Executive Characteristics and Accounting Choices of Banks

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This study investigates whether top-level executives of banks exert a significant idiosyncratic influence on accounting decisions of banks. We document that top-level executives account for a significant part of the variation in discretionary loan loss provisioning that is not explained by firm characteristics such as risk culture, litigation risk, or size. However, the impact of individual managers on provisioning choices interacts with regulatory actions. We provide evidence that a major shift in loan loss provisioning regulation in the early 2000s significantly altered the idiosyncratic manager effect. While the manager effect is generally different across CEOs, CFOs, and other top-level executives, we also show that top management team composition matters for a bank's provisioning choice. Divergence in the loan loss provisioning style between individual team members significantly increases the likelihood for regulatory intervention through enforcement actions. Overall, our results demonstrate that time-invariant manager characteristics significantly influence discretionary loan loss provisions within banks and appear to be confined by regulation.

Keywords: Manager characteristics, loan loss provisions, upper echelons theory

1 Introduction

We investigate three related research questions: (1) Do heterogeneous time-invariant manager characteristics explain accounting choices within banks? (2) If so, what are the potential determinants of this idiosyncratic effect and (3) how does top management team composition affect accounting decisions and regulatory interventions?

Ex ante, it is unclear whether top-level executives exert an idiosyncratic influence on accounting choice that goes beyond firm characteristics such as risk culture, litigation risk, or size. Potential candidates for an executive's individual characteristics that shape accounting choice at any firm are career path, experience and education.[1] However, the managerial styles investigated here extend these observable and potentially correlated characteristics by capturing all time-invariant characteristics of managers, such as latent skills, talent, ability or personality.[2] That is, we hypothesise that two apparently identical managers (e.g., similar education, age, tenure and compensation incentives) working for the same bank can have a decisively different impact on a bank's accounting decision due to latent unobservable characteristics, such as ability or personality.

We exploit a US banking setting tracking bank top executives over a period from 1993-2015 to examine the highly discretionary accounting choice of loan loss provisioning. For most banks, loans are the largest asset on the balance sheet (Bushman and Williams 2016) and loan loss provisions represent the most important accounting choice (Beatty and Liao 2014). Although, loan loss provisions are of major importance to the stability and transparency of the banking system (Acharya and Ryan 2016) it remains an open question which factors, beyond pure changes in the underlying credit risk and firm-level variables, explain this variation within banks (Bushman and Williams 2014). Management quality is likely to have a substantial influence on loan loss provisioning behavior of banks (Beatty and Liao 2011). Nevertheless, prior bank accounting research merely uses firm-level variables or compensation incentives to explain accounting heterogeneities and does not consider the individual executive's effect on corporate decisions (e.g., Fahlenbrach and Stulz 2011; Chen et al. 2006; Luo and Song 2012; Mehran et al. 2011). However, banking regulation increasingly focuses on individual bank manager characteristics, such as their

[1] Labor economics studies, such as Abowd, Kramarz and Margolis (1999) associate person fixed effects with human capital. Graham and Liu (2012) interpret manager fixed effects with management ability and talent, but note that manger fixed effects capture also all other time-invariant individual attributes.

[2] Different unobservable firm and manager characteristics, such as managerial ability or corporate culture, could bias the results in these studies. For instance, if managers with high ability particularly use loan loss provisions to smooth earnings and simultaneously tend to work in larger firms, studies on the effect of size on earnings smoothing would likely overstate the size effect due to the positive feedback loop between managerial ability and firm size.

compensation incentives (FED 2011) or even qualification (ECB 2017). For these regulations to be effective it is necessary to provide evidence that manager characteristics affect bank's corporate decisions.

Prior research in accounting and finance is far from conclusive on the issue of the individual specific effect of executives on corporate outcomes (Bamber et al. 2010). Nevertheless, there is an ongoing debate in the accounting, finance and management literature, regarding the impact of individual executives on firm policies in non-banking industries. These studies are largely based on the examination and interpretation of manager fixed effects. Most influentially, Bertrand and Schoar (2003) demonstrate that manager fixed effects are related to investment behavior, financial strategy, organizational strategy and performance. Other studies examine the effect of specific managers on disclosure policies (Bamber et al. 2010; Brochet et al. 2011; Davis et al. 2015), tax avoidance (Dyreng et al. 2010), earnings quality (Ge et al. 2011; Dejong and Ling 2013) and the mapping of accruals into future cash flows (Choi et al. 2015). Conceptually, this research refers to the *upper echelons theory* (Hambrick and Mason 1984), hypothesizing that managerial characteristics should, at least partially, explain variation in organizational outcomes. Differences in ability, personal values and cognitive styles should manifest in varying assessments of business situations, subsequently resulting in a wide array of managerial decisions.

The banking industry provides a suitable setting to test the upper echelons theory as the organizational design of banks transports risk culture top to bottom (Bushman et al. 2015) and the banking industry is in general assumed to be more opaque, offering more discretion to individual managers (Bushman and Williams 2012). That is, accounting choices should reflect top management's inherent values and risk preferences. Nevertheless, Dudley (2014) and Bushman et al. (2015) also emphasize the importance of banks' corporate culture on organizational outcomes. Bank characteristics, such as internal controls, reputation, litigation and culture could impact accounting choices in banks. Accordingly, industry-specific governance, enforcement and business model structures limit the transferability of studies conducted within other industries to the banking sector (e.g., Adams and Mehran 2003; Macey and O'Hara 2003). Furthermore, while banks are highly regulated (Beatty and Liao 2014), prior research has not investigated so far how regulation really affects the discretion of individual bank managers.

That is, we hypothesise that two apparently identical managers (e.g., similar education, age, tenure and compensation incentives) working for the same bank can have a decisively different

impact on a bank's accounting decision due to latent unobservable characteristics, such as ability or personality.

Nevertheless, most studies focus on one specific top manager, mostly the CEO, ignoring that accounting decisions of major importance such as loan loss provisions are potentially an outcome of a team decision. However, an evolving stream in the management literature suggests that the whole top managements' joint characteristics are likely to be important for firm outcomes and that differences in power and status between top management members alter the upper echelon relationships (Carpenter et al. 2004). That is, our following tests answers the call by Hambrick (2007) to focus on the top management team instead of individual top executives and tries to shed some light on the "black box" of top management team composition. Although the upper echelons view is not restricted to the investigation of the top management team (Hambrick 2007), only few studies show that divergence of top management teams can impact organizational outcomes (Bigley & Wiersema 2002; Carpenter and Sanders, 2002). Nevertheless, results whether divergence affects corporate outcomes in a positive or negative way is not uniform. Furthermore, these studies use diversity in observable characteristics as a proxy for behavioral diversity. We contribute to this literature by using observed behavioral diversity rather than weak proxies for diversity in behavior such as age or tenure.

Because banks and their executives are highly interrelated through contracts and incentives, a major methodological challenge is to separate time-invariant manager and firm effects. Recent accounting studies separate firm and individual fixed effects by including dummy variables for each individual manager and each firm (e.g., Dejong et al. 2013; Dyreng et al. 2010; Bamber et al. 2010). Thus, to avoid perfect collinearity between manager and firm fixed effects, the samples in these studies include only executives who switched their employer at least once ("*mover dummy variable method*"). This restriction on moving managers comes along with two major issues. First, sample size is reduced dramatically, diminishing statistical power. Second, top executives moving between companies are likely to be different from executives who stay at the same company during their career (Fee et al. 2013). If moving managers make systematically different accounting choices from non-movers, a sample selection bias can confound the results.

To avoid the issues of exploiting information only from moving managers, we use the identification method of Abowd, Kramarz and Margoulis (1999, hereafter AKM method).[3] Within

[3] The method was originally used to separate worker and firm effects in a labor economics study and was further refined in Abowd et al. (2002).

the AKM method, identification of executive and firm effects does not rely solely on moving managers, but on connectedness between firms and individuals. That is, we can estimate manger fixed effects not only for all managers that moved at least once, but also for all managers that worked at a bank where at least one mover was employed. The minimum of one moving manager per firm assures the separability of manager and bank effects. Using the AKM method increases the number of estimable manager effects for my sample period compared to the mover method from 97 to 910. Additionally, the three-way fixed effect specification in this study is able to avoid bias due to time-invariant omitted variables. It addresses selection issues of managers and firms due to endogenous matching of banks and managers (Fee et al. 2013), which are existent in some form in every employer-employee matched data set (Graham and Liu 2012). With manager and firm fixed effects, this matching bias with regards to time-invariant factors is removed. Nevertheless, it is only possible to control for time-invariant factors, not for time-varying omitted variables.

Our results lend support to the upper echelons theory, indicating the high importance of individual manager heterogeneities for discretionary loan loss provisions. Using the AKM method we find that manager fixed effects explain at least 19% of the variation in discretionary loan loss provisions, while approximately 12% are attributable to firm fixed effects.[4] The effects are both economically and statistically significant. These results are robust to five alternative discretionary loss provisioning measures from prior literature. Manager fixed effects are almost normally distributed showing a significant variation across top-executives. However, the characteristics absorbed by the manager fixed effect can be related to various time-invariant characteristics. These include observable characteristics such as gender, education and year of birth of the executive, as well as unobservable characteristics such as innate ability, talent or personality. To test if the idiosyncratic manager effect is attributable to observable time-invariant characteristics, we regress the manager fixed effects on different biographical executive characteristics, including gender, education, exact occupation and a dummy for executives that started to work during a recession. It appears that there is a significant correlation between the exact occupation of the executive and discretionary loss provisioning showing that chief financial officers have on average a negative idiosyncratic influence on discretionary loan loss provisions whereas chief executive officers on average increase the loan loss provision. These results are important, by showing that the executive

[4] The results are robust to six alternative discretionary loan loss provisioning models from prior literature.

effect is idiosyncratic and joint characteristics, at least partially, explain discretionary loss provisioning (adj. R^2 24.5%).

Furthermore, we find that, although the explained variation of executive fixed effects stays mainly unchanged when using the Mover method, the effects are individually and jointly statistically insignificant. That is, using the Mover method we cannot reject the null hypothesis that manager fixed effects are all zero. Additionally, when investigating the determinants of the manager effect, we find that moving managers are different from non-moving managers in terms of their observable time-invariant characteristics such as education, age, tenure and compensation incentives.In a second step, we investigate how regulation and supervision can influence manager fixed effects. Therefore, we show significant time-series variation in manager fixed effects. Manager fixed effects decrease significantly after the SAB102 and FFIEC Guidelines in 2001 that were both aimed at limiting arbitrary increases of banks loan loss allowances (Beck and Narayanamoorthy 2013).

Using data from regulatory enforcement actions of all major US banking regulators (OCC, FED, FDIC), we find that particularly the divergence of top management accounting styles provides incremental information about current and future enforcement actions.

The remainder of this paper is organized as follows. Section 2 develops the conceptual framework and reviews prior literature. Section 3 describes my data sources, variable construction process and empirical methodology. Section 4 present empirical results. Section 5 concludes.

2 Conceptual Framework and Prior Research

2.1 Upper Echelons Theory

The upper echelons theory of Hambrick and Mason (1984) suggests that individual manager traits are the main drivers of organizational outcomes. This implies that two executives with the same economic incentives (e.g., in terms of salary, age, education) working for the same firm, make different organizational choices. The differences result from diverging interpretations of the same situation by individual executives due to their personality, background and values (Hambrick 1984). In sharp contrast to the upper echelons theory, the neoclassical economic theory posits that managers are similar inputs in the production process of the firm (e.g., Bertrand and Schoar 2003). Relatedly, the new institutional theory (e.g., DiMaggio and Powell 1983) poses that individual executives do not matter because they are limited by the organizational boundaries, conventions and norms and, hence, driven solely by external forces.

The upper echelons theory ultimately builds on the bounded rationality theory (Simon 1995) and is closely related to the judgement and decision making literature. Judgement and decision making theory assumes that a decision process is shaped by three forces: the person itself, the underlying task and the environment (Bonner 2008).

The refined upper echelons theory of Hambrick (2007) additionally introduces two moderators of individual influence. These moderators – managerial discretion (e.g,, Crossland and Hambrick 2007) and job demands (Hambrick et al. 2005) – are supposed to determine the magnitude of the idiosyncratic person effect. Job demands refer to the cognitive and economic challenges of the task.

The likelihood that individual personal traits of the executives are reflected in organizational outcomes increases with higher discretion and job demands. Executives have significant leeway in determining loan loss provisions (Beatty et al. 1995). Due to the far-reaching consequences on profit and regulatory capital, the decision making places the highest requirements on executives' competencies and capabilities. Thus, according to the adjusted upper echelons theory the influence of executives on loan loss provisions should be amplified by job demands and managerial discretion.

2.2 Loan Loss Provisioning as Discretionary Accounting Choice

Earnings and capital management research have a long history in accounting (e.g., Schipper 1989, Beaver and Engle 1996). Banks' loan loss provisions are frequently used as a proxy for

earnings quality in accounting research (Dechow, Ge and Schrand 2010) and, more recently, for bank transparency (e.g., Bushman 2014). Prior studies show that banks manage earnings and capital through loan loss provisions (e.g. Whalen 1994, Ahmed et al. 1999, Beatty et al. 1995). Furthermore, Beatty and Liao (2011) provide evidence that loan loss provision manipulations reduce lending, and Huizinga and Laeven (2012) find that banks boost their book value through loss provision manipulations during crisis.

Banks are intended to build up loan loss provisions to account for future expected losses resulting from loans becoming non-performing. Therefore, loan loss provisions are an estimate of credit loss due to granting and holding loans.[5] Losses result from changes in the credit quality of borrowers, increasing the probability of repayment default. That is, the provisions should be a direct function of the bank's risk, reflecting future delinquency. Additionally, the recognition in profit and loss directly increases or decreases net income of the current period. Hence, the magnitude of the provisions impacts the smoothness of bank earnings and the information content of bank fundamentals about the risk profile of banks (Bushmann and Williams 2016).

Particularly, when banks delay provisioning in economic downturns, the procyclical effect of loan loss provisions can intensify the negative consequences for income and capital of banks (e.g., Laeven and Majnoni 2003; Bouvatier and Lepetit 2008). Additionally, loss overhangs can have adverse market consequences, resulting in reduced lending by banks (Beatty and Liao 2011). Liu and Ryan (2006) provide evidence that banks prefer loss allowance accounts that do not vary too much over time to avoid examinations by regulators and other stakeholders. They show that banks smooth their income through loan loss provisions. The positive association among prior years' income excluding loan loss provisions further indicates that banks smooth income over longer time horizons. Additionally, smoothing with discretionary provisions can simultaneously cover the true underlying loan portfolio risk, impairing bank transparency (Bushman and Williams 2012). Decreased transparency is associated with less market discipline (Nier and Baumann 2006), a higher liquidity risk (Bushman and Williams 2012), adverse effects on liquidity and the downside risk of the whole banking sector (Bushman and Williams 2016). Therefore, I examine in this research the influence of the individual executive on the amount of discretionary loan loss provisioning to capture the impact on bank transparency.

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[5] Under U.S. GAAP, banks recognize loan loss provisions per SFAS 5 and SFAS 114 using an incurred loss model. The incurred loss model requires banks to provision for loan losses if a certain loss event occurs and the loss is reasonably estimable.

2.3 Prior Research

While there is a respectable number of studies examining effects of executive compensation and observable managerial characteristics on corporate decisions, the majority of evidence excludes the banking industry due to organizational differences (Cornett et al. 2009). Therefore, research on how the incentives of banks and managers are shaped is far from conclusive. Bushman et al. (2015) argue that particularly the risk culture of banks is widely seen as a contributor to the financial crisis, but this has received little attention in prior studies, potentially due to difficulties in isolating risk culture from bank risk. They sidestep this issue by focusing on policy choices that they assume to reflect risk culture. To measure the influence of managerial characteristics, they focus on proxies for CEO materialism such as the ownership of luxury assets (e.g., expensive cars, houses and boats). However, by neglecting manager and firm fixed effects they cannot rule out the alternative explanation that unobserved time-invariant firm and executive characteristics rather than CEO materialism primarily drive corporate outcomes. Cohn et al. (2014) provide experimental evidence that corporate culture and the general business environment in the banking sector lead to dishonest bank employees. Nevertheless, most studies on bank managers' incentives focus on compensation. Livne et al. (2011) find an association between cash bonus and fair value estimates of financial assets. Additionally, Luo and Song (2012) show that firm options granted to the CEO are related with higher risk taking incentives. Another incentive for bank managers to engage in earnings management can result from career concerns of executives (Blackwell et al. 1994). Furthermore, the results of Fahlenbrach and Stulz (2011) indicate that a better alignment of bank managers' incentives with shareholders' interests is associated with deteriorations in bank performance. Hagendorff et al. (2016) provide preliminary evidence that time-invariant characteristics of a banks' top management matter for policy choices, such as risk-taking (Value at Risk), income sources, funding, and asset mix.

Research on manager characteristics in the non-banking literature is far more extensive. Bertrand and Schoar (2003) find that manager fixed effects are related to investment behavior, financial strategy, organizational strategy and performance. Furthermore, they show that these fixed styles are related to demographic characteristics of executives and are transferred when executives move to another employer. Many subsequent studies use both the same sample construction process and the methodology of Bertrand and Schoar, only varying the underlying corporate decision. In this vein, Bamber et al. (2010) examine whether unobserved time-invariant manager heterogeneities matter for firms' voluntary disclosure choice. Particularly, they find fixed

effects to be related with the frequency and precision of management forecasts. Further analysis of the fixed effects show that military and educational backgrounds of executives are associated with management forecast features. Additionally, Yang (2012) finds capital market reactions to management forecasts to be stronger if the executive has a history of accurate forecasts, documenting the reputational effect of precise individual disclosure styles. Davis et al. (2015) examine the tone in conference calls, associating the tone with manager fixed effects. Furthermore, they provide evidence that the tone in conference calls is related to career experiences and engagement in charitable organizations. Manager fixed effects also seem to have significant explanatory power, beyond firm characteristics, for tax avoidance behavior (Dyreng et al. 2010). The effect size is surprisingly high, with a difference of 11% in the GAAP effective tax rate, when comparing top and bottom quartile of manager fixed effects.

Besides other top executives, CFO characteristics seem to influence accounting choices (Ge et al. 2011). Style differences among CFOs and an increasing explanatory power of CFO fixed effects with increasing job discretion and demands supports this hypothesis. However, shortcomings in effectively controlling for CEOs' and other executives' concurrent effects on earnings quality, limit the validity of these results. Furthermore, Ge et al. (2011) do not find significant evidence for the relationship between observable characteristics and the outcome variable. Relatedly, Dejong and Ling (2013) show that individual executive characteristics have a significant influence on accruals. Furthermore, they show that management styles are associated with firm policies. They provide preliminary evidence indicating that CFOs manage earnings through accounting decisions while CEOs rather use real activities like R&D expenses to influence total accruals.

Executive fixed effects are vague and, ex ante, it is not clear which characteristics are absorbed. Choi et al. (2015) hypothesize that if a CEO has a higher operating ability, he performs superior in mapping current accruals to future cash flows. They attempt to separate the direct effect from operating ability and the second order effect resulting from the estimation ability of the CEO. Therefore, they identify CEOs with a superior operating ability by regressing ROA on time-varying firm characteristics in a three-way fixed effects model. Second, they assign CEOs with a positive coefficient on their CEO indicator variable a positive operating ability. Thereby, they assume that operating ability is a time-invariant CEO characteristic while estimation ability is not. Simultaneously, this assumption neglects that a CEO might not only have a superior operating ability but also better estimation abilities, education and other time-invariant traits. These other

time-invariant traits are absorbed in the CEO fixed effect concurrently and may result in a better mapping of accruals with future cash flows.

Recently, Schoar and Zuo (2016) examine how management styles manifest over time. They test if the early work environment shapes a particular style. They provide evidence that management styles are already fixed when an individual becomes appointed as CEO. Furthermore, their results show that CEOs who start their career during recessions are more risk averse than non-recession CEOs. Overall, these findings complement Malmendier et al. (2011), who find that the economic situation at the beginning of an executive's career limits the availability of specific executive talents available to the labor market.

Besides management styles, several studies focus on observable management characteristics and their influence on financial reporting. Most of this evidence is purely cross-sectional and, therefore, cannot rule out reverse causality and selection issues due to the matching of executives and firms (Hambrick 2007). In this vein, Jia et al. (2014) show that CEO's masculinity is associated with financial misreporting. Davidson et al. (2013) examine the link between managements ownership of luxury goods, their prior legal infractions and their likelihood of fraudulent reporting behavior. The legal record of executives is associated with the likelihood of fraud, however, frugality of the executives does not impact the propensity of fraudulent behavior. Huang and Kisgen (2013) examine how gender of executives influences corporate decisions. They find that female executives are more likely to make risky, overconfident, corporate decisions.

3 Sample Construction and Empirical Methodology

3.1 Construction of the Sample and the Dependent Variable

We use quarterly bank data from Compustat for years between 1993 and 2015.[6] To determine the measure of earnings quality, we start with a regression to estimate the systemic part of the loan loss provision. The resulting residuals represent the discretionary part of the loss provisions. We use both the natural logarithm of the absolute residuals and the signed residuals as estimates for discretionary loan loss provisioning in later tests.

There are a tremendous number of models in the bank accounting literature on how to determine the discretionary part of loan loss provisions. Most models identify the non-discretionary part of loan loss provisions with changes in (lagged) non-performing loans because this measure is based on more objective criteria (Griffin and Wallach 1991). These criteria refer to the delinquency of the loan; for instance, a loan might be classified as non-performing if it is more than 90-days past due and not accruing interest. That is, research mainly relies on changes in current and lagged non-performing loans to separate discretionary and non-discretionary provisions. we use both the absolute values of the residuals and the signed residuals from equation (1) as discretionary part of the loan loss provision in further tests. By using both measures, we exploit all data including discretionary over- and understated provisions. Positive residuals signal that managers provision more than predicted by the model, whereas negative residuals indicate underprovisioning. Overprovisioning affects bank transparency as adversely as underprovisioning does. However, positive residuals could also be interpreted as transparency improving discretion and not as earnings management (Jiang et al. 2016). Negative residuals should always point at discretionary understating of the loss provisions. Nevertheless, all models rely on the efficiency of the loan loss provisioning model in identifying the adequate loss provision, accurately reflecting economic risk.

To ensure consistency with prior literature, we use the preferred loan loss provisioning model of Beatty and Liao (2014), who find that this model most accurately predicts earnings restatements and comment letters.

The measure of discretionary provisioning is constructed by regressing loan loss provisions on the respective non-discretionary determinants to identify the part of the loss provision that is not explained by bank and country fundamentals.

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[6] Compustat Banks Quarterly does not include non-performing loans prior to 1993.

$$(1)\ LLP_{j,t} = \alpha_0 + \beta_1 \Delta NPL_{j,t+1} + \beta_2 \Delta NPL_{j,t} + \beta_3 \Delta NPL_{j,t-1} + \beta_4 \Delta NPL_{j,t-2} + \beta_5 \Delta Loan_{j,t} + \beta_6 RegCap_{j,t-1} + \beta_7 Size_{j,t-1} + \beta_8 GDP_t + \beta_9 HPI_{j,t} + \varepsilon_{j,t}$$

All models include ΔNPL, which denotes changes in non-performing loans, reflecting changes in loan portfolio risk that lead to economically justified higher loss provisions. $Size$ is the natural logarithm of total assets and captures size differences across banks that potentially influence enforcement and supervisory monitoring. Furthermore, $\Delta Loan$ denotes changes in total loans as non-discretionary exogenous determinant of loan loss provisions. Because banks are likely to use loss provisions to manage regulatory capital as loan loss provisions are a direct function of banks risk, we include the natural logarithm of Tier 1 regulatory capital to control for the banks incentive to manage regulatory capital through provisions. We use gross domestic product (GDP) data from the Federal Reserve bank of St. Louis and house price index data (HPI) from the Federal Housing Finance Agency to control for macroeconomic changes. We take the natural logarithm of the absolute yearly mean residuals, as proxy for discretionary loan loss provisioning (DLLP). In addition, we use the signed loss provisions whenever it eases the interpretations of the results. The time series of absolute discretionary loan loss provisions has two peaks, one in 2000 during the dot-com bubble and one in 2008-2009 during the recent financial crisis.

In a second step, we merge executive information from ExecuComp and stock prices from The Center for Research in Security Prices (CRSP) to the bank data.[7] Because of data requirements to calculate the discretionary loan loss provisions, our final sample includes bank, executive and capital market data for the period from 1993 to 2014. The full sample is an unbalanced panel with 9,893 observations, including 1,858 managers who have worked for 207 different banks.

Finally, my sample is restricted to banks with non-missing controls and where I can identify at least one manager who switched to another bank during the sample period reducing the panel to 4,740 observations, including 911 managers who have worked for 108 different banks. Each bank employed at least one manager who worked for two different banks of the sample. That is, the AKM method allows to capture roughly 50% of the full sample, whereas the mover dummy variable method would restrict the sample to 98 managers that moved across banks (less than 11% of all managers in the full sample).

[7] Unlike most prior research on management styles, we do not follow the sample construction process of Bertrand and Schoar (2003) because we do not rely solely on a sample of managers who moved across firms.

3.2 Empirical Methodology

I use the method introduced by Abowd, Kramarz and Margoulis (1999) and refined by Abowd, Creecy and Kramarz (2002) to estimate the following three-way fixed effects model:

$$(2)\ DLLP_{i,j,t} = X_{i,t}\beta + W_{j,t}\,\gamma + \phi_j + \theta_i + \mu_t + \varepsilon_{i,j,t}$$

Where i denotes executives, j denotes firm and t denotes the year of the discretionary loss provision (DLLP). $X_{i,t}$ represents the time-varying manager characteristics including compensation incentives (delta and vega), age and tenure of the executives. Risk-taking incentives from stock option compensation result from the asymmetric payoff function of stock options (Core and Guay 2002). Option holders can benefit if the stock price rises above the strike price, however, vice versa option holders do not have to pay the difference in case the stock price declines. Nevertheless, option compensation can have also affect individual risk-taking negatively due to the sensitivity of an executive's wealth to changes in stock price. That is, a risk averse manager might be reluctant to take risks if his wealth is mainly invested in stock options and he has no ability to hedge this risk. We measure risk-taking incentives (vega) with the dollar change in wealth linked to a 1% increase in stock return volatility. The pay-performance sensitivity (delta) is measured with the dollar change in CEO wealth to changes in a bank's stock price performance.[8] Both measures are scaled with total cash compensation and log transformed (Edmans 2009).

$W_{j,t}$ is the market-to-book ratio and size as time-variant firm characteristic. Furthermore, we include firm fixed effects (ϕ_j), manager fixed effects (θ_i) and time fixed effects (μ_t). The main objects of interest are the manager fixed effects. That is, we are interested in the partial explanatory power of manager fixed effects in model (2).

To separate executive and firm fixed effects, we use the AKM method. The AKM method expands on the mover dummy variable method which requires that managers switch banks at least once during the sample period to achieve the separation of manager and firm fixed effects. This is necessary for identification due to perfect collinearity of both effects otherwise. That is, with the mover method one can only exploit information from moving executives to estimate firm and firm fixed effects with the least squares dummy variable (LSDV) approach. Therefore, many prior studies examining manager and firm fixed effects (e.g. Bertrand and Schoar 2003, Dyreng et al.

[8] We thank Lalitha Naveen for providing the data on compensation incentives from Coles, Daniel and Naveen (2006).

2010, Yang et al. 2012, Davis et al. 2015) suffer from two major disadvantages. First, the sample is limited to switching managers, heavily reducing the sample size because managerial turnover is relatively infrequent. Furthermore, it is likely that switching managers differ systematically in their characteristics from managers who stay at the same firm. This potentially leads to a severe sample selection bias if these differences are correlated to managers' loan loss provisioning decisions. The AKM method mitigates these issues by applying methods from graph theory to form groups of connected executives and banks. We can exploit information from all banks that employed at least one manager who switches the employer during the sample period. Additionally, all other managers who worked for these banks are included in my sample.

As identification in the AKM method relies on connectedness within groups, it is necessary to form groups of connected managers and banks. This works as follows: We start with an arbitrarily chosen manager and include all banks this manager worked for. In the second step, all managers who worked for these banks are included. This procedure is repeated until no more managers or banks can be added to the group. We start over with the next group until all data is exploited. This algorithm results in groups of connected executives and banks. There is mobility within the groups but not across groups. As Abowd, Creecy and Kramarz (2002) show, connectedness is necessary and sufficient for identification of bank and manager fixed effects.

After the grouping, we estimate equation (1) following the approach proposed by Abowd, Creecy and Kramarz (2002). In the first step, we construct the mean discretionary provision of all executives to obtain the executives' average discretionary loan loss provision $\overline{Y_\iota}$. Then we subtract this average from equation (1) to wipe out the executive fixed effect. By using the information of the moving managers it is now possible to identify the firm fixed effects with the LSDV approach. Finally, the executive fixed effects can be recovered with the information about the firm effect.[9] To obtain accurate results, a certain degree of mobility is necessary to avoid an estimation bias (Andrews 2008; Gormley and Matsa 2014). The resulting fixed effects are unbiased, whereas the time-varying estimates are unbiased and consistent (e.g., Wooldridge 2010). Furthermore, the appropriateness of F-tests with a high number of individual effects is still unclear (Wooldridge 2010); although recent studies advance on the question of the accuracy of the fixed effect estimator (Jochmans and Weidner 2016; Correia 2016) the properties of this estimator are still somewhat unclear, particularly for network data. To increase consistency of my estimates, we require at least

[9] More detailed information on the exact calculation can be found in Graham and Liu (2012) or Liu et al. (2016)

two movers per bank and at least two observations per manager in further robustness tests. That means, we exclude managers with a tenure of less than two years. Furthermore, as fixed effects are computed relative to a within-group benchmark, it is necessary to normalize the fixed effects to make them comparable across groups. We use the normalization approach suggested by Cornelissen (2008).

Studying the executive fixed effects has several advantages. First, it is not necessary to specify a relation between time-varying executive characteristics and firm characteristics. Second, by controlling for firm fixed effects, we can at least partially rule out reverse causality issues due to firms selecting new executives for a particular reason. That is, we can rule out a selection bias that results from matching based on time-invariant or the included time-varying characteristics.

4 Evidence on the Role of Individual Managers

4.1 Descriptive Statistics

This section illustrates the sample construction process and the amount of worker mobility. Our final sample includes all banks that employed at least one manager who switched employers during the sample period. Additionally, we include all other managers who worked for these banks. Therefore, all managers are connected directly or indirectly to at least one other bank through a moving manager. Table 1 shows that the connectedness sample includes 911 bank managers.

Because identification relies on executive connectedness, it is important that a sufficient number of managers move between banks. Mobility appears to be high in my sample; with 10.76% (98 out of 911) movers it is higher than in other studies, such as Graham and Liu (2012) with 4.91% movers and Hagendorff et al. (2016) who declare 4.56% movers to be sufficient for identification. The actual identification problem is solved by connectedness of managers and firms, and not solely by switching managers as in the Mover Dummy Variable method. Hence, it illustrates the main advantage of the AKM method: a large amount of connectedness out of a relatively low amount of mobility (Abowd et al. 2002). Precisely, we are able to form 26 groups with connected managers and banks. The largest group consists out of 33 banks with 299 managers.

– Table 1 About Here –

Table 2 presents descriptive statistics for all continuous executive and firm characteristics in the connectedness and in the full sample between 1993 and 2014. The average executive in the connectedness sample is 54 years old and works approximately 5 years with each bank. Tenure of 5 years should suffice to affect banks' accounting decisions. The observable executive characteristics in the full sample are, with an average executive's age of 53.83 and tenure of 4.48 years, almost identical. Executives in the connectedness sample receive a slightly higher salary and a higher bonus compared to the full sample. Nevertheless, risk taking incentives (Delta and Vega) are fairly similar.

Panel B shows descriptive statistics for all categorical time-invariant manager variables. On average there are 33% CEOs, 11% CFOs and 10% other top-tier executives (e.g., CIO, COO, CRO) in the connectedness sample. 93% of the executives are male. The full sample does not differ, except that there are only 26% CEOs and 94% male executives in the full sample.

Panel C shows descriptive statistics for bank level characteristics. Again, the connectedness sample is representative of the full sample, except that banks in the connectedness sample are somewhat bigger (9.98 vs. 9.82), have a slightly lower market-to-book ratio (1.72 vs. 1.88) and higher signed DLLP (0.21 vs. 0.05).

– Table 2 About Here –

Overall, the connectedness sample seems to be fairly representative of the full sample. However, untabulated descriptive statistics indicate that moving managers differ significantly in terms of age and compensation from non-movers, and seem to work for bigger banks with higher earnings before loan loss provisions and higher market-to-book ratio. That is, relying solely on moving executives for my analysis would likely bias the results, showing the importance of the AKM method in this context.

4.2 Manager Characteristics, controls, fixed effects and the adjusted R^2

We start with a pooled OLS regression of our benchmark model including only firm characteristics and time-fixed effects in Table 3 (Controls) to facilitate illustration. This regression leads to an adjusted R^2 of approximately 23.7%. Adding compensation variables (Delta, Vega) to this regression increases the benchmark R^2 to 28.8% (+5.1%, $p<0.001$) whereas adding observable manager characteristics (age, tenure, gender, occupation, education, recession) does not significantly change the benchmark model R^2 (+0.5%). Including both, compensation and manager characteristics, increases the benchmark model to an adjusted R^2 of 29.8% (+6.1%, $p<0.001$). Nevertheless, adding firm fixed effects to the benchmark and compensation model increases the adjusted R^2 by 25.9% ($p<0.001$) to 49.6%, highlighting that it is of major importance to separate firm from individual manager effects. Adding time-invariant manager characteristics to this specification is not possible in a meaningful way because many managers stay at the same firm and, unless the AKM or mover method is used, it is not possible to separate their effect from the firm fixed effect.

In contrast to Graham and Liu (2012), who use compensation as a dependent variable, we encounter high overlaps between manager and firm fixed effects.[10] While executive compensation is clearly determined separately at the level of each individual manager, discretionary loan loss

[10] This is shown by the small or negative incremental increase in explanatory power when adding manager fixed effects to the regression with firm fixed effects.

provisions are chosen at the bank level. Separating manager and firm fixed effects, therefore, is the major challenge to the correct interpretation of the results.

A pooled OLS regression with time-varying controls and time fixed effects results in an adjusted R^2 of 29.2%, whereas the same regression with firm fixed effects leads to an adjusted R^2 of 50%. Employing manager fixed effects instead of firm fixed effects increases the adjusted R^2 by 1% (unadjusted +9.3%). These results show the potential overlap between firm and individual fixed effects that requires separating these two effects for a clear-cut interpretation. Using the AKM method the adjusted R^2 is 51.9% while the mover method uses only 780 instead of 4,740 observations the adjusted R^2 is increased to 58.1%. Additionally, Panel B of Table 3 shows that the inference with regards to the time-varying controls varies significantly depending on the fixed effect specification at hand. Whereas the mover method regression suggests that none of the time-varying covariates affects discretionary loan loss provisioning significantly, the coefficient for market-to-book-ratio (mtb) and delta are significantly negative using the AKM method.

– Table 3 About Here –

To separate manager and firm characteristics we use the AKM method and regress discretionary loan loss provisions on time-varying bank and executive characteristics and firm, executive as well as time fixed effects. Within the AKM method, we only use information from banks that employed at least one mover during the sample period. Table 4 reports the results of the AKM regression of equation (2). Using F-tests, we find that manager fixed effects are statistically significantly different from zero at the 1% level. Furthermore, firm fixed effects and manager and firm fixed effects combined are also significantly different from zero. If we rerun the analysis using the mover method, we find that manager fixed effect are not significantly different from zero. That is, relying on the mover method would lead to different conclusions about the statistical relevance of managers for discretionary loan loss provisioning.

– Table 4 About Here –

However, we are mainly interested in the explanatory power of manager fixed effects for the discretionary loan loss provisioning decision. Therefore, we examine the relative economic importance of manager fixed effects by focusing on the partial explanatory power of the manager fixed effects. The R^2 is decomposed following Graham and Liu (2012) by the covariance between

the dependent variable and the executive fixed effect, and scaled by the variance of the dependent variable.

$$(3)\ R^2 = \frac{cov(y_{jt},\hat{y}_{jt})}{var(Ln(y_{jt}))} = \frac{cov(y_{jt},X_{it}\hat{\beta}+W_{jt}\hat{\gamma}+\hat{\phi}_j+\hat{\theta}_i+\mu_t)}{var(Ln(y_{jt}))} = \frac{cov(y_{jt},X_{it}\hat{\beta})}{var(Ln(y_{jt}))} + \frac{cov(y_{jt},W_{jt}\hat{\gamma})}{var(Ln(y_{jt}))} + \frac{cov(y_{jt},\hat{\phi}_j)}{var(Ln(y_{jt}))} + \frac{cov(y_{jt},\hat{\theta}_i)}{var(Ln(y_{jt}))} + \frac{cov(y_{jt},\mu_t)}{var(Ln(y_{jt}))}$$

Therefore, $\frac{cov(y_{jt},\hat{\theta}_i)}{var(Ln(y_{jt}))}$ represents the fraction in discretionary loan loss provisioning that is explained by the executive fixed effect.

Panel B of Table 4 reports the partial explanatory power for manager and firm fixed effects, time-varying characteristics and the residuals according to equation (3). The results confirm the hypothesis that the individual manager has a major influence on discretionary loan loss provisioning. Using the AKM method we find that the 910 manager effects we can identify explain on average 19% of the variation in discretionary loan loss provisions while 12% of the variation are explained by firm fixed effects. In contrast, using the mover method, manager fixed effects explain only 10.19% and firm fixed effects 24% of the variation. With manager fixed effects only the partial R^2 of manager fixed effects accounts for 30.10% of the variation, potentially picking up omitted firm characteristics. To test if the results are sensitive to the type of bank executives included, we perform an additional subsample analysis with C-level managers only in Panel C. The connectedness sample is reduced to 196 managers but the explanatory power of manager fixed effects increases slightly to 19.92%. However, the firm effect is diminished to less than 1% (total R^2=48.16%). Overall, the results confirm that executive fixed effects play an important role in explaining discretionary loan loss provisioning with a relative explanatory power of 19%. Nevertheless, time-invariant bank characteristics seem to matter as well. Bank fixed effects explain on average 12% of the variation in discretionary loan loss provisions. Further 31% of the variation is explained by time-varying controls. Nevertheless, it is important to note that the high explanatory power of time-varying characteristics is partly attributable to time fixed effects, which were added to the time-varying controls to avoid overcategorization.

To ensure the robustness of the results, we re-run the above analysis using the AKM method using more restrictions on the sample in Table 5. Prior studies examining executive fixed effects raise the concern that these effects are potentially driven by random events during executives'

tenure (Bertrand and Schoar 2003; Choi et al. 2015) or endogenous managerial turnover (Fee et al. 2013). This would affect our results only if matching is based on time-varying characteristics that are not included in the model specification. To, at least partially, rule out endogenous sorting of executives and banks, we employ a subtest on a sample with only exogenous executive transitions. However, executives are replaced only in rare cases due to obvious exogenous reasons such as predecessor death. Therefore, I assume that executive turnover, which is classified as "retirement" in ExecuComp, or happens at the age of 61 or older, is a routine turnover. These routine turnovers are more likely to be exogenous than a result of the bank replacing an executive in favor of hiring a manager with a certain loan loss provisioning style. Although we can only identify 120 manager fixed effects, the results remain qualitatively similar. The partial explanatory power of the manager fixed effect for discretionary loss provisioning is 37% and significant at the 10% level, whereas firm fixed effects become insignificant.

– Table 5 About Here –

Because the AKM method still needs sufficient managers who move between banks, the second robustness test uses only firms with at least two movers per bank. This ensures that we are able to consistently estimate the manger fixed effect. The results of the main test remain unchanged. Using only the largest connected group for the AKM method leaves the results also unchanged. We further perform subtests on different sample splits. We find that excluding the financial crisis years from 2007-2009 does not affect the robustness of our results.

4.3 Cross-Sectional Variation in Manager Fixed Effects

Ex ante it is unclear which managerial traits are absorbed by manager fixed effects. Graham and Liu (2012) interpret manager fixed effects with management ability and talent, but note that manger fixed effects capture also all other time-invariant individual attributes. To further examine which observable characteristics are associated with the manager fixed effects, we collect additional time-invariant bibliographical characteristics of the managers from BoardEX. We use this information in addition to ExecuComp data to perform cross-sectional regressions of executive fixed effects on gender, job function, education, overconfidence and early career experience. Although many time-invariant characteristics such as ability, materialism or narcissism are likely difficult to quantify, these tests can shed further light on the issue of which observable factors play

a role for bank executives' discretionary accounting decisions. Schoar and Zuo (2016) find that an executive's management style depends significantly on the market conditions present when the executive enters the labor market. Their results indicate that CEOs who enter the labor market during a recession exert a conservative management style with respect to R&D expenditures, capital expenditures and leverage. Because the career start date is endogenously determined and affected by economic cycles, we follow the methodology of Schoar and Zuo (2016) and construct a recession variable (Recess) by simply adding 24 years, the average age of starting to work at the first position, to the executives' birth date. We classify a year as recession year if it falls at least six months into a National Bureau of Economic Research (NBER)-defined recession. To test if education explains variation in executives' fixed effects, we collect the highest degree of the executive. We do not make a specific prediction regarding the influence of education on the executive fixed effect, because prior evidence from Ge et al. (2011) shows that the directional effect of an MBA on accounting choices is mixed and overall, their results show that age, gender, having an MBA or CPA are all not significantly associated with CFOs' accounting styles in non-banks. In line with their results, we find that gender, education and age do not have a significant influence on the accounting style of bank managers. However, our results in Panel A of Table 6 suggest that the exact occupation of the executive matters. Using unsigned discretionary loan loss provisions (Column (2)), we find that CEOs exert more discretion in setting loan loss provisions. To distinguish between over and underprovisioning we perform the same test using signed discretionary loan loss provisions. While CEOs on average increase the discretionary loss provision, CFOs and other top-executives negatively influence the discretionary loan loss provision. This finding supports prior evidence that CFOs play an incremental role for earnings management (Jiang et al. 2010).

– Table 6 About Here –

However, the choice of the highest degree of an executive is potentially associated with other executive traits such as intelligence, ability or overconfidence. To further investigate these correlations, we use Principal Component Analysis (PCA) to build a composite score that captures the main dimensions of all observed manager characteristics in Panel A. The analysis identifies five components with eigenvalues larger than one (Kaiser criterion). We use these five components to calculate the PCA score combining the main managerial traits in one score. Panel B shows that

the PCA score is significantly associated with the manager fixed effect for signed and unsigned discretionary loan loss provisions.

4.4 Time-Series Variation of Manager Fixed Effects

This section investigates how manager fixed effects change over time and how this relates to loan loss provision regulation. In the late 1990s the SEC started to investigate cookie jar reserves that banks build up to smooth their income in later periods (Wall and Koch 2000). The SEC chief accountant at that time expressed concerns that banks might significantly overstated their loan loss allowances. The most prominent case at that time was the SEC ruling after an investigation of SunTrust Bank that the loan loss provision of SunTrust needs to be restated downwards by $100 million.

Finally, in 2001 the SEC issued the Staff Accounting Bulletin (SAB) 102 providing guidance to banks how they should implement a transparent and objectifiable loss provisioning process.[11] At the same time the Federal Financial Institutions Examination Council (FFIEC) issued a policy statement to provide merely identical guidance to banks. Although, most of the requirements regarding the loan loss provisioning process were in place already before these two policy statements, SAB 102 and FFIEC 2001 provided for the first time detailed guidance how loan loss allowances should be estimated systematically (Ryan and Keeley 2013).

However, because regulators noticed that banks were increasingly relying on historical loan charge-offs the FFIEC published another policy statement in 2005 to further refine loan loss provision guidance, clarifying that historical loss rates should only be a starting point for loan loss estimation (Beck and Narayanamoorthy 2013). Additionally, banks are required to document and justify adjustments to the loan loss allowance and requires bank's boards, banking regulators and auditors to review the loan loss provision process annually. This second major loan loss provisioning regulation change came into effect for fiscal years ending after December 2006. It is important to note that while SAB 102 and FFIEC 2001 were at least partially issued to prevent overprovisioning and cookie jar reserves, no directional assumption can be made about FFIEC 2005. That is, we expect that after SAB 102/FFIEC 2001 the idiosyncratic manger effect discretionary loan loss provisions is lower.

[11] It is important to note that although Staff Accounting Bulletins are technically not legally binding, these statements represent the prevailing view of the SEC's Office of the Chief Accountant.

In line with our prediction, we show in Table 6 Panel C that for all banks on average after SAB 102 was issued in 2001 the idiosyncratic manager effect on discretionary loan loss provisions decreases. Furthermore, the results for the signed DLLPs indicate a significant negative manager effect in the years following SAB 102, indicating less overprovisioning following the regulation. Nevertheless, we do not find any evidence that the idiosyncratic manger effect was altered by FFIEC 2005.

5 Top Management Team Composition

Management quality is likely to have a substantial influence on loan loss provisioning behavior of banks (Beatty and Liao 2011). Nevertheless, also in the non-banking accounting literature most studies focus on one specific top manager, mostly the CEO, and not on the whole top management team. However, an evolving stream in the management literature suggests that the whole top managements' joint characteristics are likely to be important for firm outcomes and that differences in power and status between top management members alter the upper echelon relationships (Carpenter et al. 2004). That is, our following tests answers the call by Hambrick (2007) to focus on the top management team instead of individual top executives and tries to shed some light on the "black box" of top management team composition. Additionally, our finding that managers with different occupations (e.g., CEOs or CFOs) have distinct discretionary loan loss provisions styles on average makes it worthwhile to investigate the consequences of this divergence. Prior studies already indicate that CEOs are different from CFOs and the rest of the top management team (e.g., Jiang et al. 2010). Although the upper echelons view is not restricted to the investigation of the top management team (Hambrick 2007), a number of studies show that divergence of top management teams can impact organizational outcomes (Bigley & Wiersema 2002; Carpenter and Sanders, 2002). Nevertheless, results whether divergence affects corporate outcomes in a positive or negative way is not uniform. Carpenter and Sanders report that the influence of top management team diversity on firm performance is highly dependent on firm complexity. They find that top management team diversity has a positive influence on firm performance in firms with low complexity but not in firms with high complexity. Recently, Fang et al. (2018) find that CEOs that are exposed to people with different attributes in terms of skill sets and demographics increase growth and innovation activities.

The theoretical management literature, investigating costs and benefits of TMT heterogeneity (Carpenter 2002), finds that heterogeneous TMTs are potentially able to cope with complexity but

simultaneously could suffer from socio-cognitive conflicts that make strategic execution more difficult (Mathieu et al. 2002; Carpenter et al. 2004). Nevertheless, some theoretical studies pose that it is somehow unlikely that the diversity among the top management team is large enough to cause problems in group functioning because membership in the top management team is highly selective ex ante (Bantel and Jackson 1989). Furthermore, most of the management science research investigates observable characteristics of top management team members such as age, tenure or education (e.g., Tihanyi et al. 2000) and disregards behavioral diversity. We extend this approach by relying on observed management styles to measure top management heterogeneity. That is, we first investigate how behavioral top management team divergence is reflected in a banks' business model and in observable differences of the top management team, such as gender, age or educational composition. In the second step, we test whether a high divergence between top management team members' loan loss provisioning styles fosters regulatory interventions. We operationalize top management team divergence with the standard deviation of the manager fixed effect for discretionary loan loss provisioning from equation (2). Our proxy for regulatory intervention are enforcement actions issued by the three main US banking regulators, the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation and the Board of Governors of the Federal Reserve System (FED).

6.1 Descriptive evidence on Top Management Team Divergence

In a first step, we split the sample in four quantiles from low to high top management divergence and compare bank characteristics among these groups. Table 7 shows that banks with a highly diverse top management team employ a significantly higher proportion of overconfident, lower tenured managers. Furthermore, high divergence banks employ less managers that started to work during a recession. While compensation incentives seem to be similar among the high and low divergence group, risk-taking incentives indicated by vega are significantly higher in diverse top management teams. Overall these individual differences among top management teams indicate that banks with a higher divergence employ more risk incentivized executives. However, corporate governance indicators show no clear direction. While high divergence banks have more entrenched boards, boards are on average less co-opted.

– Table 7 About Here –

Additionally, high divergence banks tend to be smaller, have higher charge-offs and larger loan loss provisions. High divergence banks are more associated with overprovisioning, while on the other hand the absolute discretionary accruals are lower. When we measure the difference of the CEO and the CFO from the mean effect of the top management team on discretionary loan loss provisions, we find that the divergence variable is driven by overprovisioning CEOs and underprovisioning CFOs.

– Table 8 About Here –

To provide evidence on the relationship between top management team divergence and discretionary loan loss provisions, we regress discretionary loan loss provisions on top management team divergence. We find that after controlling for bank characteristics and year and bank fixed effects that top management team divergence is significantly positive associated with discretionary loan loss provisions. However, for signed loan loss provisions the effect is insignificant. Overall, the positive effect for unsigned discretionary loan loss provisions indicates that on average a higher divergence among top management team members is associated with more accounting discretion.

6.2 Probability of an Enforcement Action and Top Management Team Divergence

Enforcement actions are a particularity of the banking industry and represent a major supervisory tool of the regulatory agencies to ensure the safeness and soundness of the banking system. Regulators perform on- and offsite monitoring activities on a periodic basis. If the regulator identifies any weakness during these examinations, it can issue a formal enforcement action. These actions are usually legally binding and can differ substantially in their severity. That is, enforcement actions can be classified as severe actions (written agreements, cease and desist orders, prompt corrective actions, deposit insurance threats) and less severe actions (fines, civil money penalties, suspension, removal, and prohibition orders).[12] We include both severe and less severe actions. Including less severe actions makes it less likely to find any effect of the top management divergence.[13] We exclude enforcement actions that are issued individually from state

[12] Banking regulators can also issue informal actions or requests that are not publicly disclosed.

[13] Nevertheless, it is important to note that only 17 out of 59 enforcement actions in our sample are directly issued with regards to a bank's loan loss provisioning practice. Furthermore, we are only able to capture a small subset of all enforcement actions because we are constrained to banks with executive information in Execucomp. That is, our results are only generalizable within the subset of very large US banks.

banking regulators that are not collected by SNL Financial. Additionally, we read every enforcement action to check whether the action is directly issued against loan loss provisioning practices of the bank.

To investigate if top management team divergence leads to enforcement actions we estimate the following linear probability model:

$$(4)\ Prob\left(Y_{ijt}\middle|\boldsymbol{X_{ijt}}\right) = F(\alpha + \boldsymbol{X_{ijt}\beta})$$

Y_{ijt} is equal to one if a regulatory agency issued an enforcement action against bank i and executive j during the year t and zero in all other cases. $\boldsymbol{X_{ijt}}$ represents the same control variables as for our loan loss provisioning tests in Table 3 (size, market-to-book ratio, delta, vega, tenure and age) and our main variables of interest *diverge* that represents the standard deviation of all top management fixed effects in a given year for the respective bank. Additionally, we include an interaction term of diverge and discretionary loan loss provisions (*DLLP*) to test whether divergence has a higher predictive power for enforcement actions if the banks discretionary loan loss provisions are high in a given year. We cluster all standard errors on the bank level to account for the correlation of the error terms within banks. To shed some light on the timing of enforcement actions, we test whether top management divergence can help in forecasting enforcement actions. Therefore, we use lags up to three years before and after an enforcement action.

– Table 7 About Here –

Our results in Table 7 show that more diverse top management teams in terms of loan loss provisioning styles are more likely to be involved in an enforcement action. Furthermore, the effect is only significant in the year of the enforcement action and in the year before the action, indicating that divergence is useful to forecast regulatory interventions in the short run. Additionally, the effect of the diverging top management team is particularly pronounced if the bank has high overall discretionary loan loss provisions. Nevertheless, high discretionary loan loss provisions with low divergence in top management teams loan loss provisioning styles decreases the likelihood of an enforcement action. This finding is consistent with the view that for banks with an aligned top management team regulators are rather worried about too low loan loss provisioning and not vice versa. This is in line with our story, although regulators were particularly concerned about to high loan loss reserves in the first half of our sample, because almost all of the enforcement actions

happen in the later periods of our sample (2002 and onwards). That is, extreme overprovisioning of banks is rarely observed and regulators seem to be rather concerned about underprovisioning in these periods. The results are robust to using a logit model instead of a linear probability model. Additional untabulated tests show that the results are robust to collapsing the data to the bank level and the inclusion of bank fixed effects.

7 Conclusion

This study is the first to examine the idiosyncratic influence of time-invariant executive heterogeneities on banks' accounting choices, showing that bank managers differ significantly in their loan loss provisioning behavior. Prior literature shows that banks discretionarily choose loan loss provisions to smooth earnings or to manage regulatory capital (e.g., Bushman 2012). Although, loan loss provisioning decisions have a major influence on bank transparency and downside risk of banks (Bushman and Williams 2015), the role of the individual executives was neglected in prior studies. We show that individual bank managers play a major role concerning the magnitude of discretionary loan loss provisioning that cannot be explained by firm characteristics. Additionally, we show that the relative explanatory power of time-invariant executive characteristics on discretionary loan loss provisions is higher than the explanatory power of time-invariant firm characteristics. Furthermore, we provide evidence that CEOs, CFOs and other top management team members differ in their opportunistic behavior. These idiosyncratic manager effects interact with regulation. Using two major regulatory changes to loan loss provisioning, we provide evidence that managerial discretion is altered by regulation. We further find that top management team composition matters for discretionary loan loss provisioning choices. Further tests reveal that behavioral divergence of top management team members can foster regulatory interventions. That is, the divergence of top management team members with respect to loan loss provisioning styles, is incrementally informative to forecast enforcement actions.

We use a novel identification method for network datasets that mitigates major issues of prior studies, which employ the mover dummy variable method to separate executive and firm effects. Nevertheless, further work on bank executive's individual characteristics and the composition and interaction of the top management team is needed to fully understand their influence on accounting decisions within the banking industry. Future studies can expand the understanding of characteristics such as the ability of bank managers or candidates from the big five traits that are absorbed within the executive fixed effect.

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Table 1
Manager mobility and bank connectedness

Panel A: Number of movers out of all managers

Mover	# Of firms in which managers have been employed	#Managers	%	Cum.
No	1	813	89.24	89.24
Yes	2	96	10.54	99.78
	3	2	0.22	100
	Total	911	100.00	-

Panel B: Groups of connected banks

Group	Manager-years	#Managers	#Movers	#Banks
1	33	13	1	2
2	1,451	299	41	33
3	603	93	14	13
4	137	18	1	2
5	133	26	2	3
6	33	11	1	2
7	403	76	7	8
8	50	9	1	2
9	101	14	1	2
10	192	43	5	5
11	133	19	1	2
12	106	18	2	2
13	115	27	2	3
14	109	19	2	2
15	171	37	4	4
16	59	17	1	2
17	41	5	1	2
18	72	8	1	2
19	59	12	1	2
20	137	31	2	3
21	129	16	1	2
22	96	23	1	2
23	112	26	2	2
24	120	16	1	2
25	72	22	1	2
26	73	13	1	2
Total	4,740	911	98	108

Table 1 shows information about the mobility of managers in the sample. Panel A indicates how many managers moved between banks. Panel B shows the groups formed using the AKM method to identify manager fixed effects. All banks and managers within a certain group are connected by at least one moving manager.

Table 2

Summary statistics and sample representativeness of the connectedness sample

Panel A: Executive characteristics: Continuous variables											
	(1) All Execucomp Banks		**(2) Connectedness Sample**					**(3) Mover Sample**		**Difference (1)-(2)**	**Difference (2)-(3)**
Variable	N	Mean	N	Mean	SD	Min	Max	N	Mean		
Age	7667	53.83	4740	54.29	6.72	33	84	780	52.73	-0.45***	-1.55***
Tenure	9893	4.48	4740	5.48	3.83	1	23	780	4.66	-1.01***	-0.82***
Salary	9881	5.83	4735	6.04	0.56	3.29	8.91	777	6.18	-83.24***	71.33***
Bonus	9893	3.76	4740	3.36	3.02	-4.61	9.95	780	3.81	-84.47***	163.55***
Delta	7813	-2.35	4740	-2.38	1.42	-14.21	7.2	780	-2.30	0.04	0.08
Vega	8355	-3.57	4740	-3.45	2.2	-50.77	5.75	780	-3.29	-0.12**	0.16*
Overconfidence	9108	0.172	4740	0.153	0.36	0	1	780	0.158	0.02***	-0.01
Panel B: Executive characteristics: Categorical Variables											
Variable	N	Mean	N	Mean	SD	Median		N	Mean		
CEO	9893	0.26	4740	0.33	0.47	0		780	0.46	-0.07***	0.13***
CFO	9893	0.09	4740	0.11	0.31	0		780	0.10	-0.02***	-0.01
Other Top-Executive	9893	0.08	4740	0.10	0.30	0		780	0.08	-0.02***	-0.02*
Male Indicator	9893	0.94	4740	0.93	0.25	1		780	0.94	0.00	0.01
Low Education (Bachelor, Master, Graduated)	9893	0.15	4740	0.22	0.41	0		780	0.31	-0.07***	0.09***
High Education (PhD, MBA, CPA)	9893	0.07	4740	0.10	0.30	0		780	0.17	-0.03***	0.07***
Recession Executive	9893	0.10	4740	0.13	0.34	0		780	0.13	-0.03***	0.00
Panel C: Firm characteristics: Continuous variables											
Variable	N	Mean	N	Mean	SD	Min	Max	N	Mean		
Mtb	9416	1.88	4740	1.72	0.87	-3.12	6.64	780	1.79	0.17***	0.07**
Regulatory Capital	8952	2.29	4740	2.3	0.29	-0.62	3.85	780	2.28	-0.01**	-0.02**
Size	9821	9.82	4740	9.98	1.60	6.6	14.76	780	10.35	-0.16***	0.36***
DLLP (Signed)	8480	0.05	4740	0.21	3.03	-7.57	26.09	780	0.36	-0.15***	0.15
DLLP (Unsigned)	8480	-7.04	4740	-6.93	0.93	-10.51	-3.65	780	-6.96	-0.11***	-0.03

Table 2 provides summary statistics of the (1) connectedness sample (including all banks with at least one mover and all executives who worked for these banks), (2) the full Execucomp-Compustat-CRSP-Boardex-banks matched sample and (3) the mover sample including only executives who switched between two banks at least once during the sample period. Bank level data are from Compustat Banks, compensation data and biographical information about age and tenure are from Execucomp, other managerial attributes are from Boardex. Recession executive is an indicator variable that is 1 for all executives that started to work during an NBER-defined recession. Panel A includes all continuous executive variables. Panel B shows summary statistics for all continous firm variables and Panel C provides information about continous bank characteristics. Significance at the 10%, 5% and 1% levels is indicated by *, ** and ***, respectively

Table 3

Manager Attributes, controls, fixed effects and the adjusted R^2

Panel A: Adjusted R^2 in regressions on DLLP

	Total R^2	Difference to Benchmark
1 Benchmark Model (Controls)	23.7%	-
2 Benchmark+Compensation	28.8%	+5.1%***
3 Benchmark+Manager Attributes	24.2%	+0.5%
4 Benchmark+Compensation+Manager Attributes	29.8%	+6.1%***
5 Benchmark+Compensation+Firm Fixed Effects	49.6%	+25.9%***

Panel B: Regression results applying different fixed effect structures

	OLS	Firm FE	Manager FE	Mover Method	AKM
Regulatory Capital	0.158	-0.677	0.039	-3.121*	-0.065
	(0.23)	(-0.91)	(0.05)	(-1.91)	(-0.08)
Size	0.263***	-0.166	0.071	0.189	-0.012
	(3.40)	(-0.62)	(0.40)	(0.24)	(-0.03)
MtB	-0.148	-0.929***	-0.859***	-1.042**	-0.864***
	(-0.53)	(-3.68)	(-3.10)	(-2.45)	(-2.94)
Vega	-0.166**	-0.150**	-0.122	-0.226	-0.127
	(-2.12)	(-2.17)	(-1.63)	(-1.18)	(-1.54)
Delta	-0.468***	-0.346***	-0.633***	-0.404	-0.627***
	(-4.82)	(-3.67)	(-3.37)	(-1.27)	(-2.99)
Tenure	0.050*	0.054***	0.105***	0.004	0.073
	(1.78)	(2.68)	(2.76)	(0.06)	(1.15)
Age	0.011	0.013*	-0.034	0.220	-0.066
	(1.03)	(1.70)	(-0.33)	(0.41)	(-0.56)
N	4,740	4,740	4,740	780	4,740
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes	Yes
Manager fixed effects	No	No	Yes	Yes	Yes
R^2	29.6%	51.4%	60.7%	69.3%	62.3%
Adj. R^2	29.2%	50.0%	51.0%	58.1%	51.9%

Panel A of Table 3 shows the change in adjusted R^2 for different regresions on signed and unsigned discretionary loan loss provisions. The difference in R^2 to the benchmark is tested with the Vuong (1989) test for differences in the explanatory power, adapted from Wooldridge (2010), including cluster-robust standard errors at the firm level. The benchmark model includes control variables (Regulatory Capital, Size and Market-to-Book ratio, Tenure, Age) and time fixed effects. Panel B reports coefficient estimates for signed discetionary loan loss provisions (DLLP) to illustrate the impact of different fixed effects structures: without manager or firm fixed effects (OLS), including only firm fixed effects (Firm FE), including only manger fixed effects (Manager FE), a spell fixed effect for all executive-firm combinations (Spell FE), the Mover Method from Bertrand and Schoar (2003) including manager and firm fixed effects, and the AKM method with manager and firm fixed effects. *Regulatory Capital* is the log transformed tier 1 regulatory capital. *Size* is the log of total assets. MtB is the market-to-book ratio. *Age* is the age of the executive in years. *Tenure* counts the t-th year that the executive works for the respective bank. *Delta* measures dollar changes in CEO wealth to stock price performance. Vega measures the dollar change in wealth linked to a 1% increase in stock return volatility. Delta and Vega are scaled by total cash compensation and log transformed. Significance at the 10%, 5% and 1% levels is indicated by *, ** and ***, respectively. T-statistics in parantheses.

Table 4

Importance of manager fixed effects

Panel A: F-statistics to test the significance of fixed effects. P-values in parantheses

	AKM	Mover method (Bertrand & Schoar 2003)	Spell fixed effect	Manager fixed effects	Firm fixed effects	OLS
Firm and Manager FE	2.06 (0.000)	3.48 (0.000)	3.25 (0.000)	-	-	-
Manager FE	**1.71 (0.001)**	**0.61 (0.9983)**	-	**3.34 (0.000)**	-	-
Firm FE	3.32 (0.000)	2.37 (0.000)	-	-	18.73 (0.000)	-

Panel B: Economic significance. Partial R^2 attributable to fixed effects and time-varying characteristics. Comparing different estimation methods

	AKM	Mover Method (Bertrand & Schoar 2003)	Spell fixed effect method	Manager fixed effects	Firm fixed effects	OLS
Number of manager FE estimated	910	97	-	910 (unidentified)	-	-
Partial R^2 explained by manager FE	19.00%	10.19%	-	30.10%	-	-
Partial R^2 explained by firm FE	12.00%	24.00%	-	-	21.80%	-
Partial R^2 explained by time-variant covariate	31.00%	35.00%	-	30.60%	29.61%	-
adj. total R^2	51.90%	58.10%	51.90%	51.01%	50.00%	29.2%

Panel C: Economic significance. Partial R^2 attributable to fixed effects and time-varying characteristics using only C-Level managers

	AKM	Mover method (Bertrand & Schoar 2003)	Spell fixed effect	Manager fixed effects	Firm fixed effects	OLS
Number of manager FE estimated	196	38	-	474 (unidentified)	-	-
Partial R^2 explained by manager FE	19.92%	39.42%	-	30.82%	-	-
Partial R^2 explained by firm FE	0.90%	0.58%	-	-	24.54%	-
Partial R^2 explained by time-variant covariate	39.08%	26.71%	-	29.36%	28.62%	-
adj. total R^2	48.16%	51.68%	-	51.64%	50.52	29.68%

Table 4 Panel A shows F-test statistics for manager and firm effects and indicating if the firm and manager fixed effect are jointly and individually significantly different from zero. Critical values vary by the degrees of freedom. Respective p-values are in parantheses. The fixed effects are estimated with different estimation methods in a regression of signed discretionary accruals on time-varying control variables (Table 3). Panel B reports the R^2 decomposition from equation (3) and shows how much of the variation in discretionary loan loss provisioning is explained by time-varying characteristics, firm fixed effects, manager fixed effects for different estimation methods. Panel C repeats the estimation of Panel B using only C-level managers. The covariances are normalized by the variance of the dependent variable. The total R^2 corresponds to the regressions in Table 3.

Table 5

Robustness Tests

Economic significance of Manager fixed effects							
	Number of manager FE	Partial R^2 explained by manager FE	F-test that manager FE=0 (p-value)	Partial R^2 explained by firm FE (p-value)	F-test that firm FE=0 (p-value)	Partial R^2 explained by time-variant covariates	adj. total R^2
Exogenous turnover sample	120	37.97%	(0.066)	4.93%	(0.113)	19.60%	50.94%
At least two movers per firm	805	18.08%	(0.025)	15.61%	(0.000)	26.29%	49.19%
Only the largest connected group	298	18.80%	(0.014)	19.86%	(0.006)	37.89%	68.86%
Sample split: 2001-2014	603	20.63%	(0.004)	14.54%	(0.000)	34.06%	59.65%
Excluding 2007/2008/2009	806	22.70%	(0.052)	12.99%	(0.000)	21.65%	43.23%

Table 5 reports the R^2 decomposition from equation (3). The table shows how much of the variation in discretionary loan loss provisioning is explained by time-varying characteristics, firm fixed effects, manager fixed effects and residuals. The covariances are normalized by the variance of the dependent variable. The total R^2 corresponds to the regressions in Table 3. All regressions are estimated using the AKM method in a regression of discretionary loan loss provisions on time varying control variables (Regulatory Capital, Size, Market-to-Book ratio, Tenure, Age) , time fixed effects, manager fixed effects, and firm fixed effects. The covariances are normalized by the variance of the dependent variable.

Table 6

Cross-Sectional and Time-Series Variation of Manager Fixed Effects

Panel A: PCA Descriptives

Components	Eigenvalue	Difference	Proportion	Cumulative
Component 1	2.81306	1.49408	0.2813	0.2813
Component 2	1.31898	.10829	0.1319	0.4132
Component 3	1.21069	.0712303	0.1211	0.5343
Component 4	1.13946	.0672778	0.1139	0.6482
Component 5	1.07219	.164331	0.1072	0.7554
Component 6	.907855	.0727571	0.0908	0.8462
Component 7	.835098	.41806	0.0835	0.9297
Component 8	.417039	.212586	0.0417	0.9714
Component 9	.204453	.123287	0.0204	0.9919
Component 10	.0811657	-	0.0081	1.0000

Variable	Component 1	Component 2	Component 3	Component 4
CEO	0.4688	0.1517	-0.2428	-0.4294
CFO	-0.3253	0.3837	0.4823	0.2703
Other C-Level Executive	-0.0989	-0.7050	0.0847	0.3556
Male	0.1360	0.4115	0.3900	0.0288
Lower Education (Graduated)	0.4818	-0.1578	0.2586	0.0110
High Education (PhD, MBA, CPA)	0.4155	-0.1299	0.4730	0.1766
Recession Executive	0.2072	-0.0549	0.2662	-0.1452
Delta (Mean)	0.3685	0.1605	-0.2595	0.4451
Vega (Mean)	0.2133	-0.1230	-0.0449	0.1456
Overconfidence	0.1310	0.2789	-0.3441	0.5861

Panel B: Cross-Sectional Determinants of Manager Fixed Effects: PCA

	(1)		(2)	
	Signed DLLP Manager Fixed Effect		Unsigned DLLP Manager Fixed Effect	
PCA Score	0.446**		0.0671**	
	(0.012)		(0.047)	
Component 1		0.264***		0.0410***
		(0.000)		(0.006)
Component 2		0.243***		0.0516***
		(0.001)		(0.002)
Component 3		-0.312***		-0.0439***
		(0.000)		(0.007)
Component 4		0.177**		0.0112
		(0.026)		(0.593)
Component 5		-0.143		-0.0424
		(0.396)		(0.201)
Cluster	Firm level	Firm level	Firm level	Firm level
Group FE	Yes	Yes	Yes	Yes
N	4732	4732	4732	4732
Adj. R^2	23.3%	27.8%	22.7%	25.0%

Table 6 (continued)
Cross-Sectional and Time-Series Variation of Manager Fixed Effects

Panel C: Cross-Sectional Determinants of Manager Fixed Effects: Manager Characteristics

	(1)	(2)
	Signed DLLP Manager Fixed Effect	Unsigned DLLP Manager Fixed Effect
Male	0.403	0.0461
	(0.243)	(0.492)
CEO	0.247*	0.115***
	(0.055)	(0.000)
CFO	-0.502**	-0.00602
	(0.016)	(0.899)
Other C-Level Executive	-0.348	-0.0509
	(0.191)	(0.418)
High Education (PhD, MBA, CPA)	-0.232	-0.0474
	(0.157)	(0.327)
Recession Executive	-0.0965	0.00147
	(0.636)	(0.971)
Delta (Mean)	0.472***	0.0647***
	(0.000)	(0.008)
Vega (Mean)	-0.181*	-0.0451**
	(0.056)	(0.048)
Overconfidence	0.557**	0.0920
	(0.028)	(0.122)
Cluster	Firm level	Firm level
Group FE	Yes	Yes
N	4732	4732
Adj. R^2	29.1%	0.258

Table 6 (continued)
Cross-Sectional and Time-Series Variation of Manager Fixed Effects

Panel D: Time-Series Variation in Manager Fixed Effects

	(1)		(2)	
	Signed DLLP Manager Fixed Effect		Unsigned DLLP Manager Fixed Effect	
1993	1.446***	1.462***	0.289***	1.462***
	(0.001)	(0.001)	(0.004)	(0.001)
1994	0.901***	0.910***	0.243***	0.910***
	(0.007)	(0.008)	(0.008)	(0.008)
1995	0.631**	0.722**	0.143*	0.722**
	(0.040)	(0.026)	(0.087)	(0.026)
1996	0.462	0.635**	0.144*	0.635**
	(0.109)	(0.042)	(0.054)	(0.042)
1997	0.126	0.381	0.0728	0.381
	(0.639)	(0.174)	(0.288)	(0.174)
1998	0.115	0.271	0.0945*	0.271
	(0.542)	(0.179)	(0.087)	(0.179)
1999	0.157	0.170	0.0545	0.170
	(0.320)	(0.315)	(0.218)	(0.315)
2000	0.0943	0.122	0.0190	0.122
	(0.396)	(0.329)	(0.569)	(0.329)
2001	**Base year**	**Base year**	**Base year**	**Base year**
2002	-0.109	-0.178	0.00114	-0.178
	(0.390)	(0.173)	(0.966)	(0.173)
2003	-0.325**	-0.438**	-0.0187	-0.438**
	(0.044)	(0.011)	(0.598)	(0.011)
2004	-0.599***	-0.728***	-0.0672*	-0.728***
	(0.004)	(0.001)	(0.086)	(0.001)
2005	-0.360*	-0.536**	-0.0728	-0.536**
	(0.084)	(0.018)	(0.151)	(0.018)
2006	-0.273	-0.470**	-0.0564	-0.470**
	(0.221)	(0.045)	(0.281)	(0.045)
2007	-0.182	-0.466*	-0.0696	-0.466*
	(0.471)	(0.059)	(0.261)	(0.059)
2008	-0.0344	-0.363	-0.0250	-0.363
	(0.898)	(0.157)	(0.705)	(0.157)
2009	0.147	-0.242	0.0274	-0.242
	(0.640)	(0.386)	(0.735)	(0.386)
2010	0.0572	-0.313	0.0125	-0.313
	(0.847)	(0.256)	(0.875)	(0.256)
2011	-0.134	-0.564*	-0.0347	-0.564*
	(0.669)	(0.065)	(0.684)	(0.065)
2012	-0.282	-0.758**	-0.0403	-0.758**
	(0.386)	(0.018)	(0.651)	(0.018)
2013	-0.297	-0.750**	-0.0751	-0.750**
	(0.355)	(0.018)	(0.399)	(0.018)
2014	-0.241	-0.739**	-0.0756	-0.739**
	(0.455)	(0.017)	(0.407)	(0.017)
Clustered SE	Firm level	Firm level	Firm level	Firm level
Controls: Panel C Characteristics	Yes	No	Yes	No
Controls: Panel B PCA	No	Yes	No	Yes
Group FE	Yes	Yes	Yes	Yes
N	4732	4732	4732	4732
Adj. R^2	31%	27.5%	27.6%	27.5%

Panel A of Table 6 shows descriptive statistics of a principle components analysis performed on time-invariant observable manager characteristics. Panel B shows the results of a regression of the manager fixed effect on the composite score and the individual extracted principal components from Panel A. Panel C presents the the results of a regression of the executive fixed effects on different time-invariant characteristics. Column 1 uses the signed discretionary loan loss provisions to estimate the manager effect and column (2) uses unsigned discretionary loan loss provisions to estimate the manager fixed effect. CEO, CFO and Other C-Level Executive are indicator variables for the position of the manager. Graduate is an indicator for a bachelors or masters degree as highest academic qualification. MBA, CPA, and PhD are defined analogue. Recession is an indicator whether the manager started his career during a NBER-defined recession, and is calculated as the birthday plus 24 years as the average start of the career. Panel B shows the results of a regression of manager fixed effects on time dummies and the variables from Panel A as controls. Panel C presents the the results of a regression of the executive fixed effects on different time-invariant characteristics and year dummies. The year 2001 serves as reference year. Significance at the 10%, 5% and 1% levels is indicated by *, ** and ***, respectively. P-values are reported in parantheses.

Table 7

Firm-level Statistics of Top Management Team Divergence in Discretionary Loan Loss Provisioning Styles

	Quartile (1) Low TMT Divergence			Quartile (2)			Quartile (3)			Quartile (4) High TMT Divergence			Difference (4)-(1)	
Variable	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	Difference	P-value
Overconfidence	1603	0.129	0.335	1524	0.125	0.33	1502	0.125	0.33	1475	0.209	0.407	-0.081	0.000
Male	1603	0.934	0.249	1524	0.917	0.276	1502	0.935	0.247	1475	0.928	0.258	0.006	0.530
Low Education	1603	0.187	0.39	1524	0.161	0.367	1502	0.161	0.368	1475	0.209	0.407	-0.022	0.121
High Education	1603	0.077	0.266	1524	0.079	0.27	1502	0.085	0.278	1475	0.086	0.281	-0.009	0.342
Recession	1603	0.124	0.329	1524	0.133	0.339	1502	0.097	0.295	1475	0.092	0.288	0.032	0.004
Age	1319	53.994	6.29	1371	53.87	6.12	1325	54.225	7.011	1274	53.795	8.012	0.199	0.480
Tenure	1603	5.379	3.819	1524	4.999	3.513	1502	4.626	3.56	1475	4.923	3.805	0.455	0.001
Salary ($)	1603	469.347	296.495	1524	439.293	316.152	1502	431.026	337.597	1475	477.998	383.032	-8.652	0.482
Bonus ($)	1603	545.929	1442.656	1524	384.163	914.575	1502	361.026	756.057	1475	527.784	1294.392	18.145	0.714
Delta	1370	-2.3	1.154	1331	-2.438	1.15	1304	-2.479	1.357	1278	-2.299	1.764	-0.002	0.977
Vega	1423	-3.252	1.516	1347	-3.335	1.503	1311	-3.733	2.913	1288	-3.577	2.209	0.325	0.000
MTB	1603	1.767	0.787	1524	1.783	0.842	1502	1.792	0.852	1475	1.82	1.069	-0.053	0.116
Regulatory Capital	1603	2.315	0.263	1524	2.281	0.306	1502	2.279	0.249	1475	2.294	0.31	0.021	0.047
Size	1603	10.284	1.679	1524	9.978	1.553	1502	9.813	1.377	1475	9.944	1.617	0.340	0.000
Charge-offs	1396	-0.007	0.008	1316	-0.008	0.009	1257	-0.007	0.01	1240	-0.009	0.013	0.002	0.000
Loan Loss Provisions	1396	0.007	0.01	1316	0.008	0.01	1257	0.008	0.012	1240	0.009	0.015	-0.002	0.000
Earnings before Provisions	1121	0.036	0.019	1054	0.035	0.023	1003	0.036	0.028	978	0.032	0.027	0.004	0.001
Non-interest Income	1298	0.243	0.125	1225	0.253	0.138	1209	0.23	0.152	1185	0.246	0.149	-0.003	0.566
Loans to Deposit Ratio	1603	0.873	0.173	1524	0.894	0.169	1502	0.904	0.211	1475	0.932	0.24	-0.059	0.000
Entrenchement Index	785	2.633	1.308	762	3.022	1.327	711	3.048	1.162	691	2.418	1.487	0.215	0.003
Fraction of Directors after CEO	1020	0.431	0.295	1051	0.415	0.284	907	0.401	0.273	804	0.409	0.286	0.022	0.111
Signed DLLP	1603	-0.001	2.189	1524	0.145	2.712	1502	0.062	2.66	1475	0.709	3.959	-0.709	0.000
Unsigned DLLP	1603	-7.066	0.845	1524	-7.151	0.96	1502	-6.993	0.931	1475	-6.649	0.936	-0.417	0.000
Skewness of Manager FE	1603	0.165	0.6	1524	0.13	0.549	1502	0.075	0.596	1475	0.209	0.656	-0.044	0.052
CEO Overprovisioning & CFO Underprovisioning	1603	0.026	0.16	1524	0.078	0.268	1502	0.075	0.264	1475	0.121	0.327	-0.095	0.000
CFO Overprovisioning & CEO Underprovisioning	1603	0.127	0.333	1524	0.139	0.346	1502	0.156	0.363	1475	0.127	0.333	-0.000	0.991
Deviation of CEO from TMT mean	1549	0.231	0.418	1480	0.385	0.589	1476	0.581	0.798	1442	0.752	1.611	-0.521	0.000
Deviation of CFO from TMT mean	675	-0.177	0.543	756	-0.122	0.77	619	-0.244	0.976	717	-0.6	2.153	0.423	0.000

Table 7 provides summary statistics of firm characteristics for different qaurtiles of divergence in top management team's discretionary loan loss provisioning styles (TMT Divergence). Manager FE is the manager fixed effect of discretionary loan loss provisioning estimated with the AKM method (Table 3). TMT Divergence is the standard deviation of manager FE of bank i in year t; manager FE are estimated using the AKM method (Equation (2)). Entrenchment Index stems from Bebchuck (2009), larger values indicate a better corporate governance. Fraction of Directors after CEO stems from Coles et al. (2014) and indicates the fraction of mangers that were appointed after the CEO started at the respective firm; lower values indicate lower co-option of the board. Deviation of CEO from TMT mean indicates the difference of the CEO manager effect from the TMT mean effect on the loan loss provision at bank i in year t (CEO excluded from the mean calculation). Deviation of CFO from TMT mean indicates the difference of the CFO from the TMT mean effect on the loan loss provision at bank i in year t (CFO excluded from the mean calculation).

Table 8

Behavioral Diversity of the Top Management Team and Discretionary Loan Loss Provisions

	(1) Signed DLLP Manager Fixed Effect	(2) Unsigned DLLP Manager Fixed Effect
TMT Divergence	**0.765**	**0.239*** **
	(0.175)	**(0.001)**
Regulatory Capital	-0.321	-0.156
	(0.614)	(0.201)
MtB	-0.806***	-0.0663
	(0.001)	(0.204)
GDP	0.514***	-0.0539
	(0.002)	(0.265)
Age (Mean)	0.0512	0.00105
	(0.347)	(0.936)
Tenure (Mean)	0.131	-0.0258
	(0.107)	(0.258)
Recession (Mean)	0.471	-0.307
	(0.564)	(0.316)
Male (Mean)	-0.0137	-0.0806
	(0.992)	(0.808)
High Education (Mean)	2.649*	-0.0865
	(0.094)	(0.845)
Lower Education (Mean)	-2.508**	-0.115
	(0.029)	(0.740)
Delta (Mean)	-0.920***	-0.0802**
	(0.000)	(0.033)
Vega (Mean)	-0.145	-0.0220*
	(0.137)	(0.096)
Year FE	Yes	Yes
Firm FE	**Yes**	**Yes**
Clustered Standard Errors	Firm level	Firm level
N	4,700	4,700
Adj. R^2	54.4%	52.9%

variable capturing divergence of top management team's discretionary loan loss provisioning styles. Manager FE is the manager fixed effect of discretionary loan loss provisioning estimated with the AKM method (Table 3). TMT Divergence is the standard deviation of manager FE of bank i in year t; manager FE are estimated using the AKM method (Equation (2)). Regulatory Capital is the log transformed tier 1 regulatory capital. Size is the log of total assets. MtB is the market-to-book ratio. GDP is the yearly change of the GDP in the home state of bank i. All manager characteristics are measured as averages for each bank i in year t. Age is the age of the executive in years. Tenure counts the t-th year that the executive works for the respective bank. Delta measures dollar changes in CEO wealth to stock price performance. Vega measures the dollar change in wealth linked to a 1% increase in stock return volatility. Delta and Vega are scaled by total cash compensation and log transformed. Age is the age of the executive. Tenure measures how many years an executive is in charge at the respective firm. Significance at the 10%, 5% and 1% levels is indicated by *, ** and ***, respectively. Standard errors are clustered at the firm level. P-values are reported in parantheses.

Table 9

Top management team divergence in discretionary loan loss provisioning styles and enforcement actions

	3 years after enforcement	2 years after enforcement	1 year after enforcement	Year of enforcement	1 year before enforcement	2 years before enforcement	3 years before enforcement
TMT Divergence	-0.0251	-0.000375	0.0123	**0.173*** **	**0.163***	-0.0573	-0.0215
	(0.434)	(0.992)	(0.740)	**(0.006)**	**(0.053)**	(0.253)	(0.596)
TMT Divergence*DLLP	-0.00758	-0.00386	-0.00149	**0.0225****	**0.0227***	-0.00965	-0.00565
	(0.219)	(0.539)	(0.834)	**(0.022)**	**(0.070)**	(0.268)	(0.466)
DLLP	-0.0157*	-0.0263**	-0.0239*	-0.0357**	-0.0252	-0.0114	-0.0255***
	(0.086)	(0.034)	(0.096)	(0.024)	(0.121)	(0.253)	(0.009)
Manager FE	0.00296	0.00479	0.00773*	0.0119***	0.00873**	0.00613*	0.00518*
	(0.309)	(0.201)	(0.065)	(0.006)	(0.030)	(0.094)	(0.099)
Regcap	0.00532	0.00387	-0.0551	-0.111***	-0.00919	-0.0273	-0.0291
	(0.746)	(0.859)	(0.363)	(0.005)	(0.671)	(0.202)	(0.135)
Size	0.0354***	0.0474***	0.0543***	0.0581***	0.0449***	0.0298***	0.0198***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MtB	0.0124	0.0155	0.0234*	0.00934	0.0169	0.00630	0.0126
	(0.274)	(0.233)	(0.089)	(0.450)	(0.285)	(0.657)	(0.390)
Vega	-0.00269	-0.00362	-0.00191	-0.000246	0.00223	-0.0000926	0.000232
	(0.160)	(0.242)	(0.529)	(0.915)	(0.105)	(0.922)	(0.853)
Delta	-0.00171	-0.00560	-0.0169***	-0.0190**	-0.0162***	-0.00518	0.00165
	(0.708)	(0.181)	(0.002)	(0.022)	(0.003)	(0.152)	(0.608)
Age	-0.000429	-0.000219	-0.000137	-0.000266	-0.000678	-0.00131*	-0.00182**
	(0.411)	(0.729)	(0.847)	(0.718)	(0.343)	(0.058)	(0.011)
Tenure	0.00381**	0.00249**	0.000539	-0.00220	-0.000852	0.000222	0.0000878
	(0.012)	(0.049)	(0.685)	(0.108)	(0.507)	(0.821)	(0.897)
N	3324	3324	3324	3324	3324	3324	3324
Adj. R^2	0.146	0.179	0.203	0.234	0.157	0.109	0.0982
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 9 shows the results of an OLS regression of a dummy variable that indicates firm-years with an enforcement action on a variable capturing divergence of top management team's discretionary loan loss provisioning styles. Manager FE is the manager fixed effect of discretionary loan loss provisioning estimated with the AKM method (Table 3). TMT Divergence is the standard deviation of manager FE of bank i in year t; manager FE are estimated using the AKM method (Equation (2)). Regulatory Capital is the log transformed tier 1 regulatory capital. Size is the log of total assets. MtB is the market-to-book ratio. Age is the age of the executive in years. Tenure counts the t-th year that the executive works for the respective bank. Delta measures dollar changes in CEO wealth to stock price performance. Vega measures the dollar change in wealth linked to a 1% increase in stock return volatility. Delta and Vega are scaled by total cash compensation and log transformed. Age is the age of the executive. Tenure measures how many years an executive is in charge at the respective firm. Significance at the 10%, 5% and 1% levels is indicated by *, ** and ***, respectively. Standard errors are clustered at the firm level. P-values are reported in parantheses.