# Big bath practices and CEO turnover: A banking perspective

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## Abstract

We consider the relationship between bank CEO turnover, earnings management, bank risk and bank capital. Newly appointed bank CEOs tend to report higher discretionary expenses and reserves during their first year compared to non-turnover years. This effect is more pronounced when the bank's performance was poor in the final years of the previous CEO's tenure. With forced outgoing CEOs, we find evidence of new CEOs engaging in big bath practices, particularly when the bank's systemic risk is higher prior to CEO departure. We also find that higher discretionary reserves are associated with forced CEO turnover in banks with higher risk (both bank specific and systemic) prior to CEO turnover. Furthermore, regulatory bank capital improves during the second year following a turnover if the new CEO records higher discretionary expenses/reserves during the turnover year. We find that forced CEO turnovers in banks with high pre-turnover levels of Tier 1 capital have higher levels of big bath accounting. Unlike non-bank firms, these big bath practices in banks may have favourable outcomes for both shareholders and regulators in terms of both reduced information asymmetries and subsequent improvements in regulatory capital.
**( 187 words)**

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## 1. Introduction

It is well documented that many incoming CEOs apply some form of income-reducing discretionary accounting policies, with the intention of reporting poor firm performance during their first year of tenure (Moore, 1973; Murphy & Zimmerman, 1993; Pourciau, 1993; Strong & Meyer, 1987). Elliott and Shaw (1988) coined the term 'big bath' or 'earnings bath' highlighting the magnitude of write-offs and a purported cleansing of the financial statement. While (Fiechter & Meyer, 2010) argue that earnings management is the main motive for this practice, personal risk management, truth-telling and/or signalling to stakeholders is not widely discussed - particularly in a banking context.

Hence, we intend to address this gap in the literature. New CEOs experience a significant amount of information asymmetry particularly at the beginning of their tenure. They may also wish to minimise the personal costs involved from adverse outcomes that may arise in the future (Sarkar, Subramanian, & Tantri, 2019). To avoid this personal cost, a new CEO may charge the discretionary accounting variables excessively at the beginning of his or her tenure to compensate for any possible adverse outcomes in the future.

Furthermore, banks operate under stringent regulations (Berger & Humphrey, 1992; Edwards, 1977) and disclosure requirements. New bank CEOs may choose to apply higher discretionary expenses/reserves revealing more information on its asset quality and consequently adjusting its regulatory capital (Tier 1 and 2) accordingly. Our understanding of this issue in financial firms remains limited, particularly regarding how systemic risk influences big bath behaviour during CEO turnover events. Therefore, in this study we investigate whether pre-big bath bank performance and bank risk, including systemic risk, plays a role in big bath practices during CEO turnover for a sample of US banks over the period 1992-2019.

Higher discretionary accounting choices, such as creating a higher reserve for credit losses, may increase the stability of a bank (Bornemann, Kick, Pfingsten, & Schertler, 2015). In

addition, a new CEO revealing negative information through big bath practices may bring more transparency to a bank's operations. If a new CEO takes over a bank with low performance, higher bank-specific and systemic risk and subsequently practises big bath accounting, then several benefits may result. First, the new CEO can justify higher discretionary expenses/reserves as the bank is already in a poor state. Second, higher reserves may improve the bank's stability in subsequent years. Third, improved information disclosure may reduce regulatory concerns. Finally, the new CEO can also increase their potential wealth maximisation.

Bornemann et al. (2015) studied German savings banks, (holding 14% of the national banking assets (IMF, 2016)). Sarkar et al. (2019) considered Indian public sector banks, where the CEO turnovers are mostly independent to bank performance. Both studies argue that new CEOs practice big bath accounting irrespective of their banks' prior performance, risk, and nature of turnover (forced or voluntary turnover). However, these studies may not hold for mainstream non-public sector banks operating in an environment with higher competition, more regulation and disclosure requirements. Therefore, we study the US banking sector and investigate these gaps within the literature.

In addition to bank performance, bank risk is also an important factor when analysing financial soundness. However, bank risk has not been extensively studied within the context of big bath accounting practices. Bornemann et al. (2015) investigate whether prior bank risk affects the big bath behaviour. However, their study is limited to bank-specific risks. Systemic risk, which has become a key measure after the global financial crisis (Acharya, 2009), was not considered. Systemic risk, which is often termed as 'hard-to-define-but-you-know-it-when-you-see-it' (Benoit, Colliard, Hurlin, & Pérignon, 2017), is a measure employed by regulators to monitor financial stability. Regulators are usually more concerned with the financial soundness of banks having higher systemic risk. Therefore, to reduce regulatory concerns, a new CEO may choose

to apply a higher level of discretionary expenses or reserves in banks with higher systemic risk to signal increased financial soundness. This is possible because big bath practices can also improve the stability of a bank by maintaining a higher level of loan loss reserves and reducing bank-specific risk through write-offs.

On the other hand, it is highly likely that regulators closely monitor CEOs' activities in banks with higher systemic risk. This increased monitoring can lead an incoming bank CEO with higher systemic risk to be more concerned with their career. As a result, they may apply a higher level of big bath accounting from the perspectives of truth-telling and personal risk management motivation. Further, systemic risk reflects the market perception of a particular bank, hence we calculate systemic risk from a market-based perspective. Besides regulators, shareholders and other stakeholders also may have an increased interest in the performance of a new bank CEO with higher systemic risk. Therefore, when a new CEO takes over a bank facing higher systemic risk, they may choose to employ big bath accounting as a strategy for transparency and personal risk management in response to market perceptions.

Addressing these research gaps, this study examines the relationship between big bath practices, bank performance, and risk during, before, and after CEO turnover. More specifically, we investigate whether prior bank performance and risk (both bank-specific and systemic) affect the big bath practices of a bank across the CEO turnover period. In addition, we also investigate the possible motives of big bath practices by analysing bank performance following a CEO turnover. We pay particular attention to post big bath earnings and regulatory capital levels to determine big bath motives.

Our work contributes to the literature in several ways. We find substantial evidence of an economically significant relationship between a new bank CEO and its loan loss provision to total assets ratio. This finding holds even when we control for forced/voluntary CEO turnover and change in bank systemic risk. We also consider if bank risk (both bank-specific and market-

based) plays a role in big bath practices. We find non-performing loans are the primary channel for CEO turnover big bath practices. Market based bank risk measures (MES, LRMES and SRISK) prior to CEO turnover are also positively related to big bath practices. To our knowledge, this is the first study to integrate systemic risk into the examination of big bath practices by bank CEOs. We show that the pre-turnover level of systemic risk plays a significant role in determining big bath practices by new CEOs.

In addition, when we control for forced vs. voluntary CEO takeover, we find that in both case evidence of big bath practices is found, with larger big bath levels in forced turnovers. When we interact systemic risk and mode of CEO turnover, we find that forced turnover and higher bank risk results in increased big bath practices. Voluntary turnover and low bank risk results in lower practices of big bath practices. However, forced turnovers and low-risk conditions lead to an increase in big bath practices. Hence, big bath practices are more prominent in banks where the mode of departure of outgoing CEO is forced. Furthermore, the level of big bath practice is magnified by increased pre-turnover bank risk. Unlike Bornemann et al. (2015) and Sarkar et al. (2019), our study employs a sample of mainstream commercial banks operating in an environment with higher competition, prudential regulation and additional disclosure requirements. Risk is measured using both bank-specific and market-based metrics, and our results are consistent across both approaches. Therefore, we suggest that new CEOs remain aware of both the internal risk levels of their banks and the perceptions held by the market.

The bank has various stakeholders, including potential competitors, investors, and regulatory authorities, all of whom influence market perception. Consequently, we also examine the bank's overall capital levels. Our initial results suggest that in the presence of earnings management, the bank's total combined capital levels decrease upon CEO succession. On further investigation we find no evidence of Tier-1 capital improvement following a big bath. Therefore, the analysis of the pre-turnover levels of excess Tier-1 capital does not support the

capital management hypothesis. Instead, we observe an improvement in Tier-1 capital; however, Tier-2 capital declines, coinciding with the implementation of big bath practices following the arrival of the new CEO. We attribute this readjustment of Tier 2 capital to the mechanism by which bank capital regulation interacts with bank accounting practices. We argue that the observed increase in bank Tier 1 and overall regulatory capital positions are correlated with the arrival of new CEOs, especially in case of forced CEO turnover for higher risk banks. These observed improvements in regulatory capital occur in parallel with big bath decisions but are not the outcome of these accounting decisions.

Since neither earnings management nor capital management seem to be the main motives of big bath practices, other motives such as truth-telling and personal risk-management motives can be identified as likely drivers of big bath practices in US banks. If truth-telling as suggested by Hertzberg, Liberti, and Paravisini (2010) is a possible motivation for big bath practices, we may view big bath practices as a positive event from a regulatory perspective. Incoming CEOs may bring more transparency to their operations and increase stability. The findings of our study facilitate a better understanding of bank performance and risk-taking during CEO turnover in banks.

The remainder of this study is organised as follows. Section 2 reviews the related literature on CEO turnover and big bath practices and develops several hypotheses. Section 3 presents the data, variables, and the econometric methodology. Section 4 reports the results and robustness testing are found in Section 5. The final section concludes the study.

## 2. Related Literature and Hypotheses Development

CEO turnover has been investigated from various perspectives: earnings management, firm performance, compensation, and risk-taking. Bernstein (1970) seminal work, reports that under new management, times of transition, such as mergers firms intentionally show poor performance by creating excess reserves for future costs and losses. This study suggests that

income-smoothing is one of the main objectives of this practice. However, it focuses more on accounting practices and does not give much emphasis on management turnover. Subsequently, Moore (1973) investigates the discretionary accounting expenses in firms during management changes. Moore (1973) finds that companies with management changes are more likely to apply income-reducing discretionary accounting choices than companies with no management changes. Similarly, Bernstein (1970) suggests the motivation for this practice can be the smoothing of future income or gaining the ability to report lower or higher income as per management's desire in future.

Strong and Meyer (1987) investigate asset write-downs and managerial incentives where they report managerial incentives play a major role in deciding the write-down policy. By cleaning up the balance sheet and thus reducing its equity, a firm can improve future profitability and earnings per share. Hence turnover in senior management, especially when the new CEO comes from outside of the firm, is significant in determining write-down decisions.

Pourciau (1993) also finds evidence of earnings management during CEO turnover periods, pointing out that this result can be driven out by firm performance, for which the prior studies did not appropriately control. Pourciau (1993) finds evidence that the practice of recording higher accruals and write-offs during executive changes is correlated with prior poor firm performance. The study also finds evidence that outgoing executives also record higher accruals and write-offs during the last year of their tenure. This finding contrasts with the view that an outgoing CEO may overstate earnings by charging lower accruals and write-offs to minimise termination threat. This raises the question of whether the income-reducing discretionary accounting choices are actually driven by prior poor performance of the firm or at the new management's discretion. Murphy and Zimmerman (1993) attempt to disentangle this issue. They find that the big bath hypothesis is supported only when CEO turnover is

preceded by poor firm performance. They find no evidence of managerial discretion in well-performing firms.

Further to earnings management, "truth-telling" and "personal risk management" are two other motives related to big bath practices in the initial year by the new CEO. The truth-telling motive describes when the incoming CEO reveals the actual situation of the firm at the beginning of their tenure (e.g., Hertzberg et al., 2010; Sarkar et al., 2019). Within a banking context, the new bank CEO will adopt policies involving stopping the evergreening of loans and rectifying any under-provisioning previously carried out by the outgoing CEO. Past studies such as Hertzberg et al. (2010) show empirical evidence of truth-telling practices from loan officer rotation. They show that reallocation of duties among agents can help to alleviate moral hazards in communication. Their study finds that revealing bad news earlier in a new assignment imposes little or no cost. However, concealing bad news and being forced to disclose it later would have negative career consequences. Based on this argument, a new CEO may prefer to reveal the true situation of its bank at the beginning of their tenure.

With respect to the personal risk management motive, a new CEO may overcharge the discretionary accounting variables (e.g., loan loss provisions or write-offs in banks) at the beginning of their tenure to minimise personal costs. This practice helps a new CEO avoid adverse outcomes resulting from the actions of the previous CEO (Sarkar et al., 2019). Even though all these motives for big bath indicate increased application of discretionary expenses/reserves early in the tenure of a CEO, motivations vary. While the earnings management indicates higher provisioning with an intention to show better performance in future; the truth-telling motive indicates the rectification of past understatements. On the other hand, the personal risk management motive indicates a new CEO seeking protection from the negative outcomes that may arise due to past actions taken by previous management.

The earnings management and risk-taking behaviour of the new CEO may also be influenced by the different types of turnover events. After forced CEO turnover, more drastic changes are noticed under the new management in terms of earnings management (Bornemann et al., 2015; Denis & Denis, 1995). Since forced turnovers are more likely to happen after poor firm performance, the incoming CEO has more scope to blame the predecessor for current and past performance. On the other hand, in the case of unforced turnover, owners and other stakeholders are less hostile to the outgoing CEO and, therefore, the new CEO may find it difficult to blame their predecessor when applying discretionary accounting choices. Further, in case of regular retirement, the outgoing CEO may have a significant influence on the selection process of the successor (Shivdasani & Yermack, 1999) and, therefore, the new CEO may not choose to blame their predecessor.

Further, insider/home-grown versus outsider succession can also be important when examining the discretionary accounting expenses during the turnover period. Studies such as Khurana and Nohria (2000) suggest that outsider succession has a higher probability of making changes in firms than insider succession. On the other hand, the probability of outside succession is higher in the case of poor firm performance (Jenter & Kanaan, 2015) and after forced CEO turnover (Huson, Parrino, & Starks, 2001). Therefore, an outsider CEO is more likely to have convincing arguments for increasing discretionary expenses since the firm is already in a poor state. On the other hand, the incoming CEO faces information asymmetry (Sarkar et al., 2019) and this may be more severe in the case of outsider succession. Therefore, s/he may expand significant effort to reveal the true situation. This may lead to higher discretionary expenses. Colak and Liljeblom (2022) examine the tenure of the outgoing CEO and find that a new CEO applies larger big baths if the predecessor had a long tenure.

Past studies relating to CEO turnover are concentrated mostly around non-financial firms. With only a handful of studies on financial firms Chen and Ebrahim (2018), Barro and Barro (1990),

Webb (2008), Schaeck, Cihak, Maechler, and Stolz (2012), and Srivastav, Keasey, Mollah, and Vallascas (2017) discuss CEO turnover, risk taking and firm performance. However, these studies do not consider CEO turnover from the perspective of big bath accounting practices. Whereas Bornemann et al. (2015) and Sarkar et al. (2019) investigate big bath in the event of bank CEO turnover. Bornemann et al. (2015) examine the impact of forced vs. voluntary turnover and type of succession, i.e. inside vs. outside on big bath or earnings bath management. They find the incoming CEO charges higher discretionary expenses during the turnover year and this increase is more prominent when the CEO comes from outside. However, the study finds no difference in this practice, whether the turnover events are forced or voluntary. This study looks into German savings banks, holding around 14% (IMF, 2016) of the banking assets of that country. Mainstream commercial banks, making up a significant aspect of the German banking sector are not included in the study.

Sarkar et al. (2019) investigates CEO turnover in government-owned banks in India. They document that incoming CEOs increase discretionary expenses during the transition period, showing better performance in the future. However, government-owned banks do not usually link CEO turnover with bank performance. There are several studies linking banks' stock price to CEO turnover. Warner, Watts, and Wruck (1988), Dahya, Lonie, and Power (1998), Clayton, Hartzell, and Rosenberg (2005), and Marshall, McCann, and McColgan (2014) examine the reaction of a bank's stock price during the CEO turnover. However, none link market-based information such as systemic risk to big bath and CEO turnover.

There are several ways by which the new CEO can benefit by increasing these discretionary accounting variables during the turnover year. First, it will help them smooth income and show improved performance in future. For example, charging excess loan loss provisions or loan write-offs will reduce income in the turnover year but will save some income for forthcoming years. Therefore, a new CEO will find it easier to meet earning targets in future. Second, by

showing poor performance, a new CEO will be able to lower the benchmark for his or her performance assessment in the future (Bornemann et al., 2015; Moore, 1973). As per prospect theory, individuals prefer to evaluate performance against a benchmark rather than absolute value (Tversky & Kahneman, 1979). Therefore, if the firm performance is poor during the turnover year, this will lower the benchmark since their subsequent performances are most likely to be compared with the turnover year. Studies such as Burgstahler and Dichev (1997) and Degeorge, Patel, and Zeckhauser (1999) on non-financial firms, and Shen and Chih (2005) and Bornemann, Kick, Memmel, and Pfingsten (2012) on financial firms, document that the previous year's performance is taken as a benchmark for evaluating performance.

Based on the above arguments, we conjecture that a new CEO will charge or create higher discretionary expenses or reserves during the turnover year than in non-turnover years.

*H1: A new CEO charges/creates higher discretionary expenses/reserves during the turnover year than that in non-turnover years.*

The practice of recording higher discretionary expenses or reserves by an incoming CEO can be influenced by prior firm performance. Some earlier studies, such as Bernstein (1970), Moore (1973), Strong and Meyer (1987) and a recent study by Bornemann et al. (2015), suggest that big bath practice is a common phenomenon irrespective of pre-turnover performance. However, studies such as Pourciau (1993) and Murphy and Zimmerman (1993) argue that prior work did not correctly control for prior firm performance. Pourciau (1993) finds evidence that firms recording larger accruals during executive changes is driven by the preceding year's poor firm performance. On the other hand, Murphy and Zimmerman (1993) find that the big bath by an incoming CEO and covering up poor performance by the outgoing CEO with discretionary accounting choices are more pronounced in firms with poor economic performance. In line with these findings, we conjecture that a new CEO charges/creates higher

discretionary expenses/reserves during the turnover year if the bank has poor prior performance rather than good performance.

*H2: A new CEO charges/creates higher discretionary expenses/reserves during the turnover year if the bank has poor prior performance rather than good prior performance.*

Financial risk management practices are very different in banks as opposed to non-financial firms. To ensure the financial soundness of a bank, adequate risk provisioning is important (Bornemann et al., 2015). It may not necessarily be true that big bath practices are always driven by motives of lowering the performance benchmark or earning management. A new CEO may merely consider that the risk provisions accumulated during the tenure of the outgoing CEO are inadequate and, therefore, record an increased amount of discretionary expenses/reserve upon takeover. In this regard, if the bank has already had higher bank-specific risk in the year before the turnover, it is most likely that the incoming CEO will have an increased incentive to rigorously investigate the financial position for truth-telling and personal risk-management purposes. Further, if a bank has higher bank-specific or systemic risk, a new CEO finds it easier to blame the predecessor for higher discretionary expenses/reserves in the turnover year.

On the other hand, in the case of systemic risk, regulators are usually more concerned with the financial soundness of banks having higher systemic risk. Therefore, to reduce regulatory concerns, a new CEO may choose to apply a higher level of discretionary expenses or reserves in banks with higher systemic risk merely to increase the financial soundness of these banks. This is possible because the big bath practices can also improve the stability of a bank by maintaining a higher level of loan loss reserves and reducing bank-specific risk through write-offs. In addition, there is a higher probability that regulators will more closely monitor CEOs' activities in banks with higher systemic risk. This increased monitoring can lead incoming CEOs of banks with higher systemic risk to be more concerned with their career. As a result,

they may apply a higher level of big bath accounting from the truth-telling and personal risk management points of view.

Further, systemic risk reflects the market perception of a particular bank. The technical reason behind this is that we calculate systemic risk from market-based information. Besides regulators, shareholders and other stakeholders also may have increased monitoring on the performance of a new CEO for banks with higher systemic risk. Therefore, when a new CEO takes charge of a bank with higher systemic risk, he or she may emphasise the market perception and decide to apply big bath accounting from the perspectives of truth-telling and personal risk management motivation. All these factors are not adequately investigated in current literature. Based on these arguments, we conjecture that a new CEO charges/creates higher discretionary expenses/reserves during the turnover year if the bank has higher prior risk (bank-specific or systemic risk), compared to lower risk.

*H3: A new CEO charges/creates higher discretionary expenses/reserves during the turnover year if the bank has higher prior risk (bank-specific and systemic risk) rather than lower prior risk.*

## 3. Data and Methodology

### *3.1 Data*

We employ the ExecuComp database of Standard & Poor's from 1992 to 2019 as it provides data for senior executives working in firms that are currently or were previously included in the S&P 1500. We exclude all the non-financial firms from the sample and include financial firms with Standard Industry Classification (SIC) codes between 6000 and 6300, initially yielding 380 firms. Not all of these firms are directly involved in deposit-taking and loan-making activities, so we follow Fahlenbrach and Stulz (2011), Beltratti and Stulz (2012), and Chen and Ebrahim (2018) and exclude firms that are not directly involved in financial intermediation and are mainly engaged in advisory or brokerage financial services. We only

include financial firms defined as Commercial Banks (SIC-6020), Savings Institutions-Federally Chartered (SIC-6035), and Savings Institutions-Not Federally Chartered (SIC-6036) as per the SIC description in our sample.

To obtain bank-specific data, we merge this data set with the Standard & Poor's Bank Fundamentals Annual database under Compustat-Capital IQ. The final sample includes 268 financial firms, which we refer to as banks in this study. The 268 financial firms consist of 213 commercial banks, 40 federally chartered savings institutions and 15 not federally chartered savings institutions. In total, the sample includes 2,912 bank-year observations.

*3.2 Description of Variables*

We document and record all variables in Table 1

**[Insert Table 1 about here]**

*3.3 Methodology*

As some banks discontinued operations or merged with other banks during the study period 1992-2019, we compute several unbalanced panel data regressions to test our hypotheses. The increase in discretionary expenses/reserves may be derived from prior poor firm performance rather than big bath motives. If there is a CEO turnover due to poor firm performance, it is likely that there is also a higher level of loan loss provisions, loan loss reserves, and write-offs in the preceding year. To address any potential of endogeneity, we first classify the turnover as forced and voluntary where necessary. In addition, we include the lagged dependent variable in the regressors. The lagged dependent variable as a control on the right-hand side of our model is likely to capture any application of higher level of discretionary expenses/reserves variables by the outgoing CEO, if any due to poor performance or higher risk. Moreover, the focus of this study is to examine what drives the big bath practices, rather than what drives the CEO turnover. Therefore, the endogeneity concerns related to CEO turnover occurrences and bank performance should not be mixed up with the endogeneity concerns related to big bath

practices addressed in this study. We use bank-specific control variables contemporaneously instead of their lag since the lagged controls can be collinear with the lagged dependent variable:

$$Disc_{i,t}=\alpha + \theta_1 Disc_{i,t-1} + \beta_1 New\ CEO_{i,t} + \beta_2 X_{i,t} + + \beta_3 Z_{t-1} + \gamma_i + \delta_t + \epsilon_{i,t\,c} \quad (1)$$

Where $Disc_{i,t}$ denotes the three discretionary expenses/reserves variables and we apply these three variables individually. $NewCEO_{i,t}$ is the dummy variable for CEO turnover which takes the value of 1 if a new CEO takes the charge of bank *i* at year *t*, and 0 otherwise. $X_{i,t}$ is a set of bank level controls. $Z_{t-1}$ is a set of macroeconomic controls. $\gamma_i$ controls for bank-specific unobserved time invariant effects. In other words, this $\gamma_i$ controls for the bank-specific other characteristics that do not change over the sample period. For example, we do not control for the governance structure or board size of a bank. These characteristics are controlled by $\gamma_i$ if these variables do not vary during the sample period. $\delta_t$ represents time fixed effects. This variable may control for all the major events such as the global financial crisis of 2008 or other regulatory changes such as change in accounting policies on some of our accounting variables during the sample period. $\epsilon_{i,t}$ represents the idiosyncratic errors.

As our model includes a lagged dependent variable to allow for the time dependent attributes of our discretionary variable of concern, our estimation much be cognisant of the empirical issues this raises. As discussed by (Nickell, 1981) applying a fixed effects estimation in this context results in dynamic panel bias. Instead we apply the GMM model of (Holtz-Eakin et al., 1988), (Arellano & Bond, 1991), (Arellano & Bover, 1995) and (Blundell & Bond, 1998). We follow (Roodman, 2009) to collapse the number of instruments to an econometrically viable number and employ the (Windmeijer, 2005) finite sample correction. We will report the Hansen tests of instrument endogeneity as well as tests for both AR(1) and AR(2) to demonstrate the lack of second order serial correlation in our first differenced residuals. We

will determine the optimal lag length $q$ by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC) as well as the validity of our instruments by refence to the Hansen test.

In Hypotheses 2 and 3, we examine whether prior bank performance and risk affects the big bath practices during the turnover year. We divide the *New CEO* dummy variable into *New CEO*$^{high}$ and *New CEO*$^{low}$ based on the bank performance and risk (both bank-specific and systemic) in the last year of the outgoing CEO's tenure. If the bank performance or risk in the last year of the outgoing CEO's tenure is above the overall median value, the dummy variable falls under the *New CEO*$^{high}$ group. Conversely, if the performance or risk is below the median value, the dummy variable falls under the *New CEO*$^{low}$ group. For bank performance, we consider asset quality, profitability, and regulatory capital as measures to split the *New CEO* variable. Similarly, for bank-specific risk, we consider all volatility measures and subsequently the systemic risk measures. The estimation model is as follows:

$$Disc_{i,t} = \alpha + \theta_1 Disc_{i,t-1} + \beta_1 New\ CEO_{i,t}^{high} + \beta_1 New\ CEO_{i,t}^{low}$$
$$+\beta_2 X_{i,t} + \beta_3 Z_{t-1} + \gamma_i + \delta_t + \epsilon_{i,t\,c} \qquad (2)$$

where, *New CEO*$^{high}$ takes the value of 1, otherwise 0.

*3.4 Descriptive Statistics*

Table 2 provides the summary statistics of the variables employed.

[Insert Table 2 about here]

We calculate a pairwise correlation coefficients[4] of all the dependent and independent variables. Three discretionary expenses/reserves variables are technically related to each other; therefore, their correlation coefficients are very high. The three bank-specific risk measures are also closely related measures and have high correlation coefficients. Similarly, *MES*, *LRMES*

[4] Correlation table will be provided on request.

and *ΔCoVaR* are all more than 0.5. However, the correlations between *SRISK* and the other three systemic risk measures are below 0.5. The higher non-performing loans (NPL) leads to higher loan loss provisions, loan loss reserves and write-offs. Therefore, the correlation between NPL and discretionary expenses/reserves variables are high. High correlation coefficients are also noticed when one variable is used in the calculation of another variable. For example, ROA is a component in the calculation of Z-score and, therefore, the correlation between ROA and Z-score is relatively high. The high correlation coefficients observed are mostly between various dependent variables. Some are between a dependent and independent variable. However, the pairwise correlation coefficients among all the independent variables, namely *New CEO*, *Total Assets (ln)*, *Loan to Assets*, *Deposit to Assets*, *NPL to Assets*, *GDP Growth* and *Inflation* are less than the absolute value of 0.5. Therefore, multicollinearity does not appear to be a problem in the models.

## 4. Results

### *4.1 CEO Turnover and Discretionary Expenses/Reserves*

Table 3 presents the results of the GMM panel model as per Equation 2. *New CEO* is only significant at the 1% level when represented by *Loan Loss Provisions to Assets (%)*. No significance is recorded with respect to *Reserve for Credit Losses to Assets* and *Net Charge-Off to Assets*. The specification tests report no evidence second order serial correlation in the residuals of our difference equations. All the Hansen p-values in Table 3 are not significant, thus our instrument validity is not rejected. These findings support our first hypothesis, a new CEO charges/creates higher discretionary expenses/reserves during the turnover year than those in non-turnover years. These results are similar to Bornemann et al. (2015) and Sarkar et al. (2019).

[Insert Table 3 about here]

The findings in Table 4 suggest that, when the *NPL* ratio is higher in the departing year, a new CEO charges/creates higher discretionary expenses/reserves during the commencement year. *NewCEO_hnpl* is positive and significant at 1% level across all three earnings management proxies, however the Hansen p-value for *Reserve for credit loss to Assets* is significant suggesting the lack of instrument validity, so consequently we remove this variable in our future estimation models. Furthermore, when a bank has lower Return on Assets in the departing year, the incoming CEO increases discretionary reserves. Hence, our findings from Columns 1, 3, 4 and 6 in Table 4 align with our second hypothesis. These findings are similar to Pourciau (1993) and Murphy and Zimmerman (1993) on non-financial firms.

[Insert Table 4 about here]

*4.2 CEO Turnover, Bank-Specific Risk and Systemic Risk*

The findings in Table 5 suggest that if the *Volatility (ROA)- range-based* is at a higher level in the outgoing year, a new CEO charges a higher level of discretionary expenses/reserves. *NewCEO_hvol* is significant at the 1% level for the two discretionary expenses/reserves variables. Similarly, when Z-scores are lower in the outgoing year, a new CEO charges higher discretionary expenses/reserves. *New CEO_lzsd* and *NewCEO_lz* are both significant at the 1% level for the discretionary expenses/reserves variables. These findings confirm our third hypothesis that a new CEO charges/creates higher discretionary expenses/reserves during the turnover year if the bank has higher prior risk (bank-specific risk) rather than lower prior risk.

[Insert Our **control** variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. New CEO hnpl t-1 represents bank with a new CEO experienced above median Non-performing loans (npl) in the year prior to CEO change. New CEOlnpl t-1 indices below median npl in the year prior to CEO change. Likewise NewCEO hroa t-1 (New CEO lroat-1) represents above (below) median return on assets in the year before CEO turnover. NewCEO heq t-1 (New CEO leqt-1) represents above (below) median regulatory capital (Tier 1 plus Tier 2

ratio) in the year before CEO turnover . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.

**Table 5** about here]

The results in Table 6 for bank systemic risk reconcile with the prior results for bank-specific risks. Hence, a new CEO charges/creates higher discretionary expenses/reserves during the turnover year if the bank has higher prior systemic risk rather than lower prior systemic risk risk. *NewCEO_hlmes* and *New CEO_hcvar* and *New CEO_hsrisk* are all significant at the 1% level. The discretionary expenses/reserves variables are significant for all three systemic risk variables.

[Insert Table 6 about here]

*4.3 Additional testing (Forced vs Voluntary; and Tier 1 vs. Tier 2)*

We next explore the implications of forced and voluntary CEO turnover upon our baseline model. Table 7a reports the application of discretionary expenses/reserves by a new CEO and finds that for both modes of CEO departure discretionary expenses/reserves increases, but that the channel of the application of this discretionary accounting behaviour differs with the mode of departure. In the case of forced CEO turnover, accounting discretion is applied to both Net Charge Offs and Loan Loss provision, while for voluntary CEO turnover the primary channel of discretion is limited to Loan Loss Provisions. Furthermore, we find that magnitude of accounting discretion applied to loan loss provisions is far lower for voluntary CEO turnovers. We develop the implication of this finding further below.

[Table 7a about here]

Additionally, in Table 7b, we further split into another two subgroups based on the level of systemic risk in the departing year. As discussed above, we employ three measures of systemic risk, LRMES, which measure bank vulnerability to market-wide shocks, SRISK, which allows for the impact of leverage upon the bank's vulnerability to market-wide shocks and deltaCoVAR, which measure the degree to which a bank can acts as a source of systemic

contagion. In all cases banks with above median systemic risk and forced CEO turnover big bath practices are prominent. In case when the CEO turnover is voluntary big bank practices are associated with above median levels of LRMES and deltaCoVaR. However, voluntary CEO turnover is not associated with increased big bath practices for high SRISK bank. Instead, we find that low SRISK banks with voluntary turnover have a small marginal increase in big bath accounting, but no increase in big bath for high SRISK banks with voluntary turnover. As the difference between LRMES and SRISK is a function of bank leverage we will consider this further after we have discussed the role bank capital plays in big bath decisions in later section. Consistent with our previous results, the magnitude of big bath discretion is always larger in the case of forced CEO turnover.

[Table 7b about here]

Accounting discretion cannot directly increase bank Tier 1 capital, while it can, under certain conditions, increase Tier 2 capital. However, we find that higher levels of accounting discretion upon CEO turnover is associated with subsequent increases in Tier 1 capital in later periods. We argue that these increases are not directly the outcome of earnings management per se. Rather, we argue that incoming CEOs (especially when there is a forced turnover) value the flexibility excess Tier 1 capital provides in terms of signalling ard reduced regulatory concerns, thus enabling truth telling and personal risk management. As a result, the incoming CEO engages in parallel actions that subsequently increase Tier 1 capital alongside the accounting discretion decisions. This effect is not apparent by the seond year after CEO turnover accompanied by high levels of big bath. A valuable extension to this study would be to identify which channels the incoming CEO uses to increase Tier 1 capital subsequent to CEO turnover.

[Table 7c about here]

Under certain conditions accounting discretion can increase Tier 2 capital (Ahmed, Takeda, & Thomas, 1999; Shrieves & Dahl, 2003). Bank general provisions can contribute to Tier 2 capital up to a maximum of 1.25% of risk weighted assets. We find that increased loan loss provisions are not associated with increased Tier 2 capital in the year after CEO turnover. This indicates that our sample banks have already reached or exceeded the 1.25% limit. Thus, the increased accounting discretion is not motived by regulatory capital management, but rather truth telling or personal risk management. This point is reinforced by our finding that Tier 2 capital declines in the two years following CEO turnover, if the incoming CEO adopted high levels of loan loss provisions. We argue that the years subsequent to CEO turnover sees increased specific provisions or loan write offs (truth telling and personal risk management), drawing down the general provisions balance to below the 1.25% limit. As observed above, this post CEO turnover period also sees increased overall bank regulatory capital. We argue, as above, that the incoming CEO applies non-accounting channels to boost regulatory capital after increasing loan loss provisions in the turnover year. This boosted regulatory capital creates the necessary headroom (Lubberink, 2022) to engage in further accounting discretion as needed in the future to continue truth telling or personal risk management strategies.

[Table 7d about here]

A further condition determining accounting discretion is the level of Tier excess capital combined with the mode of CEO departure. To determine the pre-turnover level of Tier-1 capital, we take the excess to Tier-1 capital ratio rather than the total Tier-1 ratio to address the concern that the minimum regulatory requirement of this ratio has changed over time. We observe that banks above average levels of Tier 1 capital increase big bath practices when there is a forced turnover. This points to the importance to incoming bank CEOs, of having high levels of quality capital when making accounting discretion decisions. We argue that higher

Tier 1 capital creates the headroom for the incoming CEO to reduce information asymmetry (truth telling) and increase personal risk management without incurring some of the costs associated with increased regulatory surveillance. This helps us understand the result from Table 7c where it is apparent that new CEOs increase their levels of regulatory capital to provide an option over future accounting discretion while also signalling the financial health of the bank.

### *4.4 Robustness Tests*

One of the issues required to be addressed in our methodology is whether we apply contemporaneous bank specific controls in our model. Previously we discussed our reasons for applying contemporaneous bank-specific controls and when we applied lagged control variables, our main results still held. However, to further confirm the main findings, we eliminate the years 2007 to 2009 from the sample and re-run our estimation models. In addition, we also keep only financial firms defined as Commercial Banks (SIC-6020) and exclude Savings Institutions-Federally Chartered (SIC-6035) and Savings Institutions-Not Federally Chartered (SIC-6036) from the sample. Most of the previous findings hold with this redefined sample.

## 5. Conclusion

In this study, we examine whether the pre-turnover level of bank performance, bank-specific risk and, most importantly, systemic risk influence big bath accounting practices in banks during CEO turnover. From a sample of US banks from 1992 to 2019, we apply three interrelated discretionary expenses and reserve variables as well as bank-specific and systemic risk variables to test the related hypothesis. Consistent with the prior literature, we find evidence that incoming CEOs apply increased discretionary expenses/reserves during their first

year in charge. However, our results suggest that these practices are only evident in banks with higher non-performing loans, lower ROA, and higher bank-specific and systemic risk.

To address the endogeneity issue, we divide CEO turnover according to the mode of departure of outgoing CEO (Forced vs. Voluntary). We find that the mode of departure of outgoing CEOs plays an important role in determining big bath practices. Big bath practices are only evident in banks with forced turnover. However, further investigation, with different combinations of mode of departure and the pre-turnover level of systemic risk, suggests that systemic risk plays a more important role than the mode of departure.

The analysis of post-big bath bank performance shows that application of higher discretionary expenses/reserves leads to an improvement in Tier-1 regulatory capital during the second year of a new CEO's tenure. Therefore, we question if capital management is the motive of this practice. If capital management is the motive, then big bath practices are likely to be more pronounced in banks with a lower pre-turnover level of capital. Thus, we further examine whether the pre-turnover level of excess to Tier-1 capital influences the big bath practices. Our results do not find strong evidence that big bath practices are more pronounced in banks with lower pre-turnover level of excess Tier-1 capital. Therefore, we suggest capital management is not the primary motive.

On the other hand, we find evidence of earnings improvement in the second year after CEO turnover, but only when higher reserves for credit losses are created during the first year. For our other two discretionary variables we do not find any earnings improvements. These findings suggest that big bath practices in banks are not mainly driven by earnings management motives.

Since we find capital management and earnings management are not the main motives of big bath practices, other motives such as truth-telling or personal risk management motives may

be the main drivers. However, the available data and research design do not allow us to confirm these two motives.

The findings of this study may have several implications. We find that the systemic risk profile, a market-based measure, of a bank significantly influences the practice of recording a higher level of discretionary expenses/reserves by a new CEO. This finding indicates that a new CEO relies more on investors' perception of a bank to address the information asymmetry he or she may face during the first year. On the other hand, from a regulatory perspective, higher reserves for credit losses and increased capital adequacy ratio in the years following a big bath indicate improved financial soundness of a bank. More information disclosure via big bath accounting may also reduce some regulatory concerns. Therefore, big bath accounting may not always be viewed as a negative practice in banks as opposed to non-financial firms.

This study adds to the big bath literature, particularly around banks. As for future research and as an important avenue for future research is to assess the impact of the new accounting standards on big bath accounting.

**References**


Acharya, V. (2009). A theory of systemic risk and design of prudential bank regulation. *Journal of Financial Stability, 5*(3), 224-255.

Acharya, V., Engle, R., & Richardson, M. (2012). Capital shortfall: A new approach to ranking and regulating systemic risks. *American Economic Review, 102*(3), 59-64.

Acharya, V., Pedersen, L. H., Philippon, T., & Richardson, M. (2017). Measuring Systemic Risk. *The Review of Financial Studies, 30*(1), 2-47. doi:10.1093/rfs/hhw088

Adrian, T., & Brunnermeier, M. K. (2016). CoVaR. *American Economic Review, 106*(7), 1705-1741. doi:10.1257/aer.20120555

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

Alizadeh, S., Brandt, M. W., & Diebold, F. X. (2002). Range-based estimation of stochastic volatility models. *The Journal of Finance, 57*(3), 1047-1091.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*, 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variables estimation of error-components models. *Journal of Econometrics, 68*, 29-51.

Balboa, M., López-Espinosa, G., & Rubia, A. (2013). Nonlinear dynamics in discretionary accruals: An analysis of bank loan-loss provisions. *Journal of banking & finance, 37*(12), 5186-5207.

Barro, J. R., & Barro, R. J. (1990). Pay, performance, and turnover of bank CEOs. *Journal of Labor Economics, 8*(4), 448-481.

Barth, J. R., & Miller, S. M. (2017). A primer on the evolution and complexity of bank regulatory capital standards. *James R. Barth and Stephen Matteo Miller."A Primer on the Evolution and Complexity of Bank Regulatory Capital Standards." Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA*.

Beltratti, A., & Stulz, R. M. (2012). The credit crisis around the globe: Why did some banks perform better? *Journal of Financial Economics, 105*(1), 1-17.

Benoit, S., Colliard, J.-E., Hurlin, C., & Pérignon, C. (2017). Where the risks lie: A survey on systemic risk. *Review of Finance, 21*(1), 109-152.

Berger, A. N., & Humphrey, D. B. (1992). Measurement and efficiency issues in commercial banking. In *Output measurement in the service sectors* (pp. 245-300): University of Chicago Press.

Bernstein, L. A. (1970). Reserves for future costs and losses: Threat to the integrity of the income statement. *Financial Analysts Journal, 26*(1), 45-48.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*, 11-143.

Bornemann, S., Kick, T., Memmel, C., & Pfingsten, A. (2012). Are banks using hidden reserves to beat earnings benchmarks? Evidence from Germany. *Journal of banking & finance, 36*(8), 2403-2415.

Bornemann, S., Kick, T., Pfingsten, A., & Schertler, A. (2015). Earnings baths by CEOs during turnovers: Empirical evidence from German savings banks. *Journal of banking & finance, 53*, 188-201.

Brownlees, C., & Engle, R. F. (2016). SRISK: A conditional capital shortfall measure of systemic risk. *The Review of Financial Studies, 30*(1), 48-79.

Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics, 24*(1), 99-126.

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

Chen, Z., & Ebrahim, A. (2018). Turnover threat and CEO risk-taking behavior in the banking industry. *Journal of Banking and Finance, 96*, 87-105.

Clayton, M. C., Hartzell, J. C., & Rosenberg, J. (2005). The impact of CEO turnover on equity volatility. *The Journal of Business, 78*(5), 1779-1808.

Colak, G., & Liljeblom, E. (2022). Easy cleanups or forbearing improvements: The effect of CEO tenure on successor's performance. *Journal of Financial Stability, 63*, 101072.

Cornett, M. M., McNutt, J. J., & Tehranian, H. (2009). Corporate governance and earnings management at large US bank holding companies. *Journal of Corporate Finance, 15*(4), 412-430.

Dahya, J., Lonie, A. A., & Power, D. M. (1998). Ownership structure, firm performance and top executive change: an analysis of UK firms. *Journal of Business Finance & Accounting, 25*(9-10), 1089-1118.

Degeorge, F., Patel, J., & Zeckhauser, R. (1999). Earnings management to exceed thresholds *Journal of Business, 72*(1), 1-33.

Denis, D. J., & Denis, D. K. (1995). Performance changes following top management dismissals. *The Journal of Finance, 50*(4), 1029-1057.

Edwards, F. R. (1977). Managerial objectives in regulated industries: Expense-preference behavior in banking. *Journal of Political Economy, 85*(1), 147-162.

Elliott, J. A., & Shaw, W. H. (1988). Write-offs as accounting procedures to manage perceptions. *Journal of Accounting Research*, 91-119.
Fahlenbrach, R., & Stulz, R. M. (2011). Bank CEO incentives and the credit crisis. *Journal of Financial Economics, 99*(1), 11-26.
Fiechter, P., & Meyer, C. (2010). *Big bath accounting using fair value measurement discretion during the financial crisis.* Paper presented at the American Accounting Association Annual Meeting, San Francisco.
Gentry, R. J., Harrison, J. S., Quigley, T. J., & Boivie, S. (2021). A database of CEO turnover and dismissal in S&P 1500 firms, 2000–2018. *Strategic Management Journal, 42*(5), 968-991.
Hertzberg, A., Liberti, J. M., & Paravisini, D. (2010). Information and incentives inside the firm: Evidence from loan officer rotation. *The Journal of Finance, 65*(3), 795-828.
Holtz-Eakin, D., Newey, W., & Rosen, H. (1988). Estimating vector autoregressions with panel data. *Econometrica, 56*, 1371-1395.
Huson, M. R., Parrino, R., & Starks, L. T. (2001). Internal monitoring mechanisms and CEO turnover: A long-term perspective. *The Journal of Finance, 56*(6), 2265-2297.
IMF. (2016). *Germany: Financial Sector Assessment Program-Stress Testing the Banking and Insurance Sectors-Technical Notes* (9781475564549). Retrieved from https://www.elibrary.imf.org/view/IMF002/23481-9781475564549/23481-9781475564549/23481-9781475564549_A001.xml
Jenter, D., & Kanaan, F. (2015). CEO turnover and relative performance evaluation. *The Journal of Finance, 70*(5), 2155-2184.
Khurana, R., & Nohria, N. (2000). The performance consequences of CEO turnover. *Available at SSRN 219129*.
Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics, 93*(2), 259-275.
Lubberink, M. (2022). Max headroom: Discretionary Capital buffers and bank risk. *International Review of Financial Analysis, 84*, 102402.
Marshall, A., McCann, L., & McColgan, P. (2014). Do banks really monitor? Evidence from CEO succession decisions. *Journal of banking & finance, 46*, 118-131.
Moore, M. L. (1973). Management changes and discretionary accounting decisions. *Journal of Accounting Research*, 100-107.
Murphy, K. J., & Zimmerman, J. L. (1993). Financial performance surrounding CEO turnover. *Journal of Accounting and Economics, 16*(1-3), 273-315.
Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrics, 49*, 1417-1426.
Pourciau, S. (1993). Earnings management and nonroutine executive changes. *Journal of Accounting and Economics, 16*(1-3), 317-336.
Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics, , 71*(1), 135-158.
Sarkar, A., Subramanian, K., & Tantri, P. (2019). Effects of CEO Turnover in Banks: Evidence Using Exogenous Turnovers in Indian Banks. *Journal of Financial and Quantitative Analysis, 54*(1), 183-214.
Schaeck, K., Cihak, M., Maechler, A., & Stolz, S. (2012). Who disciplines bank managers? *Review of Finance, 16*(1), 197-243.
Shen, C.-H., & Chih, H.-L. (2005). Investor protection, prospect theory, and earnings management: An international comparison of the banking industry. *Journal of banking & finance, 29*(10), 2675-2697.
Shivdasani, A., & Yermack, D. (1999). CEO involvement in the selection of new board members: An empirical analysis. *The Journal of Finance, 54*(5), 1829-1853.

Shrieves, R. E., & Dahl, D. (2003). Discretionary accounting and the behavior of Japanese banks under financial duress. *Journal of banking & finance, 27*(7), 1219-1243.
Srivastav, A., Keasey, K., Mollah, S., & Vallascas, F. (2017). CEO turnover in large banks: Does tail risk matter? *Journal of Accounting and Economics, 64*(1), 37-55.
Strong, J. S., & Meyer, J. R. (1987). Asset writedowns: Managerial incentives and security returns. *The Journal of Finance, 42*(3), 643-661.
Tversky, A., & Kahneman, D. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263-291.
Walter, J. R. (1991). Loan loss reserves. *FRB Richmond Economic Review, 77*(4), 20-30.
Warner, J. B., Watts, R. L., & Wruck, K. H. (1988). Stock prices and top management changes. *Journal of Financial Economics, 20*, 461-492.
Webb, E. (2008). Regulator scrutiny and bank CEO incentives. *Journal of Financial Services Research, 33*(1), 5-20.
Williams, B. (2014). Bank risk and national governance in Asia. *Journal of banking & finance, 49*, 10-26.
Williams, B. (2016). The impact of non-interest income on bank risk in Australia. *Journal of Banking and Finance, 73*, 16-37.
Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics, 126*, 25-51.

**Table 1: Variable Definition and Data Sources**

| Variable Name | Definition | Data Source |
|---|---|---|
| **Panel A: CEO Turnover** | | |
| *New CEO* | A dummy variable which takes the value of 1 if a new CEO takes the charge of bank *i* at year *t*, and 0 otherwise | Authors' calculation based on ExecuComp database |
| *New CEO$_{forced}$* | A dummy variable which takes the value of 1 if a new CEO takes the charge of bank *i* at year *t* and the outgoing CEO at year *t-1* left the office involuntarily due to performance or other reasons, and 0 otherwise | Authors' calculation based on ExecuComp database and dataset provided by Gentry, Harrison, Quigley, and Boivie (2021) |
| *New CEO$_{voluntary}$* | A dummy variable which takes the value of 1 if a new CEO takes the charge of bank *i* at year *t* and the outgoing CEO at year *t-1* left the office voluntarily, and 0 otherwise | Authors' calculation based on ExecuComp database and dataset provided by Gentry et al. (2021) |
| **Panel B: Discretionary Expenses/Reserves** | | |
| *Loan Loss Provisions to Assets (%)* | Loan loss provision scaled by total assets. Loan loss provision is the amount charged against income to maintain adequate reserves for the absorption of future losses (income statement item). | Bank Fundamentals-Compustat |
| *Reserve for credit losses to Assets (%)* | Reserve for credit losses scaled by total assets. The periodic charges of loan loss provisions against the income account are maintained by a reserve account called as Reserves for Credit or Loan Losses (balance sheet item) | Bank Fundamentals-Compustat |
| *Net Charge-Offs to Assets (%)* | Net Charge-Offs scaled by total assets. Net Charge-Offs is the amount of asset write-downs less any recoveries of the previous write-downs in a given year. | Bank Fundamentals-Compustat |
| **Panel C: Bank-specific Risks** | | |
| *Volatility(ROA)- range-based* | *Volatility(ROA)-range-based* is calculated by log(high-low) of ROA in a four-year rolling window | Authors' calculation based on Bank Fundamentals-Compustat |
| *Z-score (ln)- SD-based* | $ln(Z-score_{SD}) = \ln(\frac{ROA_{it}+\left(\frac{Equity}{Assets}\right)_{it}}{\sigma_{ROA_{it}}})$, $\sigma_{ROA_{it}}$ is calculated over a four-year rolling window | Authors' calculation based on Bank Fundamentals-Compustat |
| *Z-score (ln)-range-based* | $ln(Z-score_{range}) = \ln(\frac{ROA_{it}+\left(\frac{Equity}{Assets}\right)_{it}}{(High-low)_{ROA_{it}}})$, $(High-low)_{ROA_{it}}$ is calculated over a 4-year rolling window | Authors' calculation based on Bank Fundamentals-Compustat |
| **Panel D: Systemic Risks** | | |
| *MES (%)* | *MES* is the marginal expected shortfall measured by the average stock return of a bank during the period in which the overall market return is in the lowest 5% bracket in a year | Authors' calculation based on CRSP database |
| *LRMES (%)* | *LRMES* is the long-run marginal expected shortfall measured by a bank's expected drop in equity value over a six-month horizon, given that the market falling more than 40% in the next six months | Authors' calculation based on CRSP database |
| *Δ CoVaR (%)* | *Δ CoVaR* is the change in conditional value at risk measured by the difference between the VaR of the system conditioned on a bank is at the 5$^{th}$ percentile and the VaR of the financial system conditioned on a bank is at 50$^{th}$ percentile in terms of equity return | Authors' calculation based on CRSP database |

| | | |
|---|---|---|
| *SRISK (in billion dollar)* | *SRISK* is the expected capital shortfall in billion US dollars of a bank conditioned on the whole financial system being in crisis | Authors' calculation based on CRSP, Compustat North America databases |

| Variable Name | Definition | Data Source |
|---|---|---|
| **Panel E: Regulatory Capital** | | |
| *Capital Ratio – Combined (%)* | Risk-adjusted capital ratio (combined Tier 1 and qualifying Tier 2 capital) | Bank Fundamentals-Compustat |
| *Risk-Adjusted Capital Ratio – Tier-1 (%)* | Regulatory Definition of Risk-Adjusted Capital Ratio – Tier-1 | Bank Fundamentals-Compustat |
| *Risk-Adjusted Capital Ratio – Tier-2 (%)* | Regulatory Definition Risk-Adjusted Capital Ratio – Tier-2 | Bank Fundamentals-Compustat |
| *Excess to Tier-1 Capital (%)* | The difference between the actual Tier-1 Capital Ratio of a bank and the minimum regulatory requirement of Tier-1 Capital Ratio | Authors' calculation based on Bank Fundamentals-Compustat database and Barth and Miller (2017) |
| **Panel F: Other Variables and Controls** | | |
| *Total Assets (ln)* | Total assets measured by natural logarithm of total assets | Bank Fundamentals-Compustat |
| *Loan to Assets (%)* | Total loan as a percentage of total assets | Bank Fundamentals-Compustat |
| *Deposit to Assets (%)* | Total deposits as a percentage of total assets | Bank Fundamentals-Compustat |
| *NPL to Assets (%)* | Total non-performing assets as a percentage of total assets | Bank Fundamentals-Compustat |
| *ROA (%)* | Net income as a percentage of total assets | Bank Fundamentals-Compustat |
| *GDP Growth (%)* | The rate of GDP growth at market prices based on constant local currency | World Development Indicators |
| *Inflation (%)* | The annual consumer price inflation rate | World Development Indicators |

## Table 2 Summary Statistics

All other variables are defined in Table 1. All the variables except *NewCEO, MES, LRMES, ΔCoVaR, SRISK, Total Assets(ln), GDP Growth,* and *Inflation* are winsorized at 1% and 99%.

| Variables | Obs | Mean | Std. Dev. | Min | p25 | Median | p75 | Max |
|---|---|---|---|---|---|---|---|---|
| **Panel A: CEO Turnover** | | | | | | | | |
| *New CEO* | 2912 | 0.078 | 0.268 | 0 | 0 | 0 | 0 | 1 |
| *New CEO$_{forced}$* | 2912 | 0.014 | 0.119 | 0 | 0 | 0 | 0 | 1 |
| *New CEO$_{voluntary}$* | 2912 | 0.063 | 0.243 | 0 | 0 | 0 | 0 | 1 |
| **Panel B: Discretionary Expenses/Reserves** | | | | | | | | |
| *Loan Loss Provisions to Assets (%)* | 2877 | 0.386 | 0.616 | -0.156 | 0.089 | 0.197 | 0.379 | 3.759 |
| *Reserve for Credit Losses to Assets (%)* | 2878 | 0.963 | 0.548 | 0.05 | 0.625 | 0.862 | 1.146 | 3.298 |
| *Net Charge-Offs to Assets (%)* | 2877 | 0.346 | 0.548 | -0.064 | 0.066 | 0.167 | 0.36 | 3.458 |
| **Panel C: Bank-specific Risks** | | | | | | | | |
| *Volatility(ROA)- range-based* | 2117 | 2.358 | 1.058 | 0.1 | 1.633 | 2.245 | 2.952 | 5.103 |
| *Z-score (ln)- SD-based* | 2117 | 3.897 | 1.188 | -0.926 | 3.334 | 4.068 | 4.688 | 6.248 |
| *Z-score (ln)-range-based* | 2117 | 3.1 | 1.183 | -1.731 | 2.529 | 3.274 | 3.882 | 5.449 |
| **Panel D: Systemic Risks** | | | | | | | | |
| *MES (%)* | 2726 | 0.022 | 0.013 | 0.002 | 0.015 | 0.019 | 0.024 | 0.114 |
| *LRMES (%)* | 2726 | 0.305 | 0.111 | -0.016 | 0.239 | 0.285 | 0.344 | 0.832 |
| *ΔCoVaR (%)* | 2726 | 0.007 | 0.004 | 0 | 0.005 | 0.007 | 0.009 | 0.028 |
| *SRISK (in billion USD)* | 2722 | -0.553 | 7.938 | -76.228 | -0.833 | -0.236 | 0.011 | 119.051 |
| **Panel E: Regulatory Capital** | | | | | | | | |
| *Capital Ratio – Combined (%)* | 2787 | 14.074 | 3.087 | 10.11 | 12 | 13.3 | 15.15 | 27.78 |
| *Risk-Adjusted Capital Ratio - Tier 1 (%)* | 2787 | 11.096 | 3.046 | 5.47 | 8.95 | 10.82 | 12.7 | 20.71 |
| *Risk-Adjusted Capital Ratio - Tier 2 (%)* | 2786 | 2.933 | 2.27 | 0.54 | 1.26 | 2.28 | 3.8 | 12.58 |
| *Excess to Tier-1 Capital Ratio (%)* | 2787 | 6.638 | 2.984 | 1.47 | 4.52 | 6.19 | 8.15 | 16.54 |
| **Panel F: Other Variables and Controls** | | | | | | | | |
| *Total Assets (ln)* | 2878 | 9.624 | 1.447 | 5.974 | 8.589 | 9.376 | 10.455 | 14.78 |
| *Loan to Assets (%)* | 2878 | 61.833 | 14.526 | 9.586 | 55.887 | 64.388 | 71.171 | 88.265 |
| *Deposit to Assets (%)* | 2878 | 71.603 | 10.447 | 37.783 | 65.426 | 73.237 | 79.661 | 88.555 |
| *NPL to Assets (%)* | 2824 | 0.949 | 1.214 | 0.01 | 0.313 | 0.546 | 1.04 | 7.602 |
| *ROA (%)* | 2878 | 0.926 | 0.797 | -3.411 | 0.741 | 1.032 | 1.291 | 2.838 |
| *GDP Growth (%)* | 2856 | 2.436 | 1.549 | -2.537 | 1.842 | 2.564 | 3.513 | 4.753 |
| *Inflation (%)* | 2856 | 2.231 | 0.997 | -0.356 | 1.622 | 2.338 | 2.931 | 3.839 |

## Table 3 Effects of CEO Turnover on Discretionary Expenses/Reserves

This table presents the estimation as per the equation given in 1. Two discretionary expenses variables- *Loan Loss Provisions to Assets, Net Charge-Offs to Assets* are dependent variables. There is also *Reserves for credit loss to Assets* as another accounting discretion variable. *New CEO* is the dummy variable, which takes the value of 1 if a new CEO takes the charge of bank *i* at year *t*, and 0 otherwise. All other variables are defined in Table 1. t-statistics are shown in parenthesis.

| VARIABLES | (1) Loan Loss Provisions to Assets | (2) Reserve for credit loss to Assets | (3) Net Charge-off to Assets |
|---|---|---|---|
| New CEO | 0.1555** | 0.0625* | 0.1027 |
| | (2.2319) | (1.9497) | (1.6443) |
| Total Assets (ln) | 0.0086 | 0.0062 | 0.0142 |
| | (0.4946) | (0.7496) | (0.9377) |
| Constant | -0.0100 | -0.1127 | 0.0225 |
| | (-0.0202) | (-0.5629) | (0.0511) |
| Lagged Dependent Variables | Y | Y | Y |
| Bank Specific Control | Y | Y | Y |
| Economy Controls | Y | Y | Y |
| Observations | 1,781 | 1,781 | 1,781 |
| Number of banks | 196 | 196 | 196 |
| F Stat | 57.21 | 1279 | 59.48 |
| prob F | 0 | 0 | 0 |
| No. of instruments | 15 | 15 | 15 |
| AR1 p-value | 3.60e-07 | 8.93e-05 | 4.37e-05 |
| AR2 p-value | 0.523 | 0.0746 | 0.207 |
| Hansen p-value | 0.787 | 0.243 | 0.998 |

This table represents the estimation of Equation 1. Our measures of accounting discretion are *Loan Loss Provisions to Assets; Net Charge-Offs to Assets and Reserves for Credit Losses to Assets. New CEO is the dummy variable, which =takes the value of 1 if a new CEO takes charge of bank i at year t*, and 0 otherwise. Our control variable includes lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length *q* is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.

**Table 4 New CEO and Discretionary Expenses/Reserves - Influence of Departing Year's Bank Performance**

| Variables | (1) Loan Loss Provisions to Assets | (2) Net Charge-off to Assets | (3) Loan Loss Provisions to Assets | (4) Net Charge-off to Assets | (5) Loan Loss Provisions to Assets | (6) Net Charge-off to Assets |
|---|---|---|---|---|---|---|
| NewCEO_hnpl t-1 | 0.2096*** | 0.2079*** | | | | |
| | (4.0387) | (3.4909) | | | | |
| NewCEO_lnpl t-1 | -0.0229 | -0.0305** | | | | |
| | (-0.9851) | (-2.2811) | | | | |
| NewCEO_hroa t-1 | | | 0.0476 | -0.0039 | | |
| | | | (1.3283) | (-0.1516) | | |
| NewCEO_lroa t-1 | | | 0.1432*** | 0.1767*** | | |
| | | | (3.2938) | (3.2117) | | |
| NewCEO_heq t-1 | | | | | 0.1472 | 0.2221 |
| | | | | | (1.0678) | (1.3714) |
| NewCEO_leq t-1 | | | | | -0.0470 | -0.1266 |
| | | | | | (-0.4044) | (-0.9750) |
| Lagged Dependent Variables | Y | Y | Y | Y | Y | Y |
| Bank Specific Control | Y | Y | Y | Y | Y | Y |
| Economy Controls | Y | Y | Y | Y | Y | Y |
| Constant | -0.0441 | 0.0120 | -0.0607 | -0.0098 | 0.1524 | 0.0259 |
| | (-0.1818) | (0.0646) | (-0.2486) | (-0.0532) | (0.4915) | (0.1076) |
| Observations | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 |
| Number of banks | 211 | 211 | 211 | 211 | 211 | 211 |
| F Stat | 92.65 | 112.1 | 90.70 | 108.7 | 38.71 | 41.32 |
| prob F | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of instruments | 15 | 15 | 15 | 15 | 37 | 37 |
| AR1 p-value | 6.86e-05 | 4.82e-07 | 4.48e-05 | 4.09e-07 | 0.000692 | 5.48e-05 |
| AR2 p-value | 0.755 | 0.608 | 0.736 | 0.570 | 0.977 | 0.707 |
| Hansen p-value | 0.974 | 0.501 | 0.949 | 0.513 | 0.099 | 0.074 |

Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. New CEO hnpl t-1 represents bank with a new

CEO experienced above median Non-performing loans (npl) in the year prior to CEO change. New CEOlnpl t-1 indices below median npl in the year prior to CEO change. Likewise NewCEO hroa t-1 (New CEO lroat-1) represents above (below) median return on assets in the year before CEO turnover. NewCEO heq t-1 (New CEO leqt-1) represents above (below) median regulatory capital (Tier 1 plus Tier 2 ratio) in the year before CEO turnover . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.

## Table 5 New CEO and Discretionary Expenses/Reserves - Influence of Departing Year's Bank-Specific Risk

This table presents the effects of CEO turnover on discretionary expenses/reserves as per the equation given in 3. The dummy variable *New CEO* is divided into two dummy variables $New\ CEO^{high}$ and $New\ CEO^{low}$. $New\ CEO^{high}$ takes the value of 1 when a new CEO takes the charge of a bank in the year *t* and the bank risk in year *t-1* is above the overall median value, otherwise 0. $New\ CEO^{low}$ takes the value of 1 when a new CEO takes the charge of a bank in the year *t* and the bank risk in year *t-1* is below the overall median value, otherwise 0. Columns 1&2 present the results for which *New CEO* is divided into high and low based on the *Volatility (ROA)- range-based* of year *t-1*. Columns 3&4 present the results for which *New CEO* is divided into high and low based on the *Z-score (ln)- SD-based* of year *t-1*. Columns 5&6present the results for which *New CEO* is divided into high and low based on the *Z-score (ln)-range-based* of year *t-1*. Two discretionary expenses variables, *Loan Loss Provisions to* Asset and*, Net Charge-Offs to Assets* are dependent variables. All other variables are defined in Table 1

| Variables | (1) Loan Loss Provisions to Assets | (2) Net Charge-off to Assets | (3) Loan Loss Provisions to Assets | (4) Net Charge-off to Assets | (5) Loan Loss Provisions to Assets | (6) Net Charge-off to Assets |
|---|---|---|---|---|---|---|
| NewCEO_hvol | 0.1421*** | 0.1598*** | | | | |
| | (3.0077) | (3.0871) | | | | |
| NewCEO_lvol | 0.0373 | -0.0023 | | | | |
| | (1.2314) | (-0.1089) | | | | |
| NewCEO_hzsd | | | 0.0289 | -0.0053 | | |
| | | | (0.9710) | (-0.2444) | | |
| NewCEO_lzsd | | | 0.1624*** | 0.1817*** | | |
| | | | (3.1407) | (3.2358) | | |
| NewCEO_hz | | | | | 0.0279 | -0.0075 |
| | | | | | (0.9722) | (-0.3579) |
| NewCEO_lz | | | | | 0.1684*** | 0.1907*** |
| | | | | | (3.1582) | (3.2855) |
| Constant | -0.0708 | -0.0203 | -0.0618 | -0.0063 | -0.0606 | -0.0048 |
| | (-0.2926) | (-0.1099) | (-0.2544) | (-0.0340) | (-0.2496) | (-0.0260) |
| Lagged Dependent Variables | | Y | Y | Y | Y | Y |
| Bank Specific Control | | Y | Y | Y | Y | Y |
| Economy Controls | | Y | Y | Y | Y | Y |
| Observations | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 |
| Number of banks | 211 | 211 | 211 | 211 | 211 | 211 |
| F Stat | 90.44 | 110.1 | 90.71 | 110.8 | 90.94 | 111.2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| prob F | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of instruments | 15 | 15 | 15 | 15 | 15 | 15 |
| AR1 p-value | 4.82e-05 | 5.26e-07 | 4.88e-05 | 4.53e-07 | 4.96e-05 | 4.54e-07 |
| AR2 p-value | 0.725 | 0.429 | 0.761 | 0.528 | 0.765 | 0.525 |
| Hansen p-value | 0.955 | 0.473 | 0.955 | 0.469 | 0.954 | 0.458 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 6 New CEO and Discretionary Expenses/Reserves - Influence of Departing Year's Systemic Risk

This table presents the effects of CEO turnover on discretionary expenses/reserves as per the equation given in 3. The dummy variable *New CEO* is divided into two groups- $New\ CEO^{high}$ and $New\ CEO^{low}$. $New\ CEO^{high}$ takes the value of 1 when a new CEO takes the charge of bank *i* in year *t* and the systemic risk contribution of bank *i* in year *t-1* is above the overall median value, otherwise 0. $New\ CEO^{low}$ takes the value of 1 when a new CEO takes the charge of bank *i* in the year *t* and the systemic risk contribution of bank *i* in year *t-1* is below the overall median value, otherwise 0. Columns 1&2 present the results for which *New CEO* is divided into high and low based on the *LRMES* of previous year (*t-1)* of a new CEO's commencement. Columns 3&4 present the results for which *New CEO* is divided into high and low based on the *ΔCoVar* of previous year (*t-1)* of a new CEO's commencement. Columns 5&6 present the results for which *New CEO* is divided into high and low based on the *SRISK* of previous year (*t-1).* Two discretionary expenses variables, *Loan Loss Provisions to* Asset and*, Net Charge-Offs to Assets* are dependent variables. All other variables are defined in Table 1.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Variables | Loan Loss Provisions to Assets | Net Charge-off to Assets | Loan Loss Provisions to Assets | Net Charge-off to Assets | Loan Loss Provisions to Assets | Net Charge-off to Assets |
| NewCEO_hlrmes | 0.1890*** | 0.1651*** | | | | |
| | (4.3454) | (3.4780) | | | | |
| NewCEO_llrmes | -0.0683** | -0.0468** | | | | |
| | (-2.4341) | (-2.4270) | | | | |
| NewCEO_hcvar | | | 0.1862*** | 0.1639*** | | |
| | | | (3.8599) | (3.4632) | | |
| NewCEO_lcvar | | | -0.0393 | -0.0226 | | |
| | | | (-1.3806) | (-0.9425) | | |
| NewCEO_hsrisk | | | | | 0.1665*** | 0.1798*** |
| | | | | | (3.3606) | (3.2231) |
| NewCEO_lsrisk | | | | | 0.0117 | -0.0206 |
| | | | | | (0.4011) | (-1.0631) |
| Constant | -0.0482 | 0.0082 | -0.0626 | -0.0025 | -0.0717 | -0.0220 |
| | (-0.1986) | (0.0444) | (-0.2560) | (-0.0133) | (-0.2942) | (-0.1180) |
| Lagged Dependent Variables | Y | Y | Y | Y | Y | Y |
| Bank Specific Control | Y | Y | Y | Y | Y | Y |
| Economy Controls | Y | Y | Y | Y | Y | Y |
| prob F | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of instruments | 15 | 15 | 15 | 15 | 15 | 15 |

| | | | | | | |
|---|---|---|---|---|---|---|
| AR1 p-value | 6.40e-05 | 5.78e-07 | 6.44e-05 | 5.65e-07 | 5.19e-05 | 4.19e-07 |
| AR2 p-value | 0.810 | 0.421 | 0.848 | 0.443 | 0.752 | 0.584 |
| Hansen p-value | 0.929 | 0.459 | 0.934 | 0.457 | 0.955 | 0.466 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 7a: Forced vs Voluntary

Two discretionary expenses variables, *Loan Loss Provisions to* Asset and*, Net Charge-Offs to Assets* are dependent variables. All variables are defined in Table 1. The dummy variable *New CEO* is divided into two groups- $New\ CEO_{forced}$ and $New\ CEO^{voluntary}$. $New\ CEO^{forced}$ takes the value of 1 when a new CEO takes the charge of a bank *i* in year *t* and the old CEO left the office involuntarily due to performance and other reasons, otherwise 0. $New\ CEO_{voluntary}$ takes the value of 1 when a new CEO takes the charge of bank *i* in the year *t* and the old CEO left the office voluntarily, otherwise 0.

| | (1) | (2) |
|---|---|---|
| Variables | Loan Loss Provisions to Assets | Net Charge-off to Assets |
| New CEO (Forced) | 0.1993** | 0.2862*** |
| | (1.9861) | (2.9547) |
| New CEO (Voluntary) | 0.0721** | 0.0423 |
| | (2.3103) | (1.5066) |
| Constant | -0.0551 | 0.0092 |
| | (-0.2246) | (0.0491) |
| Lagged Dependent Variables | Y | Y |
| Bank Specific Control | Y | Y |
| Economy Controls | Y | Y |
| Observations | 2,063 | 2,063 |
| Number of banks | 211 | 211 |
| F Stat | 97.06 | 112.6 |
| prob F | 0 | 0 |
| No. of instruments | 15 | 15 |
| AR1 p-value | 3.61e-05 | 4.24e-07 |
| AR2 p-value | 0.682 | 0.344 |
| Hansen p-value | 0.940 | 0.462 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 7b: Systemic Risk

This table presents the effects of CEO turnover on discretionary expenses/reserves and the influence of departing year's level of systemic risk as well as mode of departure. The dummy variable *New CEO* is divided into four groups: Volunteer refers to a voluntary CEO turnover and forced refers to CEO turnover due to performance behavioural or policy related reasons. High refers to above median value and low refers to low median values. Columns 1&2 present the results for which *New CEO* is divided into high and low based on the *LRMES* of previous year (*t-1)* of a new CEO's commencement. Columns 3&4 present the results for which *New CEO* is divided into high and low based on the *ΔCoVar* of previous year (*t-1)* of a new CEO's commencement. Columns 5&6 present the results for which *New CEO* is divided into high and low based on the *SRISK* of previous year (*t-1).*

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Variables | Loan Loss Provisions to Assets | Net Charge-off to Assets | Loan Loss Provisions to Assets | Net Charge-off to Assets | Loan Loss Provisions to Assets | Net Charge-off to Assets |
| New CEO High LRMES (Forced) | 0.4764*** | 0.5677*** | | | | |
| | (3.7081) | (4.4063) | | | | |
| New CEO Low LRMES (Forced) | -0.1761* | -0.1181** | | | | |
| | (-1.9688) | (-2.0958) | | | | |
| New CEO High LRMES (Volunteer) | 0.1281*** | 0.0797** | | | | |
| | (2.8745) | (2.0005) | | | | |
| New CEO Low LRMES (Volunteer) | -0.0356** | -0.0278* | | | | |
| | (-2.1140) | (-1.8651) | | | | |
| New CEO High D.COVAR (Forced) | | | 0.4463*** | 0.5433*** | | |
| | | | (3.0495) | (3.6031) | | |
| New CEO Low D.COVAR (Forced) | | | -0.1064 | -0.0271 | | |
| | | | (-1.0220) | (-0.3692) | | |
| New CEO High D.COVAR (Volunteer) | | | 0.1289*** | 0.0833** | | |
| | | | (2.7649) | (2.0445) | | |
| New CEO Low D.COVAR (Volunteer) | | | -0.0208 | -0.0240 | | |
| | | | (-1.0007) | (-1.0822) | | |
| New CEO High SRISK (Forced) | | | | | 0.3780*** | 0.4661*** |
| | | | | | (3.2792) | (4.0493) |
| New CEO Low SRISK (Forced) | | | | | -0.2491** | -0.1817** |
| | | | | | (-2.0692) | (-2.5505) |
| New CEO High SRISK (Volunteer) | | | | | 0.0932* | 0.0815 |
| | | | | | (1.7680) | (1.6077) |
| New CEO Low SRISK (Volunteer) | | | | | 0.0498** | 0.0013 |
| | | | | | (2.0750) | (0.0791) |
| Constant | -0.0463 | 0.0136 | -0.0628 | -0.0017 | -0.0630 | -0.0096 |
| | (-0.1902) | (0.0731) | (-0.2575) | (-0.0092) | (-0.2594) | (-0.0520) |
| Lagged Dependent Variables | Y | Y | Y | Y | Y | Y |
| Bank Specific Control | Y | Y | Y | Y | Y | Y |
| Economy Controls | Y | Y | Y | Y | Y | Y |
| Observations | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 | 2,063 |
| Number of banks | 211 | 211 | 211 | 211 | 211 | 211 |
| F Stat | 86.14 | 106.9 | 83.93 | 96.89 | 83.58 | 99.63 |
| prob F | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of instruments | 17 | 17 | 17 | 17 | 17 | 17 |
| AR1 p-value | 5.48e-05 | 5.96e-07 | 5.24e-05 | 3.24e-07 | 5.14e-05 | 4.27e-07 |

| | | | | | | |
|---|---|---|---|---|---|---|
| AR2 p-value | 0.718 | 0.461 | 0.788 | 0.506 | 0.672 | 0.545 |
| Hansen p-value | 0.937 | 0.520 | 0.943 | 0.530 | 0.961 | 0.486 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 7c: Capital Ratio – Combined

This table shows the effects of CEO turnover on bank regulatory capital (Tier 1 plus Tier 2 ratio) in the subsequent years of turnover. The dummy variable *New CEO* is divided into two groups- NewCEO_hllp, and NewCEO_lllp . NewCEO_hllp takes the value of 1 when a new CEO takes the charge of bank *i* in year *t* and records the discretionary expenses/reserves above the overall median value of the sample, otherwise 0. NewCEO_lllp takes the value of 1 when a new CEO takes the charge of bank *i* in year *t* and records the discretionary expenses/reserves below the overall median value of sample, otherwise 0. We consider the impact of New CEO combined with loan loss provisions one and two years after the combined impact of New CEO and high or low loan loss provisions.

| Variables | Capital Ratio - Combined | Capital Ratio - Combined |
|---|---|---|
| NewCEO_hllp = t-1, | 0.4952** | |
| | (2.3997) | |
| NewCEO_lllp = t-1, | 0.2347 | |
| | (0.7760) | |
| NewCEO_hllp = t-2, | | -0.0954 |
| | | (-0.4048) |
| NewCEO_lllp = t-2, | | 0.3676 |
| | | (0.8903) |
| Lagged Dependent Variables | Y | Y |
| Bank Specific Control | Y | Y |
| Economy Controls | Y | Y |
| Observations | 1,412 | 1,412 |
| Number of banks | 169 | 169 |
| F Stat | 5788 | 5424 |
| prob F | 0 | 0 |
| No. of instruments | 35 | 35 |
| AR1 p-value | 4.78e-07 | 1.30e-07 |
| AR2 p-value | 0.240 | 0.160 |
| Hansen p-value | 0.203 | 0.076 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 7d: Tier 1 and 2

This table shows the effects of CEO turnover on Tier-1 and Tier-2 Risk-Adjusted Capital in the subsequent years after CEO turnover. The dummy variable *New CEO* is divided into two groups, NewCEO_hllp, and NewCEO_lllp . NewCEO_hllp takes the value of 1 when a new CEO takes the charge of bank *i* in year *t* and records the discretionary expenses/reserves above the overall median value of the sample, otherwise 0. NewCEO_lllp takes the value of 1 when a new CEO takes the charge of bank *i* in year *t* and records the discretionary expenses/reserves below the overall median value of sample, otherwise 0. We consider the impact of New CEO combined with loan loss provisions one and two years after the combined impact of New CEO and high or low loan loss provisions.

| Variables | Risk-Adjusted Capital Ratio - Tier 1 | Risk-Adjusted Capital Ratio - Tier 2 | Risk-Adjusted Capital Ratio - Tier 2 |
|---|---|---|---|
| NewCEO_hllp = t-1, | 0.7058 | -0.6474** | |
| | (1.1078) | (-2.1670) | |
| NewCEO_lllp = t-1, | 0.7745 | 0.2060 | |
| | (1.2879) | (0.9772) | |
| NewCEO_hllp =t-2, | | | -1.4344** |
| | | | (-2.0510) |
| NewCEO_lllp =t-2, | | | -1.8120 |
| | | | (-1.0861) |
| Lagged Dependent Variables | Y | Y | Y |
| Bank Specific Control | Y | Y | Y |
| Economy Controls | Y | Y | Y |
| Observations | 1,413 | 1,412 | 1,412 |
| Number of banks | 169 | 169 | 169 |
| F Stat | 3349 | 907.3 | 863.2 |
| prob F | 0 | 0 | 0 |
| No. of instruments | 36 | 36 | 36 |
| AR1 p-value | 1.39e-06 | 0.000189 | 0.00258 |
| AR2 p-value | 0.333 | 0.102 | 0.242 |
| Hansen p-value | 0.163 | 0.558 | 0.98 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*

## Table 7e: New CEO and Discretionary Expenses/Reserves - Influence of Departing Year's Excess to Tier-1 Capital and Forced vs. Voluntary Turnover

This table presents the effects of the influence of departing year's level of excess to Tier-1 capital as well as mode of CEO departure turnover upon discretionary expenses/reserves. High (Low) Tier 1 Excess represent a dummy variable to banks with excess Tier 1 Capital above (below) the median. Excess Tier 1 capital refers to bank Tier 1 capital ratios in excess of the regulatory minimums at the time of CEO turnover. Volunteer refers to a voluntary CEO turnover and forced refers to CEO turnover due to performance behavioural or policy related reasons. Two discretionary expenses variables, *Loan Loss Provisions to* Asset and*, Net Charge-Offs to Assets* are dependent variables.

| | (1) | (2) |
|---|---|---|
| Variables | Loan Loss Provisions to Assets | Net Charge-off to Assets |
| New CEO High Tier-1 Excess (Forced) | 0.3444** | 0.4312*** |
| | (2.2447) | (3.0449) |
| New CEO Low Tier-1 Excess (Forced) | 0.0693 | 0.1500 |
| | (0.4926) | (1.0011) |
| New CEO High Tier-1 Excess (Volunteer) | 0.0859 | 0.0688 |
| | (1.4330) | (1.2977) |
| New CEO Low Tier-1 Excess (Volunteer) | 0.0603* | 0.0206 |
| | (1.6653) | (0.7772) |
| Constant | -0.0407 | 0.0270 |
| | (-0.1654) | (0.1444) |
| Observations | 2,063 | 2,063 |
| Number of banks | 211 | 211 |
| F Stat | 84.67 | 97.41 |
| prob F | 0 | 0 |
| No. of instruments | 17 | 17 |
| AR1 p-value | 3.89e-05 | 6.47e-07 |
| AR2 p-value | 0.720 | 0.418 |
| Hansen p-value | 0.947 | 0.450 |

*Our control variables include lagged dependent variables, bank specific controls (log of total asset, loan to asset ratio, deposit to asset ratio and regulatory capital ratio (Tier 1 and 2), non-performing loans to assets) and economy wide controls (Inflation and DGP Growth), all as defined in Table 1. . All regressions are estimated using two step GMM estimations ((Arellano & Bond, 1991; Blundell & Bond, 1998), instruments are collapsed following (Roodman, 2009) and the finite sample correction of (Windmeijer, 2005) is applied. The optimal lag length q is chosen by reference to the Akaike Information Criteria (AIC) and the Schwarz Criteria (SC). T statistics are shown in parentheses. We consider the validity of our instruments by reference to a Hansen Test. ***, **, and * indicate significance level at 1%, 5%, and 10% respectively.*