 2000), insurance loss reserves (Gaver and Paterson 2004; Petroni 1992; Ege and Stuber 2021), and bank loan loss reserves (Beatty et al. 2002) to demonstrate that companies take advantage of the subjective nature of estimates to manage their earnings.

Further, an evaluation of estimate disclosures by General Motors and Wells Fargo find that even small adjustments to the inputs to estimate calculations can impact the final calculation by amounts many times greater than materiality (Christensen et al. 2012). This presents a challenge for auditors, as the inputs to key estimates are highly subjective and challenging to verify, and prior research suggests that auditor effectiveness in auditing estimates may be limited in some cases (Stuber and Hogan 2021). Additionally, PCAOB reports specifically cite failure to understand managements' processes, failure to complete appropriate procedures to verify managements' assumptions, and overall insufficient professional skepticism as causes of audit failures in firms examined (PCAOB 2008; PCAOB 2012).

Estimates present a unique challenge to auditors, because the procedures performed and judgement required differ substantially from the skills needed verify transaction-based accounts. Furthermore, evaluating internal controls over estimates is particularly difficult for auditors. While testing controls over transaction-based accounts is a mechanical process, evaluating the controls over accounting estimates requires a thorough understanding of the processes in place, and may require substantial modification year over year (Martin et al. 2006). The need for such higher-level understanding suggests that the importance of the audit partner may be even greater when considering estimates, relative to other areas of the audit.

2.2.   Prior Literature on Audit Partners Characteristics and Audit Partner Tenure

Regulators have expressed interest in how individual audit partners affect audit outcomes. In 2018, the PCAOB implemented a requirement to disclose audit partner identity for publicly traded companies via Form AP. The rationale of regulators is that in spite of firm quality control systems, audit partners may cause variation in the quality of individual audit engagements (PCAOB 2011). While the work of audit partners is subject to firm-level quality control measures, audit partners have significant latitude in many areas of the engagement. Additionally, because individual audit partners bear the primary responsibility for the oversight and execution of the audit engagement, it is likely that varying characteristics and incentives of individual partners affect the conduct and quality of the audit (Lennox and Wu 2018). Consistent with the existence of an individual partner effect, prior literature suggests that factors such as partner style, expertise, and tenure are associated with audit quality (Carey and Simnett 2006; Chen et al. 2008; Gul et al. 2013). However, there is little evidence that the disclosure of partner identity itself has had any significant impact on audit quality (Cunningham et al. 2019).

The literature is decidedly mixed in examining the effects of audit partner tenure and auditor rotation on audit quality. On one hand, proponents of mandatory partner rotation argue that longer tenure impairs auditor independence resulting in lower quality. Additionally, increased tenure could result in decreased professional skepticism which may make the audit procedures more predictable to the client. Thus, a "fresh look" from a new auditor could improve audit quality via increased professional skepticism (PCAOB 2011). Consistent with this theory, prior research has found that audit partner rotations is associated with an increase in client restatement announcements (Laurion et al. 2017) and that longer partner tenure is negatively associated with the propensity to issue going concern opinions (Carey and Simnett 2006; Ye et

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al. 2011).

On the other hand, opponents of mandatory firm and/or partner rotation argue that longer tenure could lead to higher audit quality because of the partner's accumulated client- and industry-specific knowledge. Prior literature in support of this theory finds that longer audit firm tenure is associated with smaller discretionary accruals (Chen et al. 2008; Chi et al. 2017), and a reduced likelihood of undetected fraud (Patterson et al. 2019). Additionally, mandatory auditor rotation results in sometimes unwanted auditor client realignment due an audit firm's inability to comply with partner rotation rules (Kuang et al. 2020).

2.3 Hypothesis Development

In contrast with studies focused on the change in financial reporting quality when changing from one partner to another (i.e., partner rotation), in this study, we are interested in whether and how the effect of individual audit partners varies with partner tenure within the same partner/client relationship. Ex ante, it is unclear whether and how audit quality will vary within an audit engagement.

Non-partner members of the engagement team perform the majority of substantive audit work, but the engagement team does not typically rotate when the audit partner rotates. Therefore, the continuity of experience on the engagement team should mitigate individual partner's effect on financial reporting. Furthermore, bank examiners are not subject to rotation requirements, thus the consistency of bank examiners could mitigate the effects of changes in an individual audit partner on reported bank risk. Further, Knechel et al. (2015) find that aggressive and conservative audit reporting persists for individual audit partners over time. This would suggest that partners' effect on the audit engagement also may remain constant over time. In this case we would expect that there may be a change in audit quality immediately following auditor

rotation, but we would not expect variation in the conservativeness or aggressiveness of reporting across an individual audit partner's relationship with a given client.

Alternatively, it is possible that auditor scrutiny of a bank's financial reporting, and particularly accounting estimates could be heightened during the early years of partner's tenure due to increased partner focus on the client and the partner having "fresh eyes." However, in the early years of an engagement, a new partner does not have the client-specific expertise to challenge the bank's reporting of problem assets. In this case, we would expect more conservative reporting in the later years of an audit engagement. Given the competing predictions of the effect of audit partner tenure on reporting of accounting estimates, we state our hypothesis in null form.

> **H1:** There is no change in the reporting of accounting estimates across an individual audit partner engagement relationship.

3.   Sample Selection and Identification Strategy

3.1.   Sample Selection

To investigate our research question, we construct a panel data set consisting of both publicly available and proprietary information. Our first data source contains annual reports of banks' balance sheets, income statements and asset quality. These reports, referred to as the Consolidated Reports of Condition and Income (colloquially referred to as Call Reports), are mandatory filings for all regulated financial institutions, regardless of their size or publicly listed status. These reports are useful for market investors who wish to gather information on publicly traded banks (Badertscher et al. 2018), as well as for examiners who use Call Report to determine whether reported bank performance meets or exceeds implicit or explicit risk thresholds (Gopalan 2018; Costello et al. 2019). From the publicly available Call Report data, we

collect information on bank size, performance, and asset quality. Our second data source consists

of confidential data from bank regulatory agencies that identify the audit partner on all bank

audits between 2005 and 2019. These data allow us to identify the year in which the audit partner

changes for a given client as well as identify the tenure of the audit partner/client relationship.

We begin our sample period in 2010, as five years of lagged partner identity data are necessary

to accurately calculate partner tenure.[3] We require that all bank-year observations have non-

missing total assets at time period t. We merge audit partner/client relationship data from bank

holding company regulatory filings with bank-year Call Report data, resulting in a final sample

of 6,277 bank-year observations from 2010 to 2019.

Table 1 and Figures 1a-1c present the frequency of the tenure length of individual audit

partner/client relationships (hereafter: relationships) in our data set by bank type. The highest

concentration of relationships last for a maximum of 1 year (23.89 percent) or 5 years (19.96

percent). These trends are consistent with mandatory rotation policies for public bank clients at

the 5-year mark. We also see in Figure 1c that private banks tend to follow to the same rotation

schedule as only 13.37 percent of private bank relationships extend past 5 years. This trend is

consistent with audit firms enacting internal quality control standards requiring audit partner

rotation even for private clients. Collectively, the trends presented in Table 1 and Figures 1a-1c

provide confidence that the audit partner data is accurate and consistent with regulation of audit

partner rotation.

3.2.   Identification Strategy

3.2.1   Estimate Levels of the Loan Loss Reserve

Our empirical strategy focuses on examining the variation in the loan loss reserve

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[3] We remove 39 public client relationships (1.4%) that lasted greater than 5 years from our sample as these are obvious data abnormalities.

estimate across an audit partner's relationship with a client. The allowance for loan losses is typically the largest estimate on a bank's balance sheet and has implications for bank lending, opacity and overall systemic risk (Beatty and Liao 2014; Iannotta and Kwan 2014; Bushman and Williams 2012). Further, the estimate is subject to a high level of management discretion making it susceptible both to management bias and manipulation (Beatty and Liao 2014). Prior literature has found that bank management uses the LLR to manage earnings (e.g., Beatty et al. 2002) and capital (Ahmed et al. 1999). Given the discretion in the LLR estimate, audit partners may be able to affect the estimate and we predict the partners' effect on the estimate will vary across the tenure of the audit partner engagement relationship.

Behavioral literature finds that higher accountability pressure for auditors results in more conservative materiality judgements (DeZoort, Harrison, and Taylor [2006]), and auditors with greater incentives to protect their own reputations are less likely to waive misstatements (Keune and Johnstone 2012). Given that auditors are more concerned with constraining income-increasing accruals (Barron et al. 2001; Becker et al. 1998; Nelson et al. 2002), auditors likely focus on identifying adjustments that would result in clients increasing rather than decreasing the ALL. Thus, increased professional skepticism and auditor scrutiny results in an increase in the audit procedures performed, resulting in a higher reserve level (Stuber and Hogan 2021; Westermann et al. 2019). For our analysis, we measure how the LLR is affected by relationship stage between the auditor and the client by estimating the following model using OLS regression:

$$LLR_{it} = \beta_0 + \beta_1 Relationship\_Stage_t + \gamma Controls + \alpha_{ipe} + \alpha_t + \varepsilon_{it} \qquad (1)$$

where *LLR* is the allowance for loan loss reserve scaled by beginning of the period total assets.[4]

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[4] We multiple LLR by 100 to when estimating the model to ease in the interpretation of coefficients.

We measure *Relationship_Stage* in two ways. First, we construct a variable *Initial_Year* which is equal to one when the relationship is in its first year. Second, we create an indicator variable *Beginning* which is equal to one when the relationship is in the first or second year. The coefficient on the *Relationship_Stage* variables captures the difference in *LLR* in the early years of the relationship relative to the later years. Given the predicted positive relationship between early tenure and LLR level, a positive (negative) coefficient on *Relationship_Stage* proxies would indicate higher (lower) estimates of the loan loss reserve in the early stages of the partner/client relationship relative to the later years of the relationship. We include bank-level control variables for the size and performance of the bank including assets *(Size)*, *Equity*, and *Net_Income* as well as loan values *(Loans)* to mitigate concerns that our results may be driven by the size or performance of the bank unrelated to the relationship between tenure and bank outcomes. Standard errors are clustered at the bank level.

One potential concern is that unobservable differences in bank characteristics, audit partner characteristics, audit firm characteristics and/or changing macroeconomic conditions during our sample period might impact our results. To mitigate this concern, we incorporate two classes of fixed effects to control for unobserved heterogeneity in our sample. The first class of fixed effects capture the auditor/client relationship. Specifically, we include a fixed effect for bank $\times$ audit partner $\times$ engagement. The second class of fixed effect is a year fixed effect that allows us to examine variation within a given year. The inclusion of these fixed effects helps mitigate concerns about endogeneity and the potential for unobserved alternative explanations in several ways. First, with the inclusion of the bank $\times$ audit partner $\times$ engagement fixed effects, we control for time-invariant bank and auditor/audit firm characteristics that may affect our inferences. For instance, the reporting of underlying bank risk may be collinear with the size of

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the bank, or with the individual partner/firm characteristics. The inclusion of these fixed effects allows us to isolate within partner/client relationship changes in *LLR*.

3.2.1 Estimate Quality

In the second stage of our analysis, we assess how the quality of the LLR estimate varies based on audit partner's tenure with the client. The quality of the allowance for loan losses can be evaluated *ex post*, making it an attractive estimate for empirical analysis. The SEC's Staff Accounting Bulletin (SAB) 102 outlines the procedures that should be used to validate loan loss accounting methodology. The bulletin states that, "a registrant's loan loss allowance methodology is considered valid when it accurately estimates the amount of loss contained in the portfolio. Thus, the SEC normally would expect the registrant's methodology to include procedures that adjust loan loss estimation methods to "*reduce differences between estimated losses and actual subsequent charge-offs* (SEC 2001)." Consistent with this expectation, we consider a stronger relationship between current year LLP and subsequent year charge-offs to be indicative of greater LLR quality. We follow prior literature and regulatory guidance, in considering one year to be the appropriate time period over which to examine subsequent charge-offs (Altamuro and Beatty 2010; Office of the Comptroller of the Currency (OCC) 2012; Bushman and Williams 2012; Nicoletti 2018; Stuber and Hogan 2021).[5]

To assess estimate quality, we use two different methods of assessing the quality of the loan loss reserve estimate. First, we follow Stuber and Hogan (2021) and examine the error in the LLR (*LLR_Error*), defined as the absolute deviation from of the ratio of loan charge-offs in *t+1*

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[5] According to the OCC's Comptroller's Handbook, "Many banks consider coverage of one year's losses an appropriate benchmark of an adequate reserve for most pools of loans…A one year coverage period is generally considered appropriate because the probable loss on any given loan in a pool should ordinarily become apparent in that time frame (OCC 2012)." The leading one year period is also consistent with prior literature which considers the LLP to be more timely if losses are recognized concurrently or in advance of loans becoming non-performing (OCC 2012; Bushman and Williams 2012; Nicoletti 2018).

to LLR in *t* from 1. To analyze how *LLR_Error* varies with audit partner tenure, we estimate the following model:

$$LLR\_Error_t= \alpha + \beta_1 Relationship\_Stage_t + + \gamma Controls + \alpha_{ipe} + \alpha_t + \varepsilon_{it} \qquad (2)$$

where *Relationship_Stage*, controls and fixed effects are consistent with model (1). A positive (negative) coefficient on β_1 indicates a higher (lower) error in the early stages of a relationship relative to the later stages, consistent with lower (higher) quality in the early stage.

As a second measure of LLR quality, we use the following model based on Altamuro and Beatty (2010) to examine whether the validity of the loan loss provision varies with the audit partner tenure:

$$CO_{t+1}= \alpha + \beta_1 Relationship\_Stage_t + \beta_2 LLP_t +$$
$$\beta_3 Relationship\_Stage \times LLP_t + \gamma Controls + \alpha_{ipe} + \alpha_t + \varepsilon_{it} \qquad (3)$$

where *Future_Charge_Offs_{t+1}* is equal to charge-offs in year *t+1* scaled by beginning total assets.

Based on the definition of LLP validity, a positive relationship between the LLP and subsequent charge-offs suggests that an increase (decrease) in the LLP in time *t* is associated with an increase (decrease) in charge-offs in subsequent periods. The validity of the LLP is measured by the strength of the relationship between the LLP in time *t* and charge-offs in time *t+1*; thus, a positive (negative) coefficient on LLP suggests higher (lower) LLP validity. In this study, we are interested in how the audit partner relationship stage affects the relationship between the LLP and subsequent charge-offs. Thus, we interact both of our measures of *Relationship_Stage* with *LLP*. A positive (negative) coefficient on β_3 indicates that the validity of the LLP is higher (lower) in the initial years of the relationship compared to later years of audit partner tenure and would suggest a more (less) effective audit.

4.   Summary Statistics and Results

4.1.   Summary Statistics

Panel A of Table 2 presents summary statistics for all bank-year observations in our sample, while Panels B and C of Table 2 provide summary statistics separately for public and private banks, respectively. The average bank in our sample bank in our sample has $14.6 billion in total assets. As expected, public banks in our sample are larger with an average of $15.2 billion in total assets compared to $14.1 billion in total assets for private banks. Loans comprise a majority of both public and private banks at 71.7 percent and 67.7 percent of assets, respectively. Sample banks are profitable, with a mean ROA of 0.8 percent, and have a low level of loan loss provisions (mean of 0.3 percent) and loan charge-offs (mean of 0.4 percent) of total assets. In terms of asset quality, our sample banks also appear to perform well overall. The mean loan loss reserve for public (private) banks is 1.0 (1.1) percent. Sample public (private) banks have a low percentage of past due and non-accrual loans with 0.5 (0.5) percent of assets with loans that are 30-89 days past due and non-accrual loans at 1.1 (1.2) percent of total assets.

4.2.   Results

4.2.1.   Level of the loan loss reserve

In our first analysis, we examine whether banks' loan loss reserve level changes across the audit partner/client relationship by estimating equation (1) using the outcome variable loan loss reserve scaled by lagged total assets (*LLR)*. Columns (1) and (3) of Table 3 shows that the coefficient on *Initial_Year* is positive and statistically significant below the 0.01 percent level for the loan loss reserve. Columns (2) and (4) of Table 3 shows that the coefficient on *Beginning* is positive and statistically significant below the 0.01 percent level for the loan loss reserve. In terms of economic significance, the coefficient of 0.022 (0.027) in column (3) (column (4))

suggests that the loan loss reserve is 2.0 (2.45) percent higher in the first year (the beginning) of the relationship relative to all subsequent years. The result provides evidence supporting a higher *LLR* at the beginning of the auditor's tenure relative to the later years.

4.2.3. Audit partner tenure and estimate quality

Based on the results in Table 3, we conclude that audit partners elicit higher reporting of underlying bank risk in earlier years of the relationship with their client relative to the later years. However, it remains unclear whether the level of the loan loss reserve represents improved estimate quality (audit effectiveness) or perhaps a decline in audit efficiency.

One potential mechanism to explain the higher loan loss reserve in prior years is increased professional skepticism. Auditing standards require that auditors exercise professional skepticism when planning and performing an audit (PCAOB 2006; AS 1015.07). The degree of professional skepticism employed is positively related to the evidence that an auditor requires to justify their audit opinion (Brazel et al. 2016; Nelson 2009). However, the degree of professional skepticism employed requires a balance between effectiveness and efficiency (Nelson 2009).

Thus, while an auditor requires a certain amount of evidence to reduce the chance that they fail to detect a material misstatement (e.g., audit effectiveness), if an auditor is too skeptical, the audit will be inefficient and potentially cause client dissatisfaction. If estimate quality is higher in the early years of the relationship relative to later years, it would suggest that the higher reserve, which is suggestive of heightened professional skepticism, in early years of the relationship, increases audit effectiveness and indicates that the increase in skepticism is appropriate. However, if the estimate quality is either not different or worse in earlier years of the relationship, it would imply that audit partners are *overly* skeptical in the early years of the relationship potentially resulting in an inefficient audit.

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Results from assessing *LLR_Error* by estimating equation (1) are presented in Table 4, panel A. In column (2) the coefficient on *Initial_Year* is negative, consistent with lower *LLR_Error* and a higher quality audit in the initial year of the audit, relative to the later years. The coefficient on Beginning in column (4) is negative, but insignificant. Together, these analyses suggest that higher partner professional skepticism in early partner/client relationship is associated with lower *LLR_Error*, but this effect is concentrated in the initial year of the audit.

We then examine a second measure of LLR quality by estimating equation (2). In Table 4, panel B, columns (2) and (4) the coefficients on $Initial\_Year_t \times LLP_t$ and $Beginning_t \times LLP_t$ related to the future charge-offs are positive and significant at the 5 percent level. These results provide evidence that the quality of the LLP is higher in the earlier years of the relationship compared to later years of the relationship. Together, the results of our analyses of both measures of LLR quality suggest the increase in skepticism in the earlier years of the relationship provides a more effective, higher-quality audit relative to the later years of the relationship.

5.   Additional Analyses and Robustness

5.1.   Public versus private banks

The results presented in Section 4 provide evidence that, on average, banks report higher loan loss reserves in the earlier years of the audit partner/client relationship. Nelson (2009) suggests that "incentives favoring professional skepticism are provided by the potential for enforcement by the PCAOB, SEC, and other regulatory bodies, litigation, and consequent reputation loss that reduces an audit firm's ability to attract clients and maintain higher fees for audit services" (p.11). Thus, if the mechanism explaining the higher LLR in the early years of the engagement is increased professional skepticism, we expect the effect of audit partner tenure

on the LLR to vary based on degree of potential PCAOB scrutiny of the audit engagement. Specifically, we examine whether the effects vary based on public vs. private banks, as public banks carry increased reputational risks to the audit partner associated with potential PCAOB inspection scrutiny.

Audit partner reputation risk varies across public and private client engagements. Public company engagements are subject to potential PCAOB inspection and the reputation risk of failure on a public engagement is greater relative to a private engagement due to likely higher scrutiny. If partners elicit a higher loan loss reserve in the early years of the audit due to greater salience of reputation risk in the early years of a client engagement, we would predict that the early relationship effects documented in Table 3 would be strongest in public clients. To examine this prediction, we create an indicator variable *Public* which is equal to one for publicly traded banks and zero otherwise. We then modify equation (1) as follows:

$$LLR_{it} = \beta_0 + \beta_1 Relationship\_Stage_t + \beta_2 Public_t + \beta_3 Relationship\_Stage_t \times Public_t + \gamma Controls + \alpha_{ipe} + \alpha_t + \varepsilon_{it} \qquad (4)$$

Results from estimating equation (3) are presented in Table 6. In columns (3) and (4) the coefficients on $Initial\_Year_t \times Public_t$ and $Beginning_t \times Public_t$ related to the loan loss reserve are both positive and significant at the 1 percent level. These results provide some evidence that the higher loan loss reserve elicited by partners in early years of the relationship is stronger in public banks where incentives favoring professional skepticism are higher.

As a second stage of the cross-sectional analysis of public versus private banks, we examine whether the higher loan loss reserve in public clients relative to private clients in the early years of the partner/client relationship is associated with increased loan loss reserve quality. Table 6 presents the results of estimating equations (2) and (3) with the additional of an indicator for *Public*. In panel A, column (4) and we find a positive and significant coefficient on

Beginning × *Public*, consistent with the notion that heightened partner professional skepticism in the early stage of a partner/client relationship coupled with PCAOB scrutiny of public engagements is associated with a *higher LLR_Error* relative to the early stages of a of the partner/client relationship for a non-public client. We do not find evidence of a significant difference between the *LLR_Error* of public and private clients in the initial year of a partner client relationship. Similarly, in Panel B, we do not find evidence that the heighted professional skepticism for public clients, relative to private clients is associated with a difference in LLP validity. Together, these results fail to provide evidence that the larger loan loss reserve in the initial stages of the audits of public clients, relative to private clients is associated with an improvement in accounting estimate quality. This result implies that auditors of public clients may exhibit too much professional skepticism in early years of the relationship in response to heightened regulatory scrutiny and heightened reputation risk.

5.3.   Robustness tests

5.3.1.   Alternative measurements of the loan loss reserve

It is possible that our results are sensitive to measurement and design choices, especially regarding our main outcome variable of interest (*LLR*). One potential concern is that scaling the loan loss reserve by total assets does not accurately capture the underlying riskiness of the bank's portfolio. Thus, we also measure *LLR* by scaling the loan loss reserve by both contemporaneous loans and by lagged loans. Results are presented in Table 8. In Columns (1) through (4), we scale *LLR* by contemporaneous loans and continue to find a significant and positive coefficient on *Initial_Year* and *Beginning* at the 5 percent and 1 percent level, respectively. In Columns (5) through (8), we scale *LLR* by loans in year *t-1* and continue to find a significant and positive coefficient on both *Initial_Year* and *Beginning* at the 1 percent level. Thus, our results are not

driven by the design choice related to how we scale the loan loss reserve.

5.3.2. Changes in underlying bank risk.

If the change in the loan loss reserve represents a change in actual risk, then our results do not suggest a change in partner effect on estimate quality, because the change in reported risk represents the change in the underlying economics of the bank. Though audit partners are specifically prohibited from influencing client operating decisions (SEC 2019), we conduct analyses to assess the possibility that the actual bank risk is affected by the stage of the partner/client relationship. rather than reported bank risk. Specifically, we examine the effect of the relationship stage on loans that are 30+ days past due. If individual audit partners affect the underlying risk-taking activities of their clients, we would expect to see changes in past due loans, which are leading indicators of bank deterioration and are not subject to management discretion. Additionally, the audit evidence required to evaluate loans that are 30+ days past due requires less judgement than audit evidence required to evaluate the quality of an estimate such as the *LLR*, given that past-due classification is mechanical based on days since the last loan payment. In untabulated analyses, we find no association between loans that are 30+ days past due and the stage of the partner/client relationship, mitigating concerns that the results of our primary analyses can be explained by changes in actual bank risk-taking.

6. Conclusion

In this study, we examine whether the level and quality of a key accounting estimate is affected across an individual audit partner's tenure. Using a novel panel data set of audit partner/client relationships within the banking industry we find that banks systematically report a higher loan loss reserve at the start of an audit partner engagement relationship. Further, we find

that the loan loss reserve estimate is of higher quality at the start of audit partner engagement relationships. In additional analysis, we find that the result related to the magnitude of the loan loss reserve is stronger in publicly traded and larger banks that are subject to greater regulatory and monitoring risk where audit partners face higher reputational risks. However, we do not find that evidence that the quality of the loan loss reserve is higher for public versus private banks. While these results suggests that there may be some benefits to "fresh eyes" in the early years of tenure, it also indicates that mandatory rotation combined with regulatory oversight and increased reputation risk may cause audit partners to exhibit excessive professional skepticism in the early years of an audit partner engagement relationship.

Overall, our results provide evidence that there is systematic variation in the level and quality of accounting estimates within a partner/client relationship. Such an effect on the consistency of risk reporting has the potential to negatively impact bank regulators and other users of bank financial statements. Our results highlight inconsistencies in how key corporate governance stakeholders shape financial reporting quality and should be of interest to regulators, auditors, and investors.

References

Ahmed, A. S., C. Takeda, and S. Thomas. 1999. Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics* 28 (1): 1–25.

Altamuro, J., and A. Beatty. 2010. How does internal control regulation affect financial reporting? *Journal of Accounting and Economics* 49 (1–2): 58–74.

Aobdia, D., C.-J. Lin, and R. Petacchi. 2015. Capital Market Consequences of Audit Partner Quality. *Accounting Review* 90 (6): 2143–2176.

Badertscher, B., J. Burks, and P. Easton. 2018. The Market Reaction to Bank Regulatory Reports. *Review of Accounting Studies* 23 (2): 686–731.

Barron, O., J. Pratt, and J. D. Stice. 2001. Misstatement Direction, Litigation Risk, and Planned Audit Investment. *Journal of Accounting Research* 39 (3): 449–462.

Beatty, A. L., B. Ke, and K. R. Petroni. 2002. Earnings management to avoid earnings declines across publicly and privately held banks. *The Accounting Review* 77 (3): 547–570.

Beatty, A., and S. Liao. 2014. Financial accounting in the banking industry: A review of the empirical literature. *Journal of Accounting & Economics* 58 (2–3): 339.

Becker, C. L., M. L. Defond, J. Jiambalvo, and K. R. Subramanyam. 1998. The Effect of Audit Quality on Earnings Management*. *Contemporary Accounting Research* 15 (1): 1–24.

Bedard, J. C., D. R. Deis, M. B. Curtis, and J. G. Jenkins. 2008. Risk monitoring and control in audit firms: A research synthesis. *Auditing: A Journal of Practice & Theory* 32 (2): 1–35.

Burke, J. J., R. Hoitash, and U. Hoitash. 2019. Audit Partner Identification and Characteristics: Evidence from U.S. Form AP Filings. *Auditing: A Journal of Practice & Theory* 38 (3): 71–94.

Bushman, R. M., and C. D. Williams. 2012. Accounting discretion, loan loss provisioning, and discipline of Banks' risk-taking. *Journal of Accounting and Economics* 54 (1): 1–18.

Carey, P., and R. Simnett. 2006. Audit Partner Tenure and Audit Quality. *The Accounting Review* 81 (3): 653–676.

Cassell, C. A., L. A. Myers, T. A. Seidel, and J. Zhou. 2016. The Effect of Lame Duck Auditors on Management Discretion: An Empirical Analysis. *Auditing: A Journal of Practice & Theory* 35 (3): 51–73.

Chen, C., C. Lin, and Y. Lin. 2008. Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality? *Contemporary Accounting Research* 25 (2): 415–445.

Chi, W., H. Huang, Y. Liao, and H. Xie. 2009. Mandatory Audit Partner Rotation, Audit Quality, and Market Perception: Evidence from Taiwan. *Contemporary Accounting Research* 26 (2): 359–391.

Chi, W., L. A. Myers, T. C. Omer, and H. Xie. 2017. The effects of audit partner pre-client and client-specific experience on audit quality and on perceptions of audit quality. *Review of Accounting Studies* 22 (1): 361–391.

Christensen, B. E., S. M. Glover, and D. A. Wood. 2012. Extreme Estimation Uncertainty in Fair Value Estimates: Implications for Audit Assurance. *Auditing: A Journal of Practice & Theory* 31 (1): 127–146.

Costello, A. M., J. Granja, and J. Weber. 2019. Do Strict Regulators Increase the Transparency of Banks? *Journal of Accounting Research* 57 (3): 603–637.

Cunningham, L. M., C. Li, S. E. Stein, and N. S. Wright. 2019. What's in a Name? Initial Evidence of U.S. Partner Identification Using Difference-in-Differences Analyses. *The Accounting Review* 94 (5): 139–163.

DeZoort, T., P. Harrison, and M. Taylor. 2006. Accountability and auditors' materiality judgments: The effects of differential pressure strength on conservatism, variability, and effort. *Accounting, Organizations and Society* 31 (4): 373–390.

Dietrich, J. R., M. S. Harris, and K. A. Muller III. 2000. The reliability of investment property fair value estimates. *Journal of Accounting and Economics* 30 (2): 125–158.

Ege, M. S., and S. B. Stuber. 2021. Are auditors rewarded for low audit quality? The case of auditor lenience in the insurance industry. *Journal of Accounting and Economics* (Forthcoming).

Epps, K. K., and W. F. Messier. 2007. Engagement Quality Reviews: A Comparison of Audit Firm Practices. *Auditing: A Journal of Practice & Theory* 26 (2): 167–181.

Gaver, J. J., and J. S. Paterson. 2004. Do insurers manipulate loss reserves to mask solvency problems? *Journal of Accounting and Economics* 37 (3): 393–416.

Gipper, B., L. Hail, and C. Leuz. 2021. On the Economics of Mandatory Audit Partner Rotation and Tenure: Evidence from PCAOB Data. *The Accounting Review* 96 (2): 303–331.

Gopalan, Y. 2018. The Effects of Ratings Disclosure by Bank Regulators. *Indiana University Working Paper*.

Gul, F. A., D. Wu, and Z. Yang. 2013. *Do Individual Auditors Affect Audit Quality? Evidence from Archival Data*. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network.

Iannotta, G., and S. Kwan. 2014. The Impact of Reserves Practices on Bank Opacity Working Paper 2013-35, The Federal Reserve Bank of San Francisco.

Keune, M. B., and K. M. Johnstone. 2012. Materiality Judgments and the Resolution of Detected Misstatements: The Role of Managers, Auditors, and Audit Committees. *The Accounting Review* 87 (5): 1641–1677.

Knechel, W. R., A. Vanstraelen, and M. Zerni. 2015. Does the identity of engagement partners matter? An analysis of audit partner reporting decisions. *Contemporary Accounting Research* 32 (4): 1443–1478.

Krishnan, G., and J. Zhang. 2019. Do investors perceive a change in audit quality following the rotation of the engagement partner? *Journal of Accounting and Public Policy* 38 (2): 146–168.

Kuang, H., H. Li, M. G. Sherwood, and R. L. Whited. 2020. Mandatory Audit Partner Rotations and Audit Quality in the United States. *Auditing: A Journal of Practice & Theory* 39 (3): 161–184.

Laurion, H., A. Lawrence, and J. P. Ryans. 2017. U.S. Audit Partner Rotation. *The Accounting Review* 92 (3): 209–237.

Lennox, C. S., and X. Wu. 2018. A Review of the Archival Literature on Audit Partners. *Accounting Horizons* 32 (2): 1–35.

Lennox, C. S., X. Wu, and T. Zhang. 2014. Does Mandatory Rotation of Audit Partners Improve Audit Quality. *The Accounting Review* 83 (5): 1775–1803.

Lennox, C., C. Wang, and X. Wu. 2020. Opening Up the "Black Box" of Audit Firms: The Effects of Audit Partner Ownership on Audit Adjustments. *Journal of Accounting Research* 58 (5): 1299–1341.

Martin, R. D., J. S. Rich, and T. J. Wilks. 2006. Auditing Fair Value Measurements: A Synthesis of Relevant Research. *Accounting Horizons* 20 (3): 287–303.

Nelson, M. W. 2009. A Model and Literature Review of Professional Skepticism in Auditing. *Auditing: A Journal of Practice & Theory* 28 (2): 1–34.

Nelson, M. W., J. A. Elliott, and R. L. Tarpley. 2002. Evidence from Auditors about Managers' and Auditors' Earnings Management Decisions. *The Accounting Review* 77 (s-1): 175–202.

Nicoletti, A. 2018. The Effects of Bank Regulators and External Auditors on Loan Loss Provisions. *Journal of Accounting and Economics* 66 (1): 244–265.

Office of the Comptroller of the Currency (OCC). 2012. Allowance for Loan and Lease Losses. In *Comptroller's Handbook*. Washington, DC.

Patterson, E. R., J. R. Smith, and S. L. Tiras. 2019. The effects of auditor tenure on fraud and its detection. *The Accounting Review* 94 (5): 297–318.

PCAOB. 2011. Concept Release on Auditor Independence and Audit Firm Rotation.

Petroni, K. R. 1992. Optimistic reporting in the property- casualty insurance industry. *Journal of Accounting and Economics* 15 (4): 485–508.

Public Company Accounting Oversight Board (PCAOB). 2008. Report on the PCAOB's 2004, 2005, 2006, and 2007 inspections of domestic annually inspected firms. PCAOB Release No. 2008-008, December 5.

———. 2012. *PCAOB Announces Settled Disciplinary Order for Audit Failures against Ernst & Young and Four of its Partners*. February 8. Washington, DC: PCAOB.

Securities and Exchange Commission. 2019. Office of the Chief Accountant: Application fo the Commission's Rules of Auditor Independence. https://www.sec.gov/info/accountants/ocafaqaudind080607.htm#general.

Securities and Exchange Commission (SEC). 2001. *SEC Staff Accounting Bulletin No. 102: Selected Loan Loss Allowance Methodology and Documentation Issues*.

Stuber, S. B., and C. E. Hogan. 2021. Do PCAOB Inspections Improve the Accuracy of Accounting Estimates? *Journal of Accounting Research* 59 (1): 331–370.

Westermann, K. D., J. Cohen, and G. Trompeter. 2019. PCAOB Inspections: Public Accounting Firms on "Trial." *Contemporary Accounting Research* 36 (2): 694–731.

Ye, P., E. Carson, and R. Simnett. 2011. Threats to auditor independence: The impact of relationship and economic bonds. *Auditing: A Journal of Practice & Theory* 30 (1): 121–148.

Appendix 1- Variable definitions

Dependent variables	
LLR_Asset	Loan loss reserve scaled by beginning-of-period total assets $(BHCK3123_t)/(BHCK2170_{t-1})$
LLR_Loans	Loan loss reserve scaled by beginning-of-period total loans
CO_{t+1}	Annual loan charge-offs scaled by beginning-of-period total assets $(RIAD4635_{t+1})/(BHCK2170_t)$
LLP	Annual loan loss provisions scaled by beginning-of-period total assets $(RIAD4230_t)/(BHCK2170_{t-1})$
LLR_Error	Absolute value of 1 minus charge-offs in t+1 divided by loan loss reserve in t. $ABS[1-(RIAD4635_{t+1})/(BHCK3123_t)]$
Independent variables	
Initial_Year	An indicator variable equal to 1 if it represents the first year of the audit partner/client relationship, 0 otherwise
Beginning	An indicator variable equal to 1 if it represents either of the first two years of the audit partner/client relationship, 0 otherwise
Public	An indicator variable equal to 1 if the client is a publicly traded bank, 0 otherwise
Size	Natural log of beginning-of-period total assets $(BHCK2170_{t-1})$
Equity	Equity scaled by beginning-of-period total assets $(BHCK3120_t)/(BHCK2170_{t-1})$
NACC	Non-accrual loans scaled by beginning-of-period total assets $(BHCK1403_t)/(BHCK2170_{t-1})$
Net_Income	Net income scaled by beginning-of-period total assets $(RIAD4340_t)/(BHCK2170_{t-1})$
Loans	Loans scaled by beginning-of-period total assets $(BHCK2122_t)/(BHCK2170_{t-1})$

Figure 1 Distribution of audit partner/client relationships by length of tenure

Figure 1a.

Engagement Length: Private and Public Banks

Figure 1b.

Engagement Length: Public Banks Only

Figure 1c.

Engagement Length: Private Banks Only
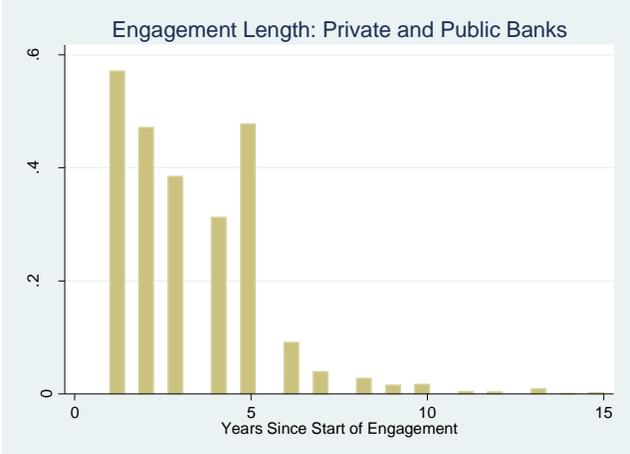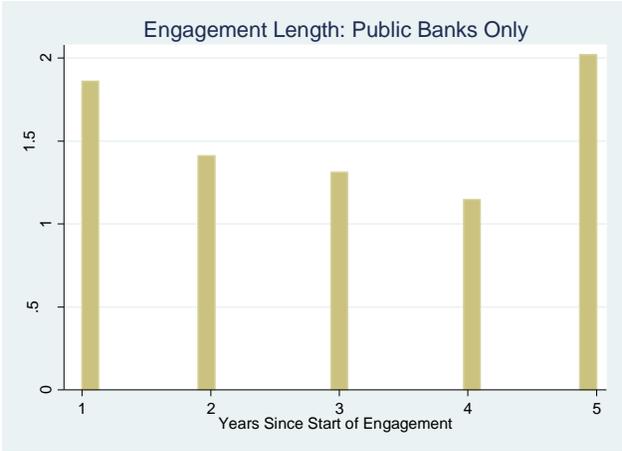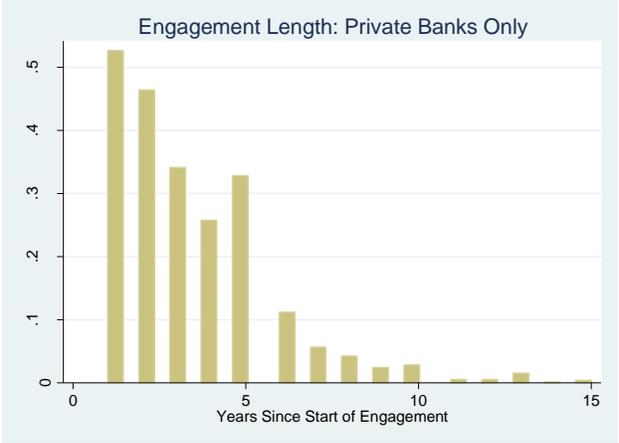
Table 1- Sample selection and distribution of observations

Tenure	All Banks		Public Banks		Private Banks	
	Number	*Percentage*	*Number*	*Percentage*	*Number*	*Percentage*
1	687	23.89%	315	24.01%	372	23.79%
2	567	19.71%	239	18.22%	328	20.97%
3	463	16.10%	222	16.92%	241	15.41%
4	376	13.07%	194	14.79%	182	11.64%
5	574	19.96%	342	26.07%	232	14.83%
6	79	2.75%	0	0.00%	79	5.05%
7	40	1.39%	0	0.00%	40	2.56%
8	30	1.04%	0	0.00%	30	1.92%
9	17	0.59%	0	0.00%	17	1.09%
10	20	0.70%	0	0.00%	20	1.28%
11	4	0.14%	0	0.00%	4	0.26%
12	4	0.14%	0	0.00%	4	0.26%
13	11	0.38%	0	0.00%	11	0.70%
14	1	0.03%	0	0.00%	1	0.06%
15	3	0.10%	0	0.00%	3	0.19%
Total:	2,876	100.00%	1,312	100.00%	1,564	100.00%

This table provides the distribution of audit partner/client relationships by length of tenure and by bank type

Table 2- Summary statistics

Panel A: All bank-year observations

Variable	N	Mean	sd	p25	median	p75
Size	6,277	14.598	1.425	13.609	14.164	15.168
Loans	6,277	0.695	0.179	0.593	0.702	0.804
Equity	6,277	0.111	0.041	0.090	0.106	0.127
NACC	6,277	0.011	0.014	0.003	0.007	0.014
Net_Income	6,277	0.008	0.009	0.006	0.009	0.012
CO_{t+1}	5,391	0.003	0.005	0.001	0.002	0.004
LLP	6,277	0.003	0.005	0.001	0.002	0.004
LLR_Asset	6,277	0.011	0.005	0.007	0.010	0.013
LLR_Loans	6,277	0.016	0.008	0.011	0.015	0.020

Panel B: Public bank-year observations

Variable	N	Mean	sd	p25	median	p75
Size	2,868	15.187	1.599	13.965	14.853	16.011
Loans	2,868	0.717	0.183	0.618	0.718	0.819
Equity	2,868	0.117	0.038	0.096	0.113	0.133
NACC	2,868	0.011	0.013	0.003	0.007	0.013
Net_Income	2,868	0.008	0.008	0.006	0.009	0.012
CO_{t+1}	2,501	0.004	0.005	0.001	0.002	0.004
LLP	2,868	0.003	0.005	0.001	0.002	0.003
LLR_Asset	2,868	0.010	0.005	0.007	0.009	0.012
LLR_Loans	2,868	0.015	0.008	0.010	0.014	0.019

Panel C: Private bank-year observations

Variable	N	Mean	sd	p25	median	p75
Size	3,409	14.103	1.024	13.424	13.876	14.467
Loans	3,409	0.677	0.173	0.570	0.686	0.790
Equity	3,409	0.106	0.042	0.085	0.100	0.119
NACC	3,409	0.012	0.014	0.003	0.007	0.015
Net_Income	3,409	0.008	0.009	0.005	0.008	0.012
CO_{t+1}	2,890	0.003	0.005	0.001	0.002	0.004
LLP	3,409	0.003	0.005	0.001	0.002	0.004
LLR_Asset	3,409	0.011	0.005	0.008	0.010	0.013
LLR_Loans	3,409	0.017	0.008	0.012	0.015	0.020

This table provides summary statistics for key variables. Panel A provides statistics for all banks in our sample, Panel B provides statistics for only public banks and Panel C provides statisstics for only private banks. See Appendix A for variable definitions.

Table 3- Loan loss reserve and stage of client/partner relationship

Variables	(1) LLR_Loans × 100	(2) LLR_Loans × 100	(3) LLR_Loans × 100	(4) LLR_Loans × 100
Initial_Year	0.056 ***	-	0.044 ***	-
	(3.90)	-	(3.42)	-
Beginning	-	0.069 ***	-	0.050 ***
	-	(4.13)	-	(3.35)
Size	-	-	-0.405 ***	-0.398 ***
	-	-	(-5.76)	(-5.66)
NACC	-	-	14.73 ***	14.68 ***
	-	-	(8.07)	(8.05)
Equity	-	-	-0.320	-0.331
	-	-	(-0.53)	(-0.55)
Net_Income	-	-	-5.398 ***	-5.298 ***
	-	-	(-3.86)	(-3.78)
Loans	-	-	0.202	0.216
	-	-	(1.36)	(1.46)
Bank × Partner × Engagement FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	6,277	6,277	6,277	6,277
R-sq	0.897	0.897	0.910	0.910
adj. R-sq	0.853	0.853	0.872	0.872

This table presents the results of estimating equation (1). Standard errors are clustered by bank and presented in parentheses. *,**, and *** denote significace at the 0.10, 0.05, and 0.01 levels respectively.

Table 4-Quality of the Loan Loss Reserve Estimate

Panel A: LLR Error

Variables	(1) *LLR_Error*	(2) *LLR_Error*	(3) *LLR_Error*	(4) *LLR_Error*
Initial_Year	-0.015 **	-0.012 **	-	-
	(-2.28)	(-1.96)	-	-
Beginning	-	-	-0.009	-0.006
	-	-	(-1.27)	(-0.92)
Size	-	-0.126 ***	-	-0.126 ***
	-	(-4.89)	-	(-4.92)
NACC	-	-4.845 ***	-	-4.855 ***
	-	(-8.60)	-	(-8.60)
Equity	-	0.183	-	0.172
	-	(1.04)	-	(0.97)
Net_Income	-	-0.137	-	-0.141
	-	(-0.26)	-	(-0.27)
Loans	-	-0.096 **	-	-0.096 **
	-	(-2.16)	-	(-2.14)
Bank × Partner × Engagement FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	5,080	5,080	5,080	5,080
R-sq	0.765	0.781	0.765	0.781
adj. R-sq	0.661	0.683	0.660	0.683

Table 4 (continued)

Panel B: LLP Validity

Variables	(1) CO_{t+1} × 100	(2) CO_{t+1} × 100	(3) CO_{t+1} × 100	(4) CO_{t+1} × 100
Initial Year	0.000	0.000	-	-
	(0.53)	(0.47)	-	-
LLP	0.190 ***	0.085 ***	0.170 ***	0.066 *
	(6.52)	(2.61)	(4.76)	(1.85)
Initial_Year × LLP	0.104 ***	0.085 **	-	-
	(2.83)	(2.47)	-	-
Beginning	-	-	0.000	0.000
	-	-	(-0.13)	(-0.26)
Beginning × LLP	-	-	0.079 **	0.068 **
	-	-	(2.06)	(2.19)
Size	-	0.004 ***	-	0.004 ***
	-	(6.55)	-	(6.78)
NACC	-	0.165 ***	-	0.165 ***
	-	(11.25)	-	(11.22)
Equity	-	-0.003	-	-0.002
	-	(-0.81)	-	(-0.66)
Net_Income	-	0.016	-	0.016
	-	(1.27)	-	(1.27)
Loans	-	0.001	-	0.001
	-	(0.87)	-	(0.97)
Bank × Partner × Engagement	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	5,089	5,089	5,089	5,089
R-sq	0.832	0.862	0.830	0.862
adj. R-sq	0.757	0.801	0.755	0.800

This table presents the results of estimating equations (2) and (3) in panels A and B, respectively. Standard errors are clustered by bank and presented in parentheses. *,**, and *** denote significace at the 0.10, 0.05, and 0.01 levels respectively.

Table 5- Loan Loss Reserve in Public vs Private Banks

Variables	(1) LLR_Loans × 100	(2) LLR_Loans × 100	(3) LLR_Loans × 100	(4) LLR_Loans × 100
Initial_Year	0.006	-	0.004	-
	(0.34)	-	(0.24)	-
Public	0.003	-0.038	0.015	-0.020
	(0.04)	(-0.49)	(0.23)	(-0.30)
Initial_Year × Public	0.097 ***	-	0.078 ***	-
	(4.32)	-	(3.61)	-
Beginning	-	0.000	-	-0.004
	-	(0.01)	-	(-0.21)
Beginning × Public	-	0.133 ***	-	0.105 ***
	-	(5.78)	-	(4.65)
Size	-	-	-0.397 ***	-0.378 ***
	-	-	(-5.77)	(-5.46)
NACC	-	-	14.660 ***	14.420 ***
	-	-	(8.04)	(7.95)
Equity	-	-	-0.307	-0.312
	-	-	(-0.51)	(-0.52)
Net_Income	-	-	-5.342 ***	-5.320 ***
	-	-	(-3.83)	(-3.80)
Loans	-	-	0.206	0.228
	-	-	(1.39)	(1.54)
Bank × Partner × Engagement FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	6,277	6,277	6,277	6,277
R-sq	0.897	0.898	0.910	0.911
adj. R-sq	0.853	0.855	0.872	0.873

This table presents the results of estimating equation (4). Standard errors are clustered by bank and presented in parentheses. *,**, and *** denote significace at the 0.10, 0.05, and 0.01 levels respectively.

Table 6 – Quality of the Loan Loss Reserve Estimate in Public vs Private Banks

Table A: LLR Error

Variables	(1) LLR_Error	(2) LLR_Error	(3) LLR_Error	(4) LLR_Error
Initial_Year	-0.019 **	-0.015 *	-	-
	(-2.04)	(-1.65)	-	-
Public	0.008	0.034	0.002	0.026
	(0.37)	(1.57)	(0.07)	(1.19)
Initial_Year × Public	0.007	0.005	-	-
	(0.64)	(0.47)	-	-
Beginning	-	-	-0.018 *	-0.015 *
	-	-	(-1.96)	(-1.76)
Beginning × Public	-	-	0.018 *	0.018 *
	-	-	(1.66)	(1.78)
Size	-	-0.129 ***	-	-0.127 ***
	-	(-4.96)	-	(-4.88)
NACC	-	-4.86 ***	-	-4.904 ***
	-	(-8.61)	-	(-8.63)
Equity	-	0.181	-	0.173
	-	(1.03)	-	(0.98)
Net_Income	-	-0.152	-	-0.161
	-	(-0.29)	-	(-0.31)
Loans	-	-0.098 **	-	-0.096 **
	-	(-2.21)	-	(-2.15)
Bank × Partner × Engagement FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	5,080	5,080	5,080	5,080
R-sq	0.765	0.781	0.765	0.781
adj. R-sq	0.660	0.683	0.660	0.683

Table 6 – continued

Panel B: LLP Validity

Variables	(1) $CO_{t+1} \times 100$	(2) $CO_{t+1} \times 100$	(3) $CO_{t+1} \times 100$	(4) $CO_{t+1} \times 100$
LLP	0.200 ***	0.088 **	0.201 ***	0.078 *
	(5.27)	(2.13)	(4.32)	(1.71)
Initial_Year	0.000	0.000	-	-
	(0.20)	(-0.40)	-	-
Beginning	-	-	0.000	0.000
	-	-	(-0.38)	(-1.09)
Public	0.000	-0.001 *	0.000	-0.001 **
	(0.50)	(-1.86)	(0.42)	(-2.02)
LLP × Initial Year	0.108 *	0.097 *	-	-
	(1.92)	(1.75)	-	-
LLP × Beginning	-	-	0.049	0.062
	-	-	(1.03)	(1.52)
LLP × Public	-0.021	-0.007	-0.073	-0.030
	(-0.42)	(-0.16)	(-1.18)	(-0.61)
Initial_Year × Public	0.000	0.000	-	-
	(0.26)	(1.09)	-	-
Beginning × Public	-	-	0.000	0.000
	-	-	(0.49)	(1.46)
LLP × Initial_Year × Public	-0.005	-0.022	-	-
	(-0.07)	(-0.32)	-	-
LLP × Beginning × Public	-	-	0.072	0.017
	-	-	(0.99)	(0.28)
Size	-	0.004 ***	-	0.004 ***
	-	(6.76)	-	(7.02)
NACC	-	0.165 ***	-	0.165 ***
	-	(11.26)	-	(11.23)
Equity	-	-0.003	-	-0.002
	-	(-0.75)	-	(-0.59)
Net_Income	-	0.0164	-	0.016
	-	(1.27)	-	(1.28)
Loans	-	0.001	-	0.001
	-	(0.91)	-	(1.04)
Bank × Partner × Engagement FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	5,089	5,089	5,089	5,089
R-sq	0.832	0.862	0.831	0.862
adj. R-sq	0.756	0.801	0.756	0.800

This table presents the results of estimating equations (2) and (3) with the addition of the indicator *Public* in panels A and B, respectively. Standard errors are clustered by bank and presented in parentheses. *,**, and *** denote significace at the 0.10, 0.05, and 0.01 levels respectively.