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Winner or Winner's Curse? Do CEOs and Companies Benefit from Internal Competition

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ABSTRACT

We investigate whether features of the tournament structure determine the cross-sectional variation in the pay premiums of tournament winners and whether the level of rewards for tournament winners is related to future firm performance. Using a unique dataset of 116 internal CEO succession events in U.S. bank holding companies, we find that the winner's pay premium level is positively associated with the steepness of the tournament structure prior to CEO succession. Higher pay premiums reflect the new CEO's managerial ability as perceived by shareholders and are also associated with greater improvements in bank performance following CEO succession.

Keywords: Tournament Structure; Internal Succession; Pay Premium; Bank Performance

JEL Classification: J33, M52, G34

1. INTRODUCTION

The promotion of firm managers, their incentives, and the selection of CEOs are important topics for the media, academia, and practitioners. Although CEO succession has been studied for decades, much of the existing literature remains agnostic to industry differences. For this reason, we believe that a focused study on internal CEO succession events within the financial industry is timely. Given its pivotal role in the economy, the financial industry is uniquely exposed to significant volatility. Additionally, financial institutions face distinct regulatory requirements and risk profiles compared to non-financial firms. For instance, banks are often highly leveraged and operate under different risk-reward dynamics (John and Qian, 2003). Therefore, identifying effective leadership is crucial.

The topic of CEO turnover in large commercial banks has also received increasing attention from researchers, particularly after the recent financial crisis (e.g., Srivastav, et al., 2017; Chen and Ebrahim, 2018; Hayes et al., 2023). Prior research indicates that the finance industry accounts for 15% to 25% of the overall increase in wage inequality since the 1980s. Moreover, CEOs in the financial industries earn a 250% premium relative to their counterparts in other industries (Philippon and Reshef, 2012). Interestingly, despite this substantial pay disparity, the dispersion in CEO talent distribution appears to be extremely small (Knoeber and Thurman; 1994; Gabaix and Landier, 2008).

Furthermore, the recent financial crisis in 2008 is often attributed, at least in part, to incentive pay structures in the financial firms that purportedly encourage excessive risk-taking (Kleymenova and Tuna, 2021). Research further shows that bank performance during the crisis was influenced by CEO incentives in the pre-crisis period (Fahlenbrach and Stulz, 2011). These findings underscore the importance of investigating CEO turnover and incentive structures within the

banking industry. Our study aims to address this important issue by examining whether features of the tournament structure determine the variation in rewards for tournament winners, and whether the level of these rewards predicts future firm performance, with a sample of large U.S. banks.

Recent media reports indicate that the current compensation structure has contributed to the pay inequality between top executives and their employees. Some top executives earn more than a thousand times general what general employees do.[3] Theoretically, tournament theory suggests that the high-paying position of the CEO is seen as the prize of a succession tournament. Thus, a larger pay differential between the CEO and other senior executives should elicit greater effort from lower-level executives competing for the CEO position (Lazear and Rosen, 1981; McLaughlin, 1988; Cappelli and Cascio, 1991; Lazaer, 1998; Michael L. Bognanno, 2001; Kale et al., 2009). Recent studies have examined the importance of promotion-based tournament incentives (Carpenter and Sanders, 2002; Fredrickson et al., 2010; Connelly et al., 2014) and their influence on firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017, Blank et al., 2022), innovation (Amore and Failla, 2020), and firm risk (Kini and Williams, 2012).

Despite the fact that a lot of work has been done on tournament incentives, less attention has been given to the rewards of tournament winners. Given that tournament theory suggests relative rank-order prizes may be superior to other performance compensation systems (Lazear and Rosen, 1981), it is crucial to examine the compensation outcomes of the winning candidates to determine whether they truly benefit from CEO tournaments. Notably, Chrisman et al. (2014) suggest a possible "winner's curse"—the winners might find themselves losing, especially when the costs of winning exceed the benefits. Blank et al. (2022), on the other hand, focus on internal CEO

3 See the CNN report from 2019. "These CEOs make over 1,000 times more than their typical employee". Available from: https://www.cnn.com/2019/07/25/business/ceo-pay-ratio-disney Many companies across different industries have a very high CEO-to-employee pay ratio.

successions in S&P 1500 firms and find that tournament winners receive a pay raise after promotion, regardless of the succession method—whether heir apparent or horse race. However, it remains unknown whether tournament winners are similarly rewarded in the banking sector, arguably a sector critical for financial stability and economic development, and whether such rewards are influenced by the features of the tournament structure.

Tournament theory also suggests that a greater pay differential attracts more highly qualified people to compete for the job, ultimately leading to improvements in the firm's performance (Lazear and Rosen, 1981; Green and Stokey, 1983; Kale et al., 2009). However, social comparison theory indicates that large pay differentials may reduce commitment to organizational goals, diminish satisfaction and collaboration, and result in lower firm performance (Crosby, 1976; Festinger, 1954; Cowherd and Levine, 1992; Martin and Murnighan, 1981; Siegel and Hambrick, 2005). Empirical studies using samples across all industries have produced mixed findings on the relationship between tournament structure and firm performance. Some researchers find that pay differentials between the CEO and other senior executives are positively related to firm performance (e.g., Kale et al., 2009; Burns et al., 2017). Others report a negative relationship between pay differentials and firm performance (e.g., Bebchuk et al., 2011). Some studies suggest that variation in executive team pay has little impact on firm performance (Conyon et al., 2001), while others find that higher pay differentials are associated with better performance only in a subset of owner-managed firms (Ang et al., 1998). Therefore, we believe that how tournament structure affects firm performance remains an open empirical question. Studying the banking industry, as opposed to broader cross-industry samples, offers valuable insights given its unique institutional and regulatory context.

To determine whether tournament winners are actually rewarded after being promoted to the CEO position, we use the "pay premium" of CEO tournament winners in U.S. bank-holding companies (BHCs) as a proxy for tournament rewards and examine whether this reward is related to the tournament structure in place prior to the CEO appointment. A critical component of our analysis is the measurement of the pay premium obtained by internal tournament winners, which is the change in total compensation before and after promotion. We find that, on average, tournament winners receive a pay raise after assuming the CEO role. However, the level of the pay premium varies widely across the analyzed events. Interestingly, we find evidence of the winner's curse as some tournament winners experience a reduction in compensation after promotion. Prior research have investigated firm winner's curse, while our results suggest a managerial winner's curse (Thaler, 1988; Chrisman et al., 2014). Although our findings are based on a small sample size and a specific industry, they suggest that the assumption that tournament winners will always be rewarded is flawed.

Furthermore, we find that the degree of tournament incentives influences the effort candidates exert to attain the CEO position: the greater the pay differential, the stronger the incentive for CEO candidates to win the competition (Rosen, 1986; Lazear, 1998; Carpenter and Sanders, 2002; Moldovanu et al., 2007). We hypothesize that the steepness of the tournament structure affects the pay premium that the tournament winner receives upon promotion.

To test this hypothesis, we use two measures of tournament structure. The first measure is the CEO pay ratio, defined as the ratio of the CEO's compensation to the mean (or median) compensation of the other highest-paid executives (Burns et al., 2017). The second measure is the CEO pay slice, defined as the percentage of total compensation for the top executive group paid to the CEO (Bebchuk et al., 2011; Chen et al., 2013; Burns et al., 2017). We find that both CEO

tournament measures are positively associated with the level of the pay premium. Thus, CEO candidates in banks with a steeper tournament structure are more likely to receive higher rewards after winning the competition. In addition to the tournament structure, we control for various executive and bank characteristics that may influence the pay premium level. Our results suggest that candidates with longer prior CEO experience receive smaller pay premiums. We also find that larger banks, younger banks, and banks with worse financial performance before turnover tend to offer higher rewards to tournament winners.

To further determine whether the rewards of tournament winners predict future bank performance post-CEO appointment, we examine the relation between the pay premium and changes in bank performance post-CEO succession. Our results suggest that the pay premium is positively associated with changes in bank performance. Banks that offer higher rewards to tournament winners tend to have greater improvements in performance. Our results hold for both accounting performance and market-based performance.

Other studies have suggested that changes in firm value around the time of CEO departure or appointment reflect the market's evaluation of the departing or appointed CEO's managerial ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). The departure of high-ability executives results in negative abnormal returns, whereas the appointment of high-ability executives results in positive abnormal returns. Thus, the market reaction to a CEO appointment can be interpreted as an indicator of managerial ability as perceived by shareholders. We measure market reaction using the cumulative abnormal return (CAR) surrounding the CEO appointment event. By using the market reaction as a proxy for CEO managerial ability and including it in our analysis, we find that tournament winners' pay premiums are positively related to the market reaction, in addition to the effect of the tournament structure. This indicates that high-ability

candidates are more likely to receive larger rewards upon promotion. Thus, the pay premium is a joint outcome of the increased effort induced by a steeper tournament structure and the higher managerial abilities of the candidate.

In conjunction with the findings of our previous analysis, we conclude that CEO candidates in banks with a steep tournament structure are more likely to receive higher rewards, and high-ability candidates are more likely to earn larger rewards upon promotion. Furthermore, a high reward serves as an indicator of improved bank performance following the CEO's appointment. Our findings support tournament theory, which posits that a greater pay differential attracts more highly qualified individuals to compete for the role, ultimately leading to enhanced company performance (Lazear and Rosen, 1981; Green and Stokey, 1983; Kale et al., 2009).

Our paper makes several contributions to the existing literature on tournament incentives, firm internal succession, CEO succession in banks, and new CEO compensation design. First, it contributes to research on tournament incentives by examining the rewards of tournament winners. While prior studies have documented that tournament structures influence firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017), firm risk (Kini and Williams, 2012), and managerial turnover (Kale et al., 2014), less attention has been paid to how the characteristics of tournament incentives impact the remuneration of winners. Our study thus adds to the debate on tournament structures, providing evidence that variation in tournament winners' pay premiums is influenced by the features of the tournament structure preceding CEO succession (Carpenter and Sanders, 2002; Fredrickson et al., 2010). Moreover, the pay premium is associated with future improvements in bank performance. We also find that banks where CEOs experience a pay reduction tend to face a decline in performance following the CEO's appointment.

Our findings may also help reconcile the mixed evidence regarding the relationship between tournament incentives and firm performance (Ang et al., 1998; Conyon et al., 2001; Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017). Our analysis suggests that tournament incentives alone do not guarantee improved firm performance. If a bank fails to provide a significant pay raise to the tournament winner, it is more likely to experience declines in both accounting and market-based performance. This indicates that the reward—or pay premium—granted to the tournament winner serves as a critical link in the incentive-performance relationship. Tournament incentives do not inherently lead to better firm outcomes; rather, the effectiveness of such incentives depends on the extent to which the winner is rewarded. Although our study focuses on a specific industry, the findings may offer broader insights into the mixed results observed in prior research on tournament incentives and firm performance.

Second, our paper contributes to studies on internal succession. Previous research has documented that internal succession is a key aspect of CEO transitions, with internal candidates serving as critical sources for future CEOs (Parrino, 1997; Cremers and Grinstein, 2009). However, existing studies have primarily focused on comparisons between internal and external successions when analyzing new CEO compensation and firm performance (Lauterbach et al., 1999; Behn et al., 2006; Palomino and Peyrache, 2013; Brockman et al., 2016; Jongjaroenkamol and Laux, 2017). Studies specifically addressing internal successions are limited. Mobbs and Raheja (2012) compare successor-incentive and tournament-incentive promotions—two types of internal succession—and find that firms practicing each of these succession types exhibit distinct characteristics and compensation contracts. Our study extends this work by examining banks that implement tournament-incentive promotions among internal managers to select the CEO successor and exploring the features of their tournament structures.

Recent work by Blank et al. (2022) is closely related to ours in that both studies focus on internal successions and both examine CEOs' pay raises and the long-run firm performance following CEO succession. However, there are several significant differences between the two studies. First, Blank et al. (2022) focuses on internal CEO successions in S&P 1500 firms, investigating whether specific internal methods (horse race vs. heir apparent process) impact firm performance and new CEOs' compensation and career outcomes. Our paper studies a critical sector within the economy and utilizes different key variables and measures of CEO successions to determine whether the steepness of tournament structure influences new CEOs' rewards, and whether the level of these rewards predicts future bank performance. Unlike Blank et al. (2022), who use dummy variables to present different internal processes, we use CEO pay ratio/ slice to measure the steepness of the tournament structure, which we believe is a critical structure of competition. Second, although both studies examine subsequent firm performance, Blank et al. (2022) investigate the impact of different internal methods (horse race vs. heir apparent process) on long-run performance. In contrast, our study focuses on the relationship between the rewards of tournament winners and bank performance, aiming to determine whether tournament winners' rewards align with changes in firm performance. Third, although not contradictory, our findings differ from Blank et al. (2022). Their findings suggest that horse race successions are associated with poorer firm performance. CEOs emerging from horse races are compensated less than their heir apparent counterparts but may benefit from reputational gains, such as board appointments. In contrast, in our study, finds that a steeper tournament structure is associated with a higher pay premium for tournament winners, and this pay premium predicts stronger post-succession performance.

Most importantly, our paper contributes to research on tournament incentives by examining a question related to prior studies within a new and important setting: financial institutions. It extends the limited body of research on CEO succession in banks (e.g., Barro and Barro, 1990; Hayes et al., 2015; Houston and James, 1995; Nguyen et al., 2015; Palvia, 2011; Schaeck et al., 2011; Webb, 2008). Although CEO succession has been studied for decades, most of the existing literature focuses on non-financial firms, like Blank et al, (2022). To our knowledge, this paper is the first to examine the role of tournament incentives in CEO succession within the critical banking industry.

We believe that our findings contribute to extant research on new CEO compensation design for the following reasons. Despite extensive research on the antecedents of executive compensation, studies have largely focused on the determinants of incumbent (existing) CEO compensation, while the initial compensation of new CEOs has been relatively neglected. There is limited evidence linking new CEO compensation to firm risk (Chang et al., 2016; Chen et al., 2018), and few studies examine changes in compensation structure following CEO succession (Blackwell et al., 2007; Elsaid and Davidson, 2009; Elsaid et al., 2009). This study fills that gap by investigating the relationship between CEO tournament structure, the payment outcomes for newly appointed CEOs, and the implications for subsequent bank performance. Additionally, we show that the pay premium reflects the CEO's managerial ability as perceived by shareholders. This finding aligns with existing studies on managerial ability and incumbent CEO compensation (Murphy and Zabojnik, 2004; Murphy and Zabojnik, 2007; Custódio et al., 2013), suggesting that heterogeneity in managerial ability helps explain new CEO contracts.

The remainder of the paper is organized as follows. In the next section, we summarize the theory and develop our hypotheses. We then describe the data and variables, followed by a

discussion of the empirical results. Finally, we conclude by summarizing the main findings, key contributions, limitations, and suggestions for future research.

2. THEORY AND HYPOTHESES DEVELOPMENT

Internal succession is an important component of CEO succession management because it influences a firm's ability to identify future CEOs and incentivizes internal managers (DeVaro, 2006; Mobbs and Raheja, 2012). Tournament theory proposes that firms compensate individuals according to their organizational rank (Lazear and Rosen, 1981; Green and Stokey, 1983). Under this compensation scheme, the CEO holds the top position and is the highest-paid individual (Conyon et al., 2001). The pay differential between the CEO and other senior executives creates incentives for non-CEO executives to compete for the CEO position in order to obtain higher pay (Fredrickson et al., 2010). CEO candidates, therefore, have elevated expectations regarding their potential future compensation (i.e., they expect to be paid similarly to the outgoing CEO upon promotion). When the pay dispersion between the CEO and other executives is large (i.e., the tournament structure is "steep"), candidates who compete for the position have stronger incentives to win the tournament. If their expectations of payment are met, we would expect that a steeper tournament structure will result in a larger pay premium after the promotion.

While the tournament structure is a possible determinant of the winner's pay premium, there is concern regarding whether the "stickiness" of the pay structure for the top executive team drives the payment outcome. Theories of wage rigidity suggest that employee wages are sticky, especially in the downward direction (Blinder and Choi, 1990). Employers are reluctant to cut salaries because they believe doing so would hurt employee morale, leading to lower productivity and current or future difficulties with hiring and retention (Bewley, 1998). Under wage rigidity, firms are likely to maintain CEO compensation at a similar level before and after CEO succession; that

is, there is unlikely to be a significant gap in total compensation between the outgoing CEO and the new CEO. Suppose there is a large pay differential between the CEO and other executives before the succession, and the new CEO is one of those "other executives." In that case, it is likely that the promoted CEO will receive a pay raise after the appointment. Given this concern, it is important to empirically test whether the pre-succession tournament structure affects the actual pay premium and, if so, how significant the influence is. Based on the above discussion, we propose our first hypothesis:

Hypothesis 1: Ceteris paribus, the steepness of the CEO tournament structure is positively related to the pay premium level received by the tournament winner upon promotion.

Tournament theory suggests that competition leads to increased effort and better alignment between individual effort and organizational goals (Lazear and Rosen, 1981; Green and Stokey, 1983; Main et al., 1993; Henderson and Fredrickson, 2001), which, in turn, enhances firm performance. The effort exerted by executives increases with the magnitude of the promotion prize (Lazear and Rosen, 1981; Prendergast, 1999; Bognanno, 2001). Thus, larger pay premiums between the CEO and other senior executives encourage greater effort from lower-level executives competing for the CEO position. This greater effort, in turn, results in better firm performance and higher firm value. In contrast, social comparison theory (Crosby, 1976; Festinger, 1954) suggests that large pay differentials are likely to promote counterproductive behavior, reduce commitment to organizational goals, diminish satisfaction and collaboration, and lead to higher turnover and lower firm performance (Cowherd and Levine, 1992; Martin and Murnighan, 1981; Hayward and Hambrick, 1997; Henderson and Fredrickson, 2001; Bloom and Michel, 2002; Siegel and Hambrick, 2005; Shaw and Gupta, 2007).

However, a growing body of research has demonstrated that the tournament structure is associated with firm performance. For example, Kale et al. (2009) document that pay differentials between the CEO and other senior executives are positively related to firm performance. Kini and Williams (2012) find a significantly positive relationship between the pay gap and firm risk. Burns et al. (2017) conducted a cross-country study examining the relationship between tournament structure and firm value. They find that the tournament structure, as measured by the CEO pay ratio, CEO pay gap, and CEO pay slice, is positively related to firm value, even after controlling for endogeneity. In contrast, Bebchuk et al. (2011) find that the CEO pay slice is associated with a lower Tobin's Q and lower accounting profitability. Overall, there is no consensus on whether greater tournament incentives are related to better firm performance.

While existing studies have examined the relationship between tournament structure and firm performance in general, to the best of our knowledge, no study has investigated this question in the context of CEO succession. Moreover, there is no evidence on the channel through which the tournament structure affects firm performance. If our argument from the earlier section holds, CEO candidates in a steep tournament environment would exert more effort to win the competition and are more likely to receive higher rewards. If winning the tournament translates into a payoff for firms, we would expect the reward level of the tournament to relate positively to improvements in bank performance. Based on the above discussion, we propose our second hypothesis:

Hypothesis 2: Ceteris paribus, the tournament winner's pay premium is positively related to improvements in bank performance following the CEO succession.

Researchers have linked executive compensation to managerial ability. An early study by Rose and Shepard (1994) explores why CEOs of more diversified firms are paid more. They find that diversification increases pay because the CEO position requires greater ability. Graham et al.

(2011) examine the role of firm and manager fixed effects in explaining executive compensation. They document that most of the variation in executive pay can be explained by time-invariant firm and managerial effects. The substantial heterogeneity among firms and managers could stem from differences in corporate culture and managers' latent traits, such as innate ability, personality, and risk aversion, which are not easily observed or measured. Conroy et al. (2012) further suggest that ability and motivation mediate the relationship between pay policies and firm performance. Recent studies have suggested that the growth in CEO pay reflects a shift in the importance of "general ability" (CEO skills transferable across companies) relative to "firm-specific human capital" (CEO skills valuable only within the organization) (Murphy and Zabojnik, 2004; Murphy and Zabojnik, 2007). This view is supported by Custódio et al. (2013), who find that generalist CEOs receive a 19% pay premium compared to specialist CEOs, representing nearly one million dollars per year.

Other studies have suggested that changes in firm value around CEO departure (or appointment) reflect the market's evaluation of the departing (or appointed) CEO's managerial ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). The departure of high-ability executives typically results in negative abnormal returns, while appointing a high-ability executive leads to positive abnormal returns. Thus, the market reaction to a CEO appointment reflects shareholders' perception of the new CEO's managerial ability. Given that existing studies have shown that CEOs' managerial abilities can explain some of the variations in CEO compensation, we posit that higher-ability candidates are more likely to receive larger rewards upon promotion. In the context of a CEO tournament, while pay differentials provide candidates with incentives to compete for the position and exert effort, we argue that managerial ability is one of the key determinants of winning the tournament and meeting compensation expectations. In other words, the tournament reward can be viewed as a joint effect of the "effort" and "managerial ability" that

the individual exhibits to win the competition. If the market can capture the value of the new CEO's managerial ability, we expect the market reaction to relate positively to the CEO's rewards. Based on this discussion, we propose our third hypothesis:

Hypothesis 3: Ceteris paribus, the market's perception of CEO managerial ability is positively related to the tournament winner's pay premium level upon promotion.

3. DATA AND VARIABLES

3.1 Sample and Data

Our analysis is based on internal CEO successions that occurred from 1993 to 2016 in U.S. BHCs.[4] We used ExecuComp as the starting point to form the sample. Although ExecuComp provides data beginning in 1992, we excluded this year due to the small number of observations. Following Fahlenbrach and Stulz (2011), we collected firm-year observations for firms with Standard Industry Classification (SIC) codes between 6000 and 6300 for the years 1993 to 2016, excluding firms that are not in the lending business. We retained only annual CEO records and defined a new CEO appointment as occurring when the name of the CEO changes from the previous year for a given bank. We manually verified the appointment information from this initial list using banks' annual reports and proxy statements, and only those records with correct information were retained. We identified internal succession events by determining the new CEO's previous employer. Following CEO turnover studies, a CEO is defined as an insider if they have been with the company for more than one year (Parrino, 1997; Huson et al., 2001). If so, the succession is classified as internal.

We then collected demographic information on the CEOs. CEO age data was retrieved from ExecuComp. Additional details were gathered from various sources, such as companies' proxy

4 In response to reviewers' comments, we also conducted analyses using an extended sample of internal CEO successions from 1993 to 2021, as discussed later in Section 4.5.4. The results are consistent with those from the original sample and are presented in Tables C7 to C11 of Online Appendix C.

statements (SEC DEF 14A reports), S&P Capital IQ, annual reports (SEC 10-K reports), Bloomberg, and other web sources. To collect this data, we began by reading the texts in S&P Capital IQ and companies' proxy statements to extract relevant information. We cross-checked this data with annual reports (SEC 10-K reports), Bloomberg, and other web sources to ensure accuracy. Through this process, we constructed a unique dataset containing demographic and background information on the CEOs.

Compensation data for newly appointed CEOs was obtained from ExecuComp. Accounting data for the banks was sourced from Compustat, while market data was collected from the Centre for Research in Securities Prices (CRSP) database. Information on board size and board independence was retrieved from BoardEx and Institutional Shareholder Services (ISS). We identified 125 internal CEO successions in U.S. banks from 1993 to 2016. After excluding 9 cases with missing data on key variables, the final sample for analysis consists of 116 successions. The detailed process of sample construction is provided in Online Appendix A.

3.2 Measures

3.2.1 Pay Premium Measures

We begin by investigating whether new CEOs receive a pay raise after promotion relative to their compensation before promotion. We refer to this pay raise as a "pay premium" (**TDC1_change**), which represents the reward amount for the tournament winner. This variable is defined as the change in the natural log of total compensation (ExecuComp variable TDC1) from one year before CEO succession (t-1, where t is the year of CEO succession) to one year after succession (t+1). We use a similar approach to that of Blank et al. (2022) to calculate the compensation change.

We do not directly analyze compensation during the succession year (year t) for several reasons. First, the transition year compensation data may include partial-year compensation for the successor if they did not hold the CEO post for the entire year. Second, when a successor CEO was an executive in the firm (e.g., COO, CFO, President) before succession, their compensation for year t, as reported in ExecuComp, includes compensation for both the period when they were CEO and the period when they held their previous position.

Total compensation includes salary, other annual bonuses, the total value of the restricted stock granted, the total value of the stock options granted (using Black-Scholes), long-term incentive payouts, and the total of all other compensation. Due to a change in the definition of the ExecuComp total compensation variable TDC1 in 2006, we follow Walker (2011) and Focke et al. (2017) in adjusting TDC1 from the pre-2006 format to the new format.[5]

Our alternative measure of the pay premium is the industry-adjusted change in total compensation (**TDC1_change (ind-adj**)), which is defined as the change in the natural log of total compensation from year t-1 to t+1 minus the median value of all bank CEO compensation in the specific year. Using an industry-adjusted measure eliminates any bias due to the external environment.

3.2.2 Measures of CEO Tournament Structure

The pay differential between the CEO and the rest of the top management team measures the CEO tournament structure in our analysis.[6] The magnitude of the pay differential indicates the

5 Before 2006, ExecuComp's data item TDC1 was supposed to capture the total compensation given to the CEO in that year; however, TDC1 did not measure the ex ante value of performance shares. Therefore, we first subtract the value of long-term incentive plans (ExecuComp variable LTIP), which measures the ex post value of performance shares from TDC1. Then, we multiply the target number of performance shares granted to the CEO (ExecuComp variable SHRTARG) by a bank's year-end stock price to compute the ex ante value of performance shares in a given year, which is added to TDC1. For the post-2006 period, we use TDC1 as provided in ExecuComp. See Walker, D.I., 2011. Evolving executive equity compensation and the limits of optimal contracting. Vand. L. Rev. 64, 609; and Focke, F., Maug, E., and Niessen-Ruenzi, A., 2017. The impact of firm prestige on executive compensation. Journal of Financial Economics. 123 (2), 313-336.

6 We consider all the executives recorded in ExecuComp to be top executives.

steepness of the tournament structure. Following existing tournament incentive studies, we use two measures for the CEO tournament structure. The first measure is the CEO pay ratio, which is the CEO's compensation relative to the mean (median) of the other highest-paid executives (Burns et al., 2017). **CEO Pay Ratio (with mean)** is the ratio of the CEO's total compensation (ExecuComp item TDC1) to the mean compensation of the other highest-paid executives. **CEO Pay Ratio (with median)** is the ratio of the CEO's total compensation to the median compensation of the other highest-paid executives. We use the ratio instead of the compensation gap between CEOs and other executives because the ratio is independent of the level of pay or bank size.[7] Our second CEO tournament measure is the CEO pay slice, defined as the percentage of the top executive group's total compensation that is paid to the CEO (Bebchuk et al., 2011; Chen et al., 2013). **CEO Pay Slice (with top 5)** is the CEO's total compensation (ExecuComp item TDC1) divided by the sum of the compensation for the top 5 executives. For robustness, we also construct **CEO Pay Slice (with top 4)**, the CEO's total compensation divided by the sum of the compensation for the top 4 executives.

3.2.3 Market Reaction as a Proxy for CEO Managerial Ability

As suggested by previous studies, changes in firm value around the time of CEO appointment reflect the market's evaluation of the new CEO's managerial ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). Therefore, we use the **market reaction** to the CEO appointment, measured by the cumulative abnormal return (**CAR)** surrounding the CEO appointment event, as a proxy for managerial ability. Specifically, we estimate the following market model:

$$R_{it}=\alpha_i + \beta_i R_{mt} + \varepsilon_{it},\ t = -300,\ \ldots,\ -46 \qquad (1)$$

7 As noted by Burns et al., (2017), the pay gap is closely related to the level of compensation. For instance, if CEOs are paid 50% more than non-CEOs, the difference will be linearly related to the level of pay. Thus, variables that explain the level of pay will also explain the difference in pay, whereas we are interested in measuring inequality in pay, not just levels of pay.

where R_{it} is the daily stock return for bank i on day t, and R_{mt} is the equally weighted CRSP index return for day t. We estimate the model parameters using 255 daily return observations from 300 to 46 days before the executive announcement date. We require that no other executive appointment occur during this estimation period. The CAR is calculated separately for two different event windows: from day -2 to day +2 and from day -3 to day +3. We construct abnormal returns as the sum of the prediction errors from the market model. To check robustness, we apply a different estimation model (a market-adjusted model) and obtain the cumulative market-adjusted abnormal returns (**CMAR**), which we use as an alternative measure of market reaction.

3.2.4 Measures of Changes in Bank Performance

We employ both an accounting-based measure and a market-based measure for bank performance. We measure the change in bank profitability with **ROA_change**, which is the difference in the industry-adjusted ROA before and after CEO succession. Profitability before succession is measured by the industry-adjusted ROA in year t-1, and profitability after succession is calculated as the average of the industry-adjusted ROA over the two years immediately post-succession. The industry-adjusted ROA is calculated using the bank's ROA minus the average ROA for all other banks each year. The market-based performance measure is **TOBINQ_change**, defined as the difference between the industry-adjusted Tobin's Q in year t-1 and the average industry-adjusted Tobin's Q over the years t+1 and t+2. By using an industry-adjusted performance measure, we can eliminate any effect that is driven by the outside environment and is beyond the CEO's control (Holmstrom, 1982; Gibbons and Murphy, 1990; Parrino, 1997; Schaeck et al., 2011; Jenter and Kanaan, 2015; King et al., 2016). We multiply the bank performance changes by one hundred to indicate percentage changes. Thus, the results in the tables measure changes in the variables post-CEO succession in percentage points.

3.2.5 Control Variables

Other studies have found that the compensation of new CEOs is affected by particular CEO characteristics and bank features (Chang et al., 2016; Chen, 2015; Chen et al., 2018). To account for the impact of these factors, we incorporate CEO and bank characteristic variables into the pay premium model. Several CEO attributes are included: CEO age (**CEO Age**), CEO-chair duality (**Chair**), whether the CEO was the COO of the bank before promotion (**COO**), educational background (**MBA Degree** and **AF Degree**), tenure (**Tenure**), experience in the financial industry (**Industry Experience**), and prior CEO experience (**CEO_years**).

To account for bank-specific factors that influence the pay premium level, we control for several firm-level characteristics measured before succession, including **Bank Size**, **Bank Age**, pre-turnover bank performance and risk (**VOL**), **Equity capital**, **Board Size**, and **Board Independence**.

In the analysis of the relation between CEO pay premiums and changes in bank performance, we follow existing bank performance studies (Demirgüç-Kunt and Huizinga, 1999; Iannotta et al., 2007; Köster and Pelster, 2017) and control for bank characteristics, including **Bank Size**, deposits (**Deposits**), loans (**Loans**), **Equity Capital**, operating expenses (**EXP**), and interest income (**INC**). We also control for board size and other CEO traits, such as prior CEO experience (**CEO_years**) and educational background (**MBA Degree** and **AF Degree**).

All bank characteristics and board feature variables are measured with a one-year lag; thus, the values from t-1 are used. All variables are winsorized at the 2.5% and 97.5% levels.

A common concern with cross-sectional compensation regressions is that controlling for unobserved heterogeneity is difficult. To mitigate this concern, we follow Chang et al. (2016) and include the logarithm of the prior CEO's total compensation during the previous fiscal year

(**TDC1_priorCEO**). This variable is a robust control for various firm-, industry-, and time-specific characteristics (i.e., unobserved heterogeneity) that affect both the new and the prior CEOs' compensation.

The type of succession affects subsequent firm performance (Shen and Cannella, 2002, Hillier et al., 2005) and strategic changes (Barron et al., 2011). Thus, we believe that the type of CEO succession is also associated with the new CEO's compensation level. We classify the different types of internal successions and compare banks with plausibly exogenous turnovers to banks with other kinds of turnover. Following Eisfeldt and Kuhnen (2013), CEO successions are classified as plausibly exogenous turnovers (**Exogenous**) if they were announced at least 6 months before the succession or were caused by a well-specified health problem. Other events are defined as plausibly non-exogenous turnovers. [8] Plausibly exogenous turnovers are usually planned retirements, while plausibly non-exogenous turnovers are typically unplanned.

Table C1 in Online Appendix C presents the distribution of internal CEO successions over the sample years, including the total number of internal succession events in each year and the number of plausibly exogenous and plausibly non-exogenous turnovers. There were 116 CEO appointments between 1993 and 2016; among these events, 41 (35%) were plausibly exogenous turnovers, and 75 (65%) were plausibly non-exogenous turnovers.

Our sample banks are located in different states, so local economic conditions might directly affect executive compensation levels. Thus, we control for the economic condition of each state as measured by the **Coincident Index**. The Federal Reserve Bank of Philadelphia produces a monthly coincident index for each of the 50 states. The coincident index combines four state-level indicators to summarize the current economic conditions in a single statistic. The four state-level

8 We hand collect the data on whether the succession is a planned retirement or an unplanned turnover. We search the news around a CEO turnover event through Lexis-Nexis and internet searches for the causes of turnover and the succession types.

variables in each coincident index are nonfarm payroll employment, the average hours worked by production workers in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). We match this index with each bank's jurisdictional area based on the location of each firm's headquarters. Finally, as our sample period includes the recent financial crisis, we control for **Crisis**, a dummy that equals one for the period 2007–2009.

Table 1 presents summary statistics for the variables used in the analysis. The CEO successors in our sample have an average change of 0.466 log points in their total compensation and a 0.306 log-point change in their industry-adjusted total compensation. Equivalently, the payments of tournament winners after promotion are, on average, 1.904 times the level before promotion. The statistics for the tournament structure show that, on average, CEOs make 2.431 times the pre-succession compensation of the other top executives. In addition, 34.9% (39.0%) of the top-5 (4) executive pay goes to the CEO. This figure is similar to those of Bebchuk et al. (2011) and Burns et al. (2017). Table 2 provides variable definitions and data sources. A correlation matrix for variables used in the study is presented in Table C2 of Online Appendix C. The correlation coefficients indicate that tournament structure, CEO pay premiums, and firm performance are positively related. These findings support our hypotheses 1 and 3.

[Insert Table 1 here]

[Insert Table 2 here]

4. EMPIRICAL RESULTS

To present our results, we first describe the distribution of the pay premium of tournament winners. We then present the regression results of the relationship between the tournament structure and tournament winners' pay premiums. Further, we examine whether the pay premium

is affected by the tournament winner's managerial ability proxied by market reaction. Finally, we investigate whether the pay premium indicates future improvement in bank performance. We also conduct additional analyses, including exploring the relationship between pay cut and changes in bank performance, investigating the relationship between tournament structure and firm risk, and addressing potential endogeneity issues.

4.1 Distribution of Pay Premium

An internal succession is viewed as a tournament in which candidates compete for the CEO position. In the first step of our analysis, we investigate whether the winners of tournaments are rewarded by their banks. As we compare the tournament winners' total compensation before and after promotion, we find that the average compensation of the tournament winners before promotion is approximately US$3.104 million, and the average compensation after promotion is approximately US$4.866 million. This suggests that, on average, tournament winners receive a pay raise after being promoted to the CEO position. The average compensation after promotion is approximately 1.6 times the amount before promotion.

We also analyze the distribution of the pay premium as measured by **TDC1_change**, defined as the change in the natural log of total compensation from year t-1 to year t+1. We find that 81.9% (95 out of 116) of tournament winners receive a positive pay premium. Although most tournament winners receive a pay premium, the distribution shows that the pay premium varies. The minimum and maximum values of **TDC1_change** are -1.023 and 1.587, respectively (as shown in Table 1). The ratio of post-promotion compensation to pre-promotion compensation ranges from 0.254 to 8.081. In addition, approximately 18.1% of tournament winners (21 out of 116) experience a reduction in total compensation after taking on the CEO role. The average pay cut of the 21 new CEOs is approximately US$2.019 million. In the extreme case, the new CEO's compensation

dropped by approximately US$13.702 million after the promotion—the most significant pay cut in our sample.

Finally, we seek to determine the distribution of the industry-adjusted pay premium as measured by **TDC1_change (ind-adj)**, defined as the change in the natural log of total compensation from year t-1 to t+1 minus the median value of all bank CEOs in the specific year. We find that 73.3% (85 out of 116) of tournament winners have a positive industry-adjusted pay premium, while 26.7% (31 out of 116) experience a pay cut after the appointment. The minimum and maximum values of **TDC1_change (ind-adj)** are -1.002 and 1.422, respectively (as shown in Table 1).

Our results suggest that, in general, tournament winners receive a pay premium after promotion. However, the pay premium varies significantly, and some tournament winners even have a reduction in total compensation after taking on the CEO role.

4.2 CEO Tournament Structure and the Rewards for Winners

In this section, we investigate whether tournaments with specific features lead to better rewards for the winners. More specifically, we test whether the steepness of the tournament structure is related to the pay premium level. We test the following model:

$$Y_{i,t} = \alpha_1 + \beta_1 \cdot \text{CEO TM}_{i,t} + \beta_2 \cdot X_{i,t} + \epsilon_{i,t} \qquad (2)$$

where $Y_{i,t}$ is the dependent variable (e.g., the pay premium), $\text{CEO TM}_{i,t}$ is one of the measures of CEO tournament structure, and $X_{i,t}$ is a vector for control variables such as CEO characteristics, bank characteristics, corporate governance, and other controls mentioned in the Data and Variables Section.

Table 3 presents the results from estimating a multivariate framework. The measure for the CEO tournament structure is the **CEO Pay Ratio (with mean)**; that is, the ratio of CEO pay to the

mean compensation of the other top executives (Burns et al., 2017). The dependent variable in regressions (1) to (4) is **TDC1_change**, an indicator for the pay premium. In the first step, regression (1) controls for a list of CEO attributes, the succession type, and the key bank characteristics that may affect the new CEO's compensation. Regarding CEO attributes, we control for the new CEO's age, whether they are the board chair, whether they held the COO position before promotion, their educational background, their tenure, their industry experience, their prior CEO experience, and the compensation level of the outgoing CEO. For bank characteristics, we control for bank size, bank age, and pre-turnover performance. We also control for the type of succession—whether the succession is a plausibly exogenous turnover or a plausibly non-exogenous turnover (Eisfeldt and Kuhnen, 2013).

[Insert Table 3 here]

Regression (2) includes additional bank characteristics as controls: pre-turnover bank risk, the equity ratio, board size, and board independence. As our sample period includes the financial crisis, we add **Crisis** in regression (3) to account for the substantial changes in economic conditions during the financial crisis. In regression (4), we further control for each state's economic conditions as measured by the **Coincident Index**. In regression (5), we estimate a specification similar to that of regression (4) but with a new dependent variable: **TDC1_change (ind-adj)**, the industry-adjusted change in total compensation before and after promotion.

We find that the tournament structure indicator is positive and significant in all specifications, which suggests that tournament steepness is positively related to the pay premium. Specifically, a one standard deviation increase in the **CEO Pay Ratio (with mean)** leads to a rise in the pay premium of 0.195, which is significant at the 1% level using the coefficient obtained from regression (1). This is equivalent to an increase of US$1,215 following the CEO succession. The

increase in the pay premium ranges from 0.155 (US$1,168) to 0.197 (US$1,218) according to the coefficients from regressions (1) to (5), and these estimates are statistically significant at the 5% level or better. The results indicate that tournament winners receive a larger reward when the bank has a steeper tournament structure. This can be explained by a larger pay differential between the CEO and the other senior executives, giving candidates more substantial incentives to win the competition. The candidates who win the competition receive higher rewards in this high-intensity environment.

The results suggest that the successor's prior CEO experience is negatively related to the pay premium, with the coefficients being statistically significant at the 5% level or better across all specifications. Specifically, a one log-year increase in prior CEO experience decreases the pay premium by approximately 15% to 13% according to the outcomes in regressions (1) to (5). Prior CEO experience reflects the professional profile of the newly appointed CEO. The results indicate that executives with more experience in a previous CEO position and more relevant skills require a smaller reward after promotion.

The negative relation between prior CEO experience and the pay premium can be explained by employment risk theory. The literature on employment risk suggests that employment risk is a factor that affects executive behaviour through its effects on future income and a lowered reputation (Chakraborty et al., 2007; Kempf et al., 2009; Martin et al., 2013; De Cesari et al., 2016). Simply put, employment risk threatens future employment, as it is untradeable and cannot easily be hedged against in financial markets. Employment risk affects a CEO's management behaviour and compensation. For example, there is evidence that CEOs with higher employment risk take on less risk to preserve their current wealth (Chakraborty et al., 2007; Martin et al., 2013). From the perspective of employment risk theory, CEOs with more years of prior experience face

less employment risk; they are less concerned about losing their job and, hence, require fewer rewards. In contrast, CEOs with less prior experience face higher employment risk; they have a higher chance of losing their job and will find it more difficult to find a new job if they lose their current one. Hence, less experienced CEOs require higher rewards to compensate for this risk.

We find some evidence that the pay premium is negatively related to the prior CEO's total compensation in the previous fiscal year. That is, new CEOs gain fewer rewards if the prior CEO received higher payments. The relation is statistically significant in specifications (1) to (4). There is no evidence that the pay premium is associated with other CEO attributes such as age, CEO-chair duality, COO experience, the CEO's educational background, tenure, or industry experience.

The analysis of bank characteristics shows that the pay premium is negatively related to bank age and positively related to bank size. This suggests that larger and younger banks tend to pay higher rewards to tournament winners. While Smith Jr. and Watts (1992) document that larger firms and those with greater growth opportunities require higher-quality managers, our findings indicate that these managers, in turn, receive a higher pay premium. In addition, the pay premium is negatively associated with pre-turnover bank performance as measured by the industry-adjusted ROA. This indicates that better-performing banks are more likely to reward tournament winners less. This result is consistent with the findings of existing studies showing that the best-performing companies pay their CEOs relatively less (Executive Remuneration Research Centre, 2017; Francis, 2017) because better-performing firms usually have more bargaining power when setting CEO compensation. CEOs in better-performing firms may view this as a benefit for their future career development and, thus, accept lower rewards as a trade-off. In contrast, banks with unsatisfactory financial performance tend to give their CEOs a higher pay premium as an incentive for better performance. We do not find that other bank characteristics explain the level of the pay

premium. The results indicate a negative relation between the financial crisis and the pay premium, suggesting that new CEOs receive a lower pay raise if the succession event occurred during the crisis period. These smaller compensation packages may have been caused by the deterioration of financial conditions during the crisis.

In conclusion, the pay premium is positively related to tournament steepness across all specifications. Hypothesis 1 is supported, as tournament winners receive higher rewards when the bank has a steeper tournament structure before succession. The results support the implication of tournament theory that a greater pay differential creates incentives for managers to compete for the CEO position and greater compensation after promotion. The tournament winner is more likely to receive a better reward upon promotion if the bank had a steeper tournament structure in place before the CEO succession. We also find that the pay premium is associated with particular CEO and bank characteristics. Successors with longer prior CEO experience tend to receive fewer rewards. The results also suggest that larger banks, younger banks, and banks with worse pre-turnover financial performance tend to reward the tournament winner more.

In Table C3 of Online Appendix C, we employ alternative measures of CEO tournament structure: CEO Pay Ratio (with median), CEO Pay Slice (with top 5), and CEO Pay Slice (with top 4), and replicate the analysis in Table 3. The results with alternative measures are consistent with those in Table 3, indicating that the steepness of the tournament structure is positively related to tournament winners' pay premiums after the promotion.

4.3 Does the Tournament Winner's Pay Premium Predict Bank Performance Improvement?

The link between CEO compensation and firm performance has been well-established (Murphy, 1985). In this section, we examine whether there is any link between tournament

winners' rewards and changes in bank performance post-succession. We look at the difference between bank performance from the year before succession and the average bank performance over the two years after the CEO appointment, which provides a longer-term view. The analyses in the previous sections have suggested that most tournament winners receive a pay raise upon promotion. The variations in the pay premium level are explained by the steepness of tournament incentives and the candidate's managerial ability. Despite this, do banks benefit from CEO tournaments as well? In particular, do tournament winners' rewards predict an improvement in bank performance?

To answer these questions, we examine the relation between the pay premium and the change in bank performance with a multivariate analysis. The analysis is conducted with the following regression model:

$$Y_{i,t} = \alpha_1 + \beta_1 \cdot \text{Pay Premium}_{i,t} + \beta_2 \cdot X_{i,t} + \epsilon_{i,t} \qquad (3)$$

where the dependent variable $Y_{i,t}$ is the change in bank performance, and the independent variable $\text{Pay Premium}_{i,t}$ is one of the measures of pay premium (**TDC1_change** and **TDC1_change (ind-adj)**). $X_{i,t}$ is a vector for control variables. We control for bank characteristics that possibly affect bank performance following existing bank performance studies (Demirgüç-Kunt and Huizinga, 1999; Iannotta et al., 2007; Köster and Pelster, 2017). Bank characteristics controls include bank size, deposits, loans, equity capital, operating expenses, and interest income. We also account for CEO attributes, including the candidate's prior CEO experience, educational background, and board size. The variable definitions are illustrated in the Data and Variables Section.

The regression results are reported in Table 4. Columns (1) and (2) present the relationship between the pay premium and the change in bank accounting performance measured by ROA (**ROA_change**). The results show that the pay premium is positively and significantly related (at

the 1% level) to the change in bank profitability. Specifically, a one standard deviation increase in the pay premium is associated with an increase in ROA of 0.214% according to the coefficient from regression (1) and 0.207% according to the coefficient from regression (2). While these percentage changes may appear modest at first glance, they are economically meaningful in the context of the banking industry, where even small improvements in ROA can translate into substantial gains in profitability due to the large asset bases of banks. For example, for a bank with US$100 billion in assets, a 0.21% increase in ROA implies an additional US$210 million in annual net income.

[Insert Table 4 here]

Regressions (3) and (4) show the results from regressions that examine the relation between the pay premium and the change in bank market performance, measured by Tobin's Q (**TOBINQ_change**). The results suggest that the pay premium is also positively and significantly related (at the 1% levels or better) to the change in Tobin's Q. Specifically, a one standard deviation increase in the pay premium is associated with an increase in Tobin's Q of 1.268% according to the coefficient from regression (3) and 1.067% according to the coefficient from regression (4). This implies that the market perceives the higher pay premium as a signal of stronger leadership and future growth potential, reinforcing the idea that tournament-based incentives can align managerial effort with shareholder value.

Overall, the analyses in this section document that banks that offer tournament winners a larger reward are more likely to experience a greater improvement in bank performance. The effect holds for both the accounting-based performance and the market-based performance measures. Hence, Hypothesis 2 is supported.

4.4 Does the Tournament Winner's Pay Premium Reflect Their Managerial Ability?

The analyses above imply that the tournament winner's pay premium level is related to specific CEO characteristics, such as prior CEO experience. While prior CEO experience reflects a CEO's relevant abilities in the leadership role, other managerial abilities may be valued by shareholders but are not captured in our analysis. Other studies have suggested that changes in the value of the firm surrounding the time of the CEO's departure (appointment) reflect the market's evaluation of the departing (appointed) CEO's managerial ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). These studies have found that the departure of a high-ability executive results in negative abnormal returns, while the appointment of a high-ability executive results in positive abnormal returns. Thus, we use the market reaction to the CEO appointment as an indicator of managerial ability. Does managerial ability, as perceived by the market, lead to a higher pay premium? If the market can anticipate the value of managerial ability, there should be a positive relationship between market reaction and the pay premium.

We test whether the pay premium reflects the new CEO's managerial ability by regressing the pay premium measures on the market reaction measures, with the tournament structure and the other CEO/bank characteristics as controls. By doing so, we can determine whether tournament winners' rewards are explained by their managerial abilities in addition to the tournament structure and the other factors discussed earlier. The empirical results are presented in Table 5. In Panel A, the measure of market reaction is the CAR surrounding the CEO appointment event. We first calculate **Market Reaction** as the CAR from day -2 to day +2. The dependent variable in regressions (1) and (2) is the pay premium (**TDC1_change** and **TDC1_change (ind-adj)**, respectively). We find that the CAR is positively associated (at the 5% level) with the pay premium. A one standard deviation increase in the CAR results in an increase in the pay premium of approximately 0.082 (US$1,085) according to the coefficient obtained in regression (1) and

0.085 (US$1,089) according to the coefficient in regression (2). These results confirm our speculation and suggest that high-ability CEOs receive larger rewards after promotion. In the meantime, the coefficients on the CEO tournament measure remain positive and statistically significant. That is, the CEO tournament structure is still positively related to the pay premium after accounting for the effect of managerial ability.

[Insert Table 5 here]

As with our prior results, we find that the pay premium is negatively related to prior CEO experience and the compensation level of the outgoing CEO. The pay premium is positively related to bank size and negatively related to pre-turnover bank performance. In addition, tournament winners receive a lower pay premium during the financial crisis. To be concise, we do not report the results for these variables. In regressions (3) and (4), the market reaction is calculated as the CAR from day -3 to day +3. We obtain similar results across the different event windows.

For robustness, we use an alternative estimation model for market reaction–the market-adjusted model–and obtain the cumulative market-adjusted abnormal returns (**CMAR**). The market-adjusted model uses abnormal returns defined as being in excess of the CRSP value-weighted market return (which assumes a market beta of 1). We conduct comparable regressions in Panel B using CMAR as the market reaction measure. The regression results are robust to this change.[9]

Overall, the results in this section indicate that the tournament winner's pay premium reflects the CEO's managerial ability. High-ability CEOs tend to receive a more significant pay raise than low-ability CEOs. Thus, Hypothesis 3 is supported. While the pay premium is positively related

9 We also perform the analysis using alternative measures of CEO ability, such as CEO cash compensation and CEO tenure. Our approach is informed by Demerjian et al. (2012)'s broader framework, which emphasizes observable characteristics linked to managerial effectiveness. The results, presented in Table C4 of Online Appendix C, are consistent with those using market reaction as a proxy for CEO ability.

to the tournament structure in earlier discussions, the results in this section show that the larger reward is also a reflection of managerial ability. On the one hand, a steeper tournament structure is a catalyst for CEO candidates to exert more effort in the competition. On the other hand, candidates utilize their managerial ability to win the tournament. Hence, we infer that the final prize of the tournament—the pay premium—is the joint effect of the greater effort induced by the tournament incentives and the candidate's managerial ability.

4.5 Additional Tests

4.5.1 Changes in Bank Performance if the Tournament Winner Receives a Pay Cut

In this subsection, we examine the difference in performance outcomes between the two bank groups: banks where the new CEO receives a pay raise and banks where the new CEO receives a pay cut after the promotion. The distribution of the pay premium has shown that some banks in our sample have a negative pay premium, so tournament winners in those banks have suffered a pay cut, or the winner's curse. More specifically, 21 out of 116 new CEOs in our sample have experienced a reduction in total compensation. Although empirical results from our previous analysis have suggested a positive relation between tournament winners' pay premiums and changes in bank performance in general, it is worth looking at how bank performance has changed for this small group of banks, where new CEOs have experienced a loss in total compensation, and how their performance differs from banks where new CEOs receive a pay raise.

We conduct a univariate test to compare firm performance changes between banks where the tournament winner received a pay raise and those where the tournament winner received a pay cut. The results are presented in Table 6. Panel A in Table 6 reports the results of the accounting performance change. CEOs who receive a pay premium below zero are classified as negative pay premium CEOs. CEOs who receive a pay premium above zero are labeled positive pay premium

CEOs. The results show that compared with banks where the new CEO had a pay raise after the appointment, banks where the CEO had a pay cut experienced lower accounting performance and market-based performance after the CEO appointment.[10] And the results are consistent using industry-adjusted pay premium (TDC1_change (ind-adj)).

[Insert Table 6 here]

To further illustrate these results, we also conduct a multivariate test by estimating OLS regressions in which the dependent variable is the change in bank performance. We define **TDC1_change Neg** as an indicator variable that equals one if the tournament winner's pay premium measured by **TDC1_change** is less than zero. **TDC1_change (ind-adj) Neg** is an indicator variable that equals one if the pay premium measured by **TDC1_change (ind-adj)** is less than zero. We use the same specifications as in the previous section. The regression results are presented in Table 7. Regressions (1) and (2) examine the relation between the negative pay premium and the change in the bank ROA. The results suggest a negative relation between a negative pay premium and changes in bank ROA. Regressions (3) and (4) examine the relation between the negative pay premium and the change in Tobin's Q. We obtain similar results. The results in all the regressions are statistically significant at the 5% level or better and are consistent between the two pay premium measures. Overall, the multivariate test has reinforced the results in the univariate test, showing that banks, where tournament winners experienced a pay cut, tend to perform worse in both accounting performance and market-based performance post-CEO appointment.

[Insert Table 7 here]

10 In addition, we also compare firm performance changes between banks where the tournament winner received a pay raise and those where the tournament winner received a pay cut, up to three years after the succession. Our results are still hold. These results are available upon request.

Our findings add value to the existing tournament incentive studies. While some have examined the relation between tournament incentives and firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017), the results are ambiguous. Our analysis seems to provide a possible explanation for this unclear finding. It appears that the reward of tournament winners works as a channel between tournament incentives and firm performance. If the tournament winner is adequately rewarded, for example, by a high pay premium, satisfaction increases, and a better alignment exists between managerial efforts and firm interests, which enhances firm performance. On the other hand, if the tournament winner is not rewarded reasonably–for instance, they get a negative pay premium–the bank is likely to have a performance decline post-CEO appointment.

In Online Appendix B (Pages 7–10), we also include a discussion of CEOs who experienced a pay cut after promotion. We examine the pay cut, analyze changes in bank performance, and investigate possible factors contributing to the pay cut.

4.5.2 Tournament Winners' Pay Premiums and Bank Risk

Our analyses indicate that a steeper tournament structure leads to both a higher pay premium and greater improvements in future bank performance. However, this positive effect on performance does not rule out the possibility that the improvement may stem from poor decisions made by the newly appointed CEO. For instance, the new CEO might engage in aggressive risk-taking to enhance profitability.

To fully examine this possible channel, we investigate whether the pay premium is associated with changes in bank risk. We measure bank risk using three metrics. The first is the change in earnings volatility (**VOL_change**); the second is the change in the Tier 1 capital ratio (**CAPR1_change**), an indicator of the bank's leverage risk; and the third is the change in the bank's Z-score (**ZSCORE_change**), which represents bank stability. We replicate the

specifications used in the performance analysis, replacing the dependent variable with the changes in these risk measures. The results, reported in Table C5 of Online Appendix C, show no relationship between the pay premium and changes in any of the risk measures.

Our findings suggest that firms with steeper tournament structures are not associated with riskier profiles. Moreover, the lack of a relationship between pay premiums and changes in risk indicates that the observed improvements in bank performance are unlikely to result from the new CEO's risk-taking behavior.

4.5.3 Addressing Potential Endogeneity Issues

In this subsection, we discuss the potential endogeneity issue when analyzing the pay premium of tournament winners and changes in bank performance post-succession. On the one hand, there may be some unobservable CEO or bank characteristics that determine both the pay premium and bank performance. On the other hand, reverse causality may be a potential problem, in that banks with better performance may be willing to pay a higher premium to the newly appointed CEO. By considering these possible endogenous relationships, we conduct a 2-stage least-squares (2SLS) estimation. Due to the unique data structure of our study and the small sample size, it is not possible to perform some tests, such as fixed effects or difference-in-difference analysis. We believe a 2SLS estimation with instrumental variables is the most suitable and feasible approach for the purpose of our study.

Our first instrumental variable is the median value of the pay premium in the year following the method of previous studies (Cumming et al., 2019; Kale et al., 2009; Burns et al., 2017). The median pay premium is correlated with the CEO's pay premium but is unlikely to directly affect bank performance changes. Our second instrumental variable is an indicator variable equal to one

if the neighboring state where the bank is located is affected by a hurricane in the focal year.[11] Previous studies find evidence that hurricanes affect the corporate cash holdings and payout policies of firms located in the neighborhood of the hurricane disaster area (Dessaint and Matray, 2017). The logic of using hurricanes as an instrumental variable is that these are salient disasters that damage the local economy and, consequently, cause the loss of job opportunities. People living in the disaster area are likely to move to neighbouring states to seek jobs there, increasing labor supply. For example, in 2005, approximately 1.5 million people from Alabama, Mississippi, and Louisiana were forced to leave their homes due to Hurricane Katrina.[12] Nearly 7 million people left their homes to escape Hurricane Irma.[13] As a result of this labor movement, firms in neighboring states are likely to pay less premium to CEO candidates, given that there is more talent in the market. At the same time, it is doubtful that hurricanes in the neighbouring state will affect bank performance directly in the focal state. The Sargan statistics and F-statistics suggest that both instruments are valid.

The regression results of the two stages are provided in Table C6 of Online Appendix C. The results continue to indicate that the pay premium is positively associated with changes in bank performance. Furthermore, the results are robust across two pay premium measures and bank performance indicators.

4.5.4 Robustness Analyses

To further ensure the robustness of our results, we update the sample and conducted analyses using an extended dataset of internal CEO successions from 1993 to 2021, allowing us to capture

11 The data of hurricanes are obtained from the U.S. Hurricane Research Division (HRD). Available from: http://www.aoml.noaa.gov/hrd/hurdat/All_U.S._Hurricanes.html

12 Baussan, Danielle. 2015. “When You Can't Go Home”. Center for American Progress. Available from: https://www.americanprogress.org/article/when-you-cant-go-home/

13 Allen, Greg. 2018. “Lessons From Hurricane Irma: When To Evacuate And When To Shelter In Place”. Available from: https://www.npr.org/2018/06/01/615293318/lessons-from-hurricane-irma-when-to-evacuate-and-when-to-shelter-in-place?t=1642537986343

post-succession bank performance in more recent years. To account for the impact of COVID-19 on the analyses, we create a new variable called **Shock**, which equals one if the succession occurred during either the Crisis years or the COVID-19 period (between March 2020 and May 2023). The results are consistent with those from the original sample and are presented in Tables C7 to C11 in Online Appendix C).

One concern regarding our analysis is whether the results are driven primarily by banks with larger footprints (i.e., mega banks), where the impact is likely to be most pronounced. To address this concern, we have controlled for bank size in all analyses to account for footprint differences. Additionally, we sort the sample by bank size and re-ran the main analyses (based on the extended sample), excluding banks above the 75th percentile in size. The results, presented in Tables 8 and 9, show that even after removing the largest institutions, a steeper tournament structure still significantly predicts a higher pay premium, and a higher pay premium continues to predict greater post-succession performance. These findings are consistent with those obtained using the full sample, indicating that our results are robust across various bank sizes. Furthermore, we include a control for a dummy variable, **Bank_size_p75**, which equals one if a bank's size is above the 75th percentile of the sample. The results are reported in Tables C12 and C13 of Online Appendix C.

[Insert Table 8 here]

[Insert Table 9 here]

In addition, we acknowledge the limitations of the industry adjustment approach (Gormley and Matsa, 2014). To ensure robustness, we construct changes in bank performance using both industry-adjusted and unadjusted values. The results, based on the extended sample and presented in Table C14 of Online Appendix C, are consistent with our earlier analysis and hold for both

accounting performance (measured by ROA) and market-based performance (measured by Tobin's Q).

We also explore alternative approaches to measuring different types of CEO turnover. For example, we define CEO dismissal following Gentry et al. (2021), adopting their dismissal data and merging it with our own. Since Gentry et al.'s data cover the period from 2000 to 2018 and does not include dismissal information for all events, we ultimately match 47 observations with our sample. We replicate the analysis of tournament structure and pay premium, controlling for **Dismissal**, a dummy variable equal to one if the outgoing CEO was dismissed. The results, also presented in Table C15, are consistent with our analysis using Exogenous as a control. We obtain robust findings using alternative measures of tournament structure. The corresponding table is not presented here but is available upon request.

Overall, our results remain consistent across the extended sample, subsamples, and alternative variable measures, reinforcing the validity and generalizability of our main conclusions.

5. CONCLUSION

Our paper examines tournament winners' rewards with a unique sample of internal CEO succession events in U.S. BHCs. We investigate whether unique features of the tournament structure before CEO succession influence the variation in rewards. We find that a steeper tournament structure is associated with a higher pay premium following succession. Furthermore, by using the market reaction as a proxy for CEO ability, our results suggest that the pay premium reflects the CEO's managerial ability. CEOs with higher managerial ability receive a higher pay premium after promotion. Our paper also examines whether a higher pay premium predicts better bank performance post-appointment. Our results suggest that higher pay premiums are associated with greater improvements in bank performance after succession.

Overall, our findings support tournament theory predictions that tournament incentives elicit greater managerial effort in CEO competition, which ultimately leads to better bank performance. Our findings also have some practical implications. For example, boards can use tournament-based incentive structures more strategically, knowing that steeper reward differentials can motivate higher effort among internal candidates. Also, since higher pay premiums correlate with stronger market reactions and CEO ability, compensation committees could use pay premiums not just as rewards, but as market-validated signals of a new CEO's potential. This may help reinforce stakeholder confidence during leadership transitions. In addition, the association between higher CEO pay premiums and improved post-succession performance implies that rewarding top internal candidates well can translate into tangible value for the firm. This supports the idea that investing in internal talent and appropriately compensating successful candidates can yield long-term performance benefits. For regulators and policymakers, they may want to scrutinize incentive structures not just for fairness, but for their potential to drive long-term performance or risk-taking.

For the reader's interest, we include a case study in Online Appendix B (Pages 6–7), where we examine two CEO succession events from the sample. In this case study, we compare the tournament structure prior to the CEO succession, the pay premium of the tournament winner (the new CEO), and the change in bank performance following the succession. The figures in the case study also confirm our findings from the empirical analysis.

Our paper contributes to the extant literature on tournament incentives by examining the rewards given to tournament winners, particularly in the context of financial institutions. We extend the debate on tournament structure by showing that variations in CEO pay premiums are influenced by pre-succession tournament features (Carpenter & Sanders, 2002; Fredrickson et al., 2010). Importantly, we explore a previously studied question—how tournament incentives relate

to firm performance—within a new and significant setting. Our findings help clarify mixed evidence in prior research (Ang et al., 1998; Conyon et al., 2001; Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017; Blank et al., 2022), suggesting that without a significant pay increase for the winner, banks may experience declines in both accounting and market-based performance. This study also contributes to the limited research on CEO succession and compensation design in banks.

As with any study, ours has limitations that suggest avenues for future research. First, our analysis focuses specifically on the banking sector—an industry characterized by stringent regulation, high leverage, and systemic importance. While this context justifies our focus, the underlying mechanisms of internal tournament structures may have broader relevance. In particular, the relationship between tournament steepness, incentive alignment, and post-promotion performance could extend to other hierarchical, performance-driven industries where internal succession is common. However, sector-specific factors such as regulatory oversight and risk management practices may moderate these dynamics. Future research could explore whether similar patterns hold in other contexts, thereby testing the generalizability of our findings beyond banking.

Second, an intriguing finding of our study is that some tournament winners experienced a pay reduction after being promoted to the CEO position, thus suffering from the winner's curse. Although we do not directly investigate the reasons behind this "winner's curse," we hope future research will explore this phenomenon further—potentially examining the role of compensation structure, the balance between short-term and long-term incentives, and other organizational or contractual factors.

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Table 1. Descriptive Statistics

This table reports the descriptive statistics for all the variables employed in the analysis. All variables are winsorized at the 2.5% and 97.5% levels. Variable definitions are provided in Table 2.

Variable	N	Mean	Median	SD	Min	Max
Pay Premium Measures:						
TDC1_change	116	0.469	0.456	0.571	-1.023	1.587
TDC1_change (ind-adj)	116	0.309	0.286	0.535	-1.002	1.422
Tournament Structure Measures:						
CEO Pay Ratio (with mean)	116	2.385	2.111	1.469	0.563	9.160
CEO Pay Ratio (with median)	116	2.615	2.332	1.604	0.569	9.530
CEO Pay Slice (with top5)	109	0.342	0.342	0.110	0.121	0.656
CEO Pay Slice (with top4)	114	0.382	0.387	0.117	0.136	0.713
CEO Characteristics Controls:						
CEO Age	116	3.979	3.970	0.098	3.784	4.159
Chairman	116	0.353	0.000	0.480	0.000	1.000
COO	116	0.483	0.000	0.502	0.000	1.000
MBA Degree	116	0.388	0.000	0.489	0.000	1.000
AF Degree	116	0.310	0.000	0.465	0.000	1.000
Tenure	116	2.426	2.485	0.821	0.693	3.638
Industry Experience	116	3.097	3.219	0.449	1.946	3.664
CEO_years	116	0.550	0.000	0.885	0.000	2.651
Bank Characteristics Controls:						
Bank Age	116	3.182	3.296	0.524	2.079	3.892
Bank Size	116	9.968	9.778	1.506	7.613	13.908
ROA	116	0.001	0.001	0.007	-0.035	0.014
VOL	116	0.004	0.002	0.005	0.000	0.023
Equity Capital	116	0.092	0.087	0.026	0.057	0.171
Deposits	116	0.692	0.702	0.111	0.374	0.867
Loans	113	0.590	0.615	0.148	0.135	0.835
EXP	112	0.059	0.060	0.017	0.029	0.107
INC	111	0.451	0.457	0.127	0.157	0.683
Corporate Governance Controls:						
Board Size	116	2.601	2.639	0.300	1.946	3.178
Board Independence	116	0.791	0.806	0.114	0.500	0.947
CEO Ability Measure:						
CAR (-2, +2)	114	0.002	0.002	0.056	-0.385	0.163
Other Controls:						
TDC1_priorCEO	116	7.827	7.763	1.073	5.889	9.991
Exogenous	116	0.353	0.000	0.480	0.000	1.000
Crisis	116	0.181	0.000	0.387	0.000	1.000
Coincident Index	114	136.958	136.395	18.685	108.110	194.230
Performance/Risk Measures:						
ROA_change	116	-0.087	0.019	0.686	-2.316	1.352
TOBINQ_change	116	-0.714	-0.665	3.945	-10.076	7.514
VOL_change	116	0.056	0.002	0.507	-1.453	1.401
CAPR1_change	111	21.867	10.383	172.333	-337.205	457.358
ZSCORE_change	111	-0.127	-0.177	1.346	-3.341	2.419

Table 2. Variable Definitions

This table presents definitions of all variables used in the analysis.

Variable (Measures)	Definition	Data Source
Pay Premium Measures:		
TDC1_change	The change in the natural log of total compensation from one year before the succession (t-1, where t is the year of CEO succession) to one year after the succession (t+1).	Execucomp
TDC1_change (ind-adj)	The change in the natural log of total compensation from year t-1 to t+1 minus the median value of all the bank CEOs in the specific year.	Execucomp
TDC1_change Neg	Dummy equal to one if the pay premium measured by TDC1_change is less than zero.	
TDC1_change (ind-adj) Neg	Dummy equal to one if the pay premium measured by TDC1_change (ind_adj) is less than zero.	
Tournament Structure:		
CEO Pay Ratio (with mean)	The ratio of the CEO's total compensation to the mean of the other executives.	Execucomp
CEO Pay Ratio (with median)	The ratio of the CEO's total compensation to the median of the other executives.	Execucomp
CEO Pay Slice (with top5)	The fraction of the CEO's total compensation to the sum of the top 5 executives.	Execucomp
CEO Pay Slice (with top4)	The fraction of the CEO's total compensation to the sum of the top 4 executives.	Execucomp
CEO Characteristics:		
CEO Age	The logarithm of the natural age of the new CEO when they are appointed.	Execucomp
Chairman	Dummy equal to one if the CEO is also the chairman of the board.	Hand-collected
COO	Dummy equal to one if the CEO was COO of the bank before the promotion	Hand-collected
MBA Degree	Dummy equal to one if the CEO has an MBA degree.	Hand-collected
AF Degree	Dummy equal to one if the CEO has an accounting- or finance-related degree.	Hand-collected
Tenure	The logarithm of the number of years the CEO has worked in the focal bank	Execucomp and Hand-collected
Industry Experience	The logarithm of the total number of years the CEO has worked in financial firms	Hand-collected
CEO_years	The logarithm is the number of years the successor worked as the top CEO of a company/bank group, subsidiary, or market division.	Hand-collected
Bank Characteristics:		
Bank Age	The logarithm of the total number of years the bank has been in Compustat.	Compustat
Bank Size	The logarithm of the total assets.	Compustat
ROA	Industry-adjusted ratio of return on total assets.	Compustat
VOL	The standard deviation of industry-adjusted ROA through year t-1 to t-3.	Compustat
Equity Capital	The ratio of the book value of equity to total assets.	Compustat
Deposits	The ratio of deposits to total assets.	Compustat
Loans	The ratio of loans to total assets.	Compustat
EXP	The ratio of operating expenses to total assets.	Compustat
INC	The ratio of interest income to total income.	Compustat
Corporate Governance:		
Board Size	The logarithm of the total number of directors sitting on the board.	BoardEx, ISS, annual report
Board Independence	The ratio of independent directors to the total number of directors on the board.	BoardEx, ISS, annual report
CEO Ability Measure:		
CAR (-2, +2)	Cumulative abnormal return from day -2 to day +2.	CRSP
Other Controls:		
TDC1_priorCEO	The logarithm of the prior CEO's total compensation from the previous fiscal year.	Execucomp
Exogenous	Dummy equal to one if the CEO succession is a plausibly exogenous turnover, if they were announced at least 6 months before the succession or caused by a well-specified health problem.	Hand-collected
Crisis	Dummy equal to one for the period 2007–2009.	Execucomp
Coincident Index	An indicator of the economic condition of each state that combines four state-level indicators: nonfarm payroll employment, average hours worked in manufacturing by production workers, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (US city average).	Federal Reserve Bank of Philadelphia
Performance/Risk:		
ROA_change	The difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2.	Compustat
TOBINQ_change	The difference of industry-adjusted Tobin's Q between year t-1 and the average over years t+1 and t+2.	Compustat
VOL_change	The difference of earnings volatility pre- and post-CEO succession. Earnings volatility pre-succession is the standard deviation of industry-adjusted ROA over years t-3 through t-1. Earnings volatility post-succession is the standard deviation of industry-adjusted ROA over years t through t+2.	Compustat
CAPR1_change	The difference of Tier 1 capital ratio between year t-1 and the average over years t+1 and t+2. Tier 1 capital ratio is the fraction of Tier 1 regulatory capital to risk-weighted assets.	Compustat
ZSCORE_change	The difference of bank Z scores between year-1 and the average over years t+1 and t+2.	Compustat

Table 3. CEO Tournament Structure and Winners' Pay Premiums

This table reports the results of regressions examining whether the pay premium for tournament winners is related to the CEO tournament structure prior to their promotion. The dependent variable in regressions (1) to (4) is **TDC1_change**, which is the change in the logarithm of total compensation from year t-1 to t+1. The dependent variable in regression (5) is **TDC1_change (ind-adj)**, the change in the natural log of total compensation from year t-1 to t+1 minus the median value of all bank CEOs in the specific year. The **CEO Tournament** measure is the **CEO Pay Ratio (with mean)**, which is the ratio of the CEO's total compensation to the mean of the other highest-paid executives. The definitions of the other variables can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	TDC1_change	TDC1_change	TDC1_change	TDC1_change	TDC1_change_indadj
Tournament Structure	0.133***	0.134***	0.131***	0.127**	0.105**
	(0.041)	(0.045)	(0.050)	(0.051)	(0.050)
CEO Age	-0.196	-0.297	-0.206	-0.163	-0.067
	(0.484)	(0.498)	(0.475)	(0.482)	(0.468)
Chairman	0.161	0.168	0.109	0.062	-0.003
	(0.110)	(0.112)	(0.111)	(0.115)	(0.112)
COO	-0.102	-0.081	-0.070	-0.080	-0.068
	(0.106)	(0.107)	(0.103)	(0.102)	(0.101)
MBA Degree	0.177	0.185	0.174	0.176	0.161
	(0.111)	(0.112)	(0.107)	(0.107)	(0.106)
AF Degree	-0.072	-0.074	-0.087	-0.094	-0.102
	(0.111)	(0.115)	(0.110)	(0.108)	(0.113)
Tenure	0.111	0.116	0.070	0.088	0.043
	(0.068)	(0.072)	(0.067)	(0.066)	(0.064)
Industry Experience	0.065	0.082	0.116	0.115	0.097
	(0.117)	(0.117)	(0.109)	(0.109)	(0.118)
CEO_years	-0.142**	-0.144**	-0.145***	-0.153***	-0.135**
	(0.054)	(0.056)	(0.052)	(0.052)	(0.053)
TDC1_priorCEO	-0.282**	-0.294**	-0.274**	-0.271**	-0.220
	(0.114)	(0.130)	(0.134)	(0.131)	(0.138)
Exogenous	0.064	0.063	0.024	0.017	0.021
	(0.111)	(0.116)	(0.113)	(0.113)	(0.111)
Bank Age	-0.219**	-0.217**	-0.172*	-0.177*	-0.124
	(0.105)	(0.105)	(0.101)	(0.102)	(0.104)
Bank Size	0.236***	0.243***	0.228**	0.226**	0.191**
	(0.077)	(0.089)	(0.093)	(0.090)	(0.094)
ROA	-28.004***	-32.500***	-30.675***	-29.355***	-26.466***
	(7.511)	(9.806)	(9.065)	(9.460)	(9.622)
VOL		-7.266	-10.465	-5.434	-10.640
		(13.134)	(12.647)	(13.209)	(13.167)
Equity Capital		1.999	1.996	2.123	1.547
		(2.297)	(2.098)	(2.157)	(2.254)
Board Size		-0.027	-0.025	-0.025	0.018
		(0.193)	(0.196)	(0.197)	(0.197)
Board Independence		-0.178	-0.055	0.005	-0.086
		(0.403)	(0.396)	(0.400)	(0.403)
Crisis			-0.360***	-0.293**	-0.111
			(0.121)	(0.131)	(0.126)
Coincident Index				-0.003	-0.001
				(0.003)	(0.003)
Observations	116	116	116	114	114
R-squared	0.339	0.347	0.397	0.391	0.284
Adj. R-squared	0.248	0.225	0.278	0.260	0.129

Table 4. Tournament Winners' Pay Premiums and Changes in Bank Performance

This table reports the results of multivariate tests examining whether tournament winners' pay premiums are related to the change in bank performance post-succession. **Pay premium** is measured with **TDC1_change** and **TDC1_change (ind-adj),** respectively. Regressions (1) and (2) report the results of the change in accounting performance (**ROA_change**), measured as the difference in industry-adjusted ROA between years t-1 and the average over the years t+1 and t+2. Regressions (3) and (4) report the results of the change in market-based performance (**TOBIN_change**), measured as the difference of industry-adjusted Tobin's Q between year t-1 and the average over the years t+1 and t+2. The definitions of the other variables can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1) ROA_change	(2) ROA_change	(3) TOBINQ_change	(4) TOBINQ_change
TDC1_change	0.369***		2.189***	
	(0.138)		(0.609)	
TDC1_change (ind-adj)		0.381***		1.964***
		(0.142)		(0.688)
Bank Size	-0.058	-0.056	-0.002	0.024
	(0.057)	(0.056)	(0.294)	(0.301)
Deposits	0.536	0.617	-1.769	-1.206
	(0.944)	(0.921)	(6.085)	(6.172)
Loans	0.439	0.337	0.624	-0.107
	(0.645)	(0.649)	(2.769)	(2.839)
Equity Capital	-2.214	-2.316	-8.980	-10.057
	(3.113)	(3.048)	(18.378)	(18.348)
EXP	-2.021	-0.915	51.779	59.434*
	(6.725)	(6.632)	(33.612)	(33.886)
INC	-1.011	-0.919	9.292*	9.971*
	(1.018)	(1.003)	(5.398)	(5.682)
CEO_years	0.177*	0.170*	-0.365	-0.428
	(0.091)	(0.091)	(0.424)	(0.432)
Board Size	0.171	0.175	1.379	1.428
	(0.215)	(0.215)	(1.554)	(1.608)
AF Degree	0.024	0.026	-0.280	-0.303
	(0.149)	(0.149)	(0.810)	(0.827)
MBA Degree	-0.154	-0.149	-0.324	-0.260
	(0.131)	(0.131)	(0.775)	(0.785)
Observations	110	110	110	110
R-squared	0.156	0.154	0.185	0.160
Adj. R-squared	0.061	0.059	0.093	0.066

Table 5. CEO Tournament Structure, Managerial Ability, and Winners' Pay Premiums

This table reports the results of regressions examining whether the pay premium is affected by the CEO candidate's managerial ability proxied by the market reaction surrounding the CEO appointment announcement. Panel A reports results where **Market Reaction** is measured with the cumulative abnormal return (**CAR**) surrounding the CEO appointment announcement. Panel B reports results where **Market Reaction** is measured with the cumulative market-adjusted return (**CMAR**) surrounding the CEO appointment announcement. Regressions (1) and (2) report the results with an event window (-2, +2). Regressions (3) and (4) report the results with an event window (-3, +3). The **Tournament Structure** measure is the **CEO Pay Ratio (with mean), defined as the ratio of the CEO's total compensation to the mean of the other highest-paid** executives. Control variables include CEO Age, Chairman, COO, MBA Degree, AF Degree, Tenure, Industry Experience, CEO_years, TDC1_priorCEO, Exogenous, Bank Age, Bank Size, ROA, VOL, Equity Capital, Board Size, Board Independence, Crisis, and Coincident Index. Variable definitions can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Event window (-2,+2)		Event window (-3,+3)	
	(1)	(2)	(3)	(4)
	TDC1_change	TDC1_change (ind-adj)	TDC1_change	TDC1_change (ind-adj)
Panel A: Market reaction measured with CAR				
Market Reaction	1.486**	1.546**	1.214*	1.233**
	(0.701)	(0.683)	(0.613)	(0.601)
Tournament Structure	0.156***	0.136***	0.160***	0.140***
	(0.047)	(0.046)	(0.046)	(0.045)
CEO_age	-0.163	-0.047	-0.195	-0.079
	(0.481)	(0.458)	(0.479)	(0.457)
Chairman	0.064	-0.003	0.066	-0.002
	(0.114)	(0.111)	(0.114)	(0.111)
COO	-0.084	-0.065	-0.087	-0.068
	(0.100)	(0.099)	(0.101)	(0.099)
Edu_MBA	0.158	0.147	0.153	0.143
	(0.107)	(0.105)	(0.108)	(0.106)
Edu_AF	-0.080	-0.080	-0.077	-0.077
	(0.107)	(0.111)	(0.108)	(0.112)
Tenure	0.103	0.059	0.103	0.059
	(0.064)	(0.062)	(0.064)	(0.062)
Industry_experience	0.076	0.064	0.079	0.067
	(0.106)	(0.115)	(0.106)	(0.115)
CEO_years	-0.153***	-0.132**	-0.151***	-0.129**
	(0.052)	(0.053)	(0.053)	(0.053)
TDC1_priorCEO	-0.275**	-0.228*	-0.277**	-0.230*
	(0.128)	(0.134)	(0.129)	(0.135)
Exogenous	-0.040	-0.040	-0.030	-0.029
	(0.116)	(0.114)	(0.115)	(0.113)
Bank_age	-0.143	-0.090	-0.145	-0.092
	(0.100)	(0.103)	(0.101)	(0.104)
Bank_size	0.212**	0.180*	0.211**	0.179*
	(0.087)	(0.091)	(0.087)	(0.092)
ROA	-31.764***	-29.422***	-30.507***	-28.076***
	(9.438)	(9.505)	(9.355)	(9.423)
VOL	-1.861	-8.154	-0.597	-6.940
	(13.008)	(12.979)	(13.504)	(13.444)
Equity	2.367	1.883	2.263	1.765
	(2.257)	(2.355)	(2.282)	(2.387)
Board_size	-0.005	0.029	0.009	0.043
	(0.191)	(0.190)	(0.192)	(0.190)
Board_independence	-0.295	-0.404	-0.297	-0.404
	(0.415)	(0.411)	(0.412)	(0.410)
Crisis	-0.333**	-0.153	-0.302**	-0.122
	(0.128)	(0.121)	(0.130)	(0.123)
Coincident_index	-0.004	-0.001	-0.004	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)
Observations	112	112	112	112
R-squared	0.422	0.323	0.419	0.319
Adj. R-squared	0.287	0.165	0.284	0.160
Panel B: Market reaction measured with CMAR				
Market Reaction	1.222**	1.324**	1.140**	1.186**
	(0.604)	(0.599)	(0.530)	(0.515)
Tournament Structure	0.158***	0.137***	0.161***	0.140***

	(0.047)	(0.046)	(0.046)	(0.045)
Controls	Yes	Yes	Yes	Yes
Observations	112	112	112	112
R-squared	0.418	0.320	0.422	0.324
Adj. R-squared	0.283	0.162	0.287	0.166

Table 6. Comparison of Changes in Bank Performance between Negative Pay Premium and Positive Pay Premium CEOs – Univariate Tests

This table reports the results of univariate tests comparing the change in bank performance between negative premium CEOs and positive premium CEOs. CEOs that obtain a pay premium below zero are defined as low pay premium CEOs. CEOs that obtain a pay premium above zero are defined as positive pay premium CEOs. To clarify, none of the observations in our sample has zero change in compensation (i.e., a pay premium of zero). The pay premium is either negative or positive in our sample. **Pay premium** is measured with **TDC1_change** and **TDC1_change (ind-adj),** respectively. Panel A reports the results of the change in accounting performance (**ROA_change**), measured as the difference in industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. Panel B reports the results of the change in market-based performance (**TOBINQ_change**), measured as the difference of industry-adjusted Tobin's Q between year t-1 and the average over years t+1 and t+2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Changes in accounting performance						
	Negative Pay Premium CEOs (21 obs)		Positive Pay Premium CEOs (95 obs)		Difference (Positive – Negative)	
Pay Premium: TDC1_change						
	Mean	Median	Mean	Median	Mean	Median
ROA_change	-0.448**	-0.129	0.022	0.038*	0.470**	0.167
P value	0.050	0.664	0.717	0.089	0.046	0.105
	Negative Pay Premium CEOs (31 obs)		Positive Pay Premium CEOs (85 obs)			
Pay Premium: TDC1_change (ind-adj)						
ROA_change	-0.263*	-0.045	0.010	0.045	0.274*	0.090
P value	0.079	1.000	0.880	0.113	0.094	0.135
Panel B: Changes in market-based performance						
	Negative Pay Premium CEOs (21 obs)		Positive Pay Premium CEOs (95 obs)		Difference(Positive – Negative)	
Pay Premium: TDC1_change						
	Mean	Median	Mean	Median	Mean	Median
TOBINQ_change	-3.660***	-3.425	0.055	0.142	3.714***	3.567***
P value	0.000	0.002	0.885	0.920	0.000	0.000
	Negative Pay Premium CEOs (31 obs)		Positive Pay Premium CEOs (85 obs)			
Pay Premium: TDC1_change (ind-adj)						
TOBINQ_change	-2.360***	-3.092**	0.020	-0.085	2.379***	3.007***
P value	0.001	0.029	0.962	1.000	0.004	0.003

Table 7. Negative Pay Premiums and Changes in Bank Performance – Multivariate Tests

This table reports the results of multivariate tests examining whether a negative pay premium of a tournament winner is related to the change in bank performance post-succession. **TDC1_change Neg** is a dummy that equals one if the pay premium measured by TDC1_change is less than zero. **TDC1_change (ind-adj) Neg** is a dummy that equals one if the pay premium measured by TDC1_change (ind-adj) is less than zero. Regressions (1) and (2) report the results of the change in accounting performance (**ROA_change**), measured as the difference in industry-adjusted ROA between years t-1 and the average over the years t+1 and t+2. Regressions (3) and (4) report the results of the change in market-based performance (**TOBIN_change**), measured as the difference of industry-adjusted Tobin's Q between year t-1 and the average over the years t+1 and t+2. The definitions of the other variables can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1) ROA_change	(2) ROA_change	(3) TOBINQ_change	(4) TOBINQ_change
TDC1_change Neg	-0.597**		-3.874***	
	(0.236)		(0.933)	
TDC1_change (ind-adj) Neg		-0.333**		-2.465***
		(0.164)		(0.813)
Bank Size	-0.025	-0.029	0.087	0.064
	(0.055)	(0.053)	(0.299)	(0.311)
Deposits	1.202	1.054	1.999	1.097
	(0.889)	(0.901)	(5.928)	(5.880)
Loans	0.351	0.229	0.466	-0.253
	(0.642)	(0.674)	(2.583)	(2.760)
Equity Capital	-2.221	-2.713	-8.316	-11.265
	(3.160)	(3.255)	(16.996)	(18.573)
EXP	0.234	2.050	45.620	57.293*
	(6.402)	(6.243)	(31.700)	(31.142)
INC	-1.028	-0.807	6.798	8.129
	(1.013)	(1.013)	(5.614)	(5.774)
CEO_years	0.216**	0.186**	-0.288	-0.463
	(0.087)	(0.085)	(0.426)	(0.425)
Board Size	0.250	0.215	1.861	1.616
	(0.209)	(0.218)	(1.440)	(1.535)
AF Degree	0.005	0.012	-0.637	-0.574
	(0.148)	(0.151)	(0.795)	(0.834)
MBA Degree	-0.208	-0.150	-0.566	-0.192
	(0.136)	(0.137)	(0.766)	(0.792)
Observations	113	113	113	113
R-squared	0.204	0.148	0.223	0.164
Adj. R-squared	0.117	0.055	0.138	0.073

Table 8. CEO Tournament Structure and Winners' Pay Premiums (Excluding Banks Larger than the 75th Percentile of the Sample)

This table reports the results of regressions examining whether the pay premium of tournament winners is related to the CEO tournament structure before the promotion, after excluding banks larger than the 75th percentile of the sample. The dependent variable in regressions (1) to (4) is **TDC1_change**, which is the change in the logarithm of total compensation from year t-1 to t+1. The dependent variable in regression (5) is **TDC1_change (ind-adj)**, the change in the natural log of total compensation from year t-1 to t+1 minus the median value of all bank CEOs in the specific year. The **CEO Tournament** measure is the **CEO Pay Ratio (with mean)**, which is the ratio of the CEO's total compensation to the mean of the other highest-paid executives. The definitions of the other variables can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1) TDC1_change	(2) TDC1_change	(3) TDC1_change	(4) TDC1_change	(5) TDC1_change_indadj
Pay_ratio_mean	0.159***	0.173***	0.169***	0.166***	0.143***
	(0.039)	(0.037)	(0.038)	(0.038)	(0.037)
CEO_age	-0.099	-0.257	-0.343	-0.470	-0.364
	(0.399)	(0.404)	(0.397)	(0.389)	(0.387)
Chairman	0.161	0.200	0.178	0.141	0.069
	(0.121)	(0.124)	(0.122)	(0.139)	(0.137)
COO	-0.039	0.001	0.009	0.013	0.003
	(0.096)	(0.089)	(0.087)	(0.087)	(0.088)
Edu_MBA	0.084	0.104	0.110	0.101	0.075
	(0.097)	(0.094)	(0.093)	(0.097)	(0.096)
Edu_AF	-0.003	-0.035	-0.027	-0.031	-0.056
	(0.093)	(0.089)	(0.089)	(0.089)	(0.094)
Tenure	0.023	0.073	0.047	0.046	0.027
	(0.073)	(0.074)	(0.069)	(0.070)	(0.064)
Industry_experience	0.150	0.125	0.132	0.139	0.116
	(0.103)	(0.096)	(0.093)	(0.096)	(0.105)
CEO_years	-0.092	-0.077	-0.089	-0.094	-0.074
	(0.062)	(0.058)	(0.059)	(0.060)	(0.062)
TDC1_priorCEO	-0.450***	-0.512***	-0.502***	-0.514***	-0.461***
	(0.073)	(0.078)	(0.077)	(0.080)	(0.077)
Exogenous	-0.080	-0.031	-0.043	-0.028	-0.054
	(0.115)	(0.109)	(0.106)	(0.107)	(0.108)
Bank_age	0.024	-0.008	0.016	0.017	0.025
	(0.096)	(0.103)	(0.100)	(0.104)	(0.102)
Bank_size	0.273***	0.318***	0.312***	0.323***	0.286***
	(0.067)	(0.075)	(0.073)	(0.077)	(0.073)
ROA	-18.707*	-25.610**	-26.101***	-21.527**	-18.357*
	(9.574)	(9.814)	(9.141)	(9.439)	(9.306)
VOL		-0.297	-0.627	6.062	3.437
		(13.117)	(12.344)	(12.124)	(11.741)
Equity		4.890***	5.268***	4.974***	4.153**
		(1.732)	(1.750)	(1.807)	(1.873)
Board_size		-0.182	-0.165	-0.130	-0.066
		(0.167)	(0.172)	(0.175)	(0.170)
Board_independence		-0.116	-0.205	-0.192	-0.123
		(0.372)	(0.381)	(0.378)	(0.375)
Shock			-0.246*	-0.212	-0.059
			(0.127)	(0.128)	(0.120)
Coincident_index				0.001	0.002
				(0.003)	(0.003)
Observations	117	116	116	114	114
R-squared	0.371	0.433	0.457	0.457	0.395
Adj. R-squared	0.285	0.328	0.350	0.340	0.264

Table 9. Tournament Winners' Pay Premiums and Changes in Bank Performance (Excluding Banks Larger than the 75th Percentile of the Sample)

This table reports the results of multivariate tests examining whether tournament winners' pay premiums are related to the change in bank performance post-succession, after excluding banks larger than the 75th percentile of the sample. **Pay premium** is measured with **TDC1_change** and **TDC1_change (ind-adj),** respectively. Regressions (1) and (2) report the results of the change in accounting performance (**ROA_change**), measured as the difference in industry-adjusted ROA between years t-1 and the average over the years t+1 and t+2. Regressions (3) and (4) report the results of the change in market-based performance (**TOBIN_change**), measured as the difference of industry-adjusted Tobin's Q between year t-1 and the average over the years t+1 and t+2. The definitions of the other variables can be found in Table 2. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1) ROA_change	(2) ROA_change	(3) TOBINQ_change	(4) TOBINQ_change
TDC1_change	0.360***		1.887***	
	(0.134)		(0.705)	
TDC1_change_indadj		0.383***		1.688**
		(0.143)		(0.776)
Deposits	-1.257	-1.180	-1.909	-1.332
	(1.102)	(1.092)	(6.548)	(6.473)
Loans	0.882	0.853	0.286	0.213
	(0.660)	(0.654)	(3.298)	(3.385)
Equity	-1.624	-1.563	-20.295	-19.268
	(2.897)	(2.864)	(18.657)	(18.579)
Bank_size	-0.053	-0.050	0.290	0.318
	(0.064)	(0.064)	(0.403)	(0.412)
EXP	-2.325	-1.630	0.871	7.296
	(7.946)	(7.890)	(37.427)	(37.338)
INC	-0.521	-0.488	-0.551	0.020
	(1.054)	(1.047)	(5.739)	(5.878)
CEO_years	0.133	0.121	-0.107	-0.210
	(0.093)	(0.092)	(0.492)	(0.496)
Board_size	0.106	0.106	0.309	0.347
	(0.184)	(0.182)	(1.479)	(1.520)
Edu_AF	-0.033	-0.022	-0.148	-0.116
	(0.120)	(0.119)	(0.747)	(0.756)
Edu_MBA	-0.189*	-0.175*	-0.658	-0.545
	(0.103)	(0.102)	(0.746)	(0.741)
Shock	-0.404**	-0.457**	0.031	-0.269
	(0.184)	(0.185)	(0.881)	(0.888)
Observations	111	111	111	111
R-squared	0.240	0.247	0.125	0.107
Adj. R-squared	0.147	0.155	0.018	-0.002