CEO Succession in US Bank Holding Companies

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Intellectual Property Statement

The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

The succession of the chief executive officer (CEO) has attracted growing attention from the public and academic researchers. While a lot of research has been undertaken on CEO succession, a large portion of the existing literature comes from management studies and is based on non-financial firms. This thesis aims to contribute to the literature on bank CEO succession by examining the influence of CEO characteristics on bank profitability change post-turnover, and the relation between tournament incentives and the new CEO's remuneration.

The thesis is structured with an introduction, a background chapter, two empirical chapters, and a conclusion. The background chapter (chapter 2) provides an overview of CEO succession and related issues in the banking sector. It summarizes existing CEO succession studies, studies on CEO characteristics and firm performance, and studies on CEO succession and new CEO compensation contract. The chapter also presents the trend in CEO compensation of newly appointed CEOs in banks.

The first empirical analysis (chapter 3) examines the changes in bank profitability post-CEO succession and the impact of the new CEO's prior CEO experience, based on a unique hand-collected dataset of CEO succession events in US bank holding companies (BHCs) between 1993 and 2015. I find evidence that prior CEO experience of the successor improves long-term bank accounting performance. The study distinguishes prior CEO experience based on where the experience is obtained: the experience gained inside the bank and the experience gained outside the bank. The results suggest that the performance effect is driven by the experience gained outside the bank. The study obtains evidence that the profitability improvement continues in a longer post-succession period

of up to 5 years. In addition, the prior CEO experience of the successor helps to improve performance only in banks that were badly performing before the CEO succession. By investigating the channels of profitability improvement, the study documents that successors with prior CEO experience outside the bank are more likely to cut down operating expenses through earnings manipulation. It shows that the improvement of bank profitability is not due to the new CEO's risk-taking behaviour.

The second empirical analysis (chapter 4) focuses on internal CEO successions. An internal succession is a tournament where several candidates within the firm compete for the CEO position, and the candidate who is promoted to the new CEO position is the winner of the tournament. With a sample of internal CEO succession events in US BHCs from 1993 to 2016, the study investigates what drives the cross-sectional variation in the pay premium of tournament winners, and whether a better reward to the tournament winner is an indication of improvement in bank performance post-CEO appointment. The analysis finds that tournament winners in general get a pay premium upon promotion. The pay premium is positively associated with the steepness of the tournament structure before CEO succession. And a higher pay premium reflects the new CEO's managerial ability as perceived by shareholders. Although a steeper tournament structure is associated with a higher reward upon promotion, the study finds that it only occurs under some conditions—for example, if the shareholders believe the new CEO is capable of doing the job, if the new CEO has more prior CEO experience, if the tournament winner was an "underdog" candidate, or if the CEO appointment is a non-planned succession. The study also shows that the higher reward is associated with greater improvement in bank performance post-CEO succession. This, to some extent, implies that boards can identify CEO ability and select appropriate CEOs for their banks.

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List of Abbreviations

BHCs	Bank Holding Companies
CAR	Cumulative Abnormal Return
CMAR	Cumulative Market-adjusted Return
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COO	Chief Operating Officer
EBA	European Banking Authority
ESMA	European Securities and Markets Authority
LLP	Loan Loss Provision
OLS	Ordinary Least Squares
ROA	Return on Assets
SEC	Security Exchange Commission
SIC	Standard Industrial Classification
UK	United Kingdom
US	United States

Chapter 1 Introduction

1.1 Introduction

Selecting a chief executive officer (CEO) is one of the most important hiring events in organizations. "CEO succession", "CEO transition", or "CEO turnover" has been a topic of intense interest. Reports of key corporate successions appear frequently in the popular press. In academic circles, too, attention to the topic has skyrocketed. CEO successions are critical turning points for organizations. They affect not only the members of the organization but the firm's economic and political climate as well. While the transition of leadership temporarily increases internal disruption, it also provides an opportunity to adapt a firm's strategy to current and future demands. It is important, therefore, to understand this critical change process.

In the last two decades, especially after the recent financial crisis, highly publicized CEO succession at large bank holding companies (BHCs) such as Bank of New York Mellon, Citigroup, and HSBC has captured much attention from the business media and the public. While a lot of research has been done on CEO succession, a large portion of the existing literature comes from management studies and is based on non-financial firms. There is an inherent lack of analysis concerning the banking sector. This thesis aims to contribute to the stream of CEO succession literature by examining the topic in a sample of US BHCs. More specifically, it examines the influence of the new CEO's prior CEO experience on bank profitability change post-CEO succession, and the compensation dynamics of the new CEO.

The two main reasons behind studying CEO succession specifically for banks are: first, banks, as financial intermediaries, play a pivotal role in the economy, channelling funds from units in surplus to units in deficit. Thus, a thriving banking industry

contributes to the prosperity of the national economy, and bank failures could result in destabilisation of the economic and political situation of a country. A CEO, as the most powerful role of the company, controls and directs the efforts of the organization towards its goals (Brady et al., 1982), and determines the central concept of a business (Lauenstein, 1980). The important role banks play in the economy and the key role of the CEO in an organization make the study of CEO succession in the banking sector a vital issue from both the public and private perspectives. Second, CEO succession in banks might be different from other firms. Since banks are complex institutions and require employees with special skills (Philippon and Reshef, 2009), selecting the right CEO could give banks a significant competitive edge as well as contributing to the growth of the economy. In this regard, limiting the study to the banking sector would potentially facilitate understanding of the relation between CEO and bank performance in this specific industry.

Moreover, the banking sector has received much criticism for its contribution to the recent global financial crisis that started in 2007. Many blame incompetent banking CEOs for engaging in activities that endangered the safety and soundness of the financial system and gave rise to unprecedented government support to the banking sector. Meanwhile, specific bank CEOs have been credited with leading their banks successfully through the financial crisis.

The CEO has overall responsibility for the conduct and performance of an entire organization (Finkelstein et al., 2009). A CEO's job is substantially different from other organizational positions. The job is idiosyncratic, non-routine, and unstructured (Kesner and Sebora, 1994). Since CEOs have substantial discretion over their decisions, their individual characteristics could make an important difference to company outcomes (Landier et al., 2012; Kim and Lu, 2017). There is a considerable debate amongst the

public, policy makers and academics as to whether and how CEOs matter for firm performance and behaviour. A growing body of research has shown that CEO characteristics affect the performance of firms (Peterson et al., 2003; Adams et al., 2005; Kaplan et al., 2012; Custódio et al., 2013) and their policy choices (Bertrand and Schoar, 2003; Malmendier et al., 2011; Custódio and Metzger, 2014; Dittmar and Duchin, 2016). In a CEO succession setting, scholars have examined how demographic characteristics of the new CEO influence firm performance post succession. For example, they found that performance consequence is affected by CEO's age (Elsaid and Ursel, 2012), gender (Elsaid and Ursel, 2011), functional background (Koyuncu et al., 2010), and career experience (Davidson III et al., 2002; Bailey and Helfat, 2003; Crossland et al., 2014).

Over the past decade, there has been an important new trend in CEO succession with companies increasingly hiring executives with experience as former CEOs to the CEO position (Murphy and Zabojnik, 2007; Karlsson and Neilson, 2009). This happens not only to non-financial firms, but also in the banking industry. For example, Central Pacific Financial Corp appointed John C. Dean, Jr. as the new CEO in 2011. He is a veteran in the banking sector and has more than 20 years' CEO experience. Prior to the appointment, he worked in CEO positions in Silicon Valley Bank, Pacific First Bank, First Interstate Bank of Washington NA and so on. Texas Capital Bancshares Inc., as another example, hired C. Keith Cargill as the new CEO in 2014. He holds 4.5 years' CEO experience before the appointment: CEO of Texas American Bank for 4 years, and CEO of Texas Capital Bank for half a year. Part of the reason why organizations are increasingly hiring former CEOs to the positions might be that they are unwilling to take the risk of appointing individuals with no previous leadership-specific experience (Charan, 2005).

The first empirical chapter of the thesis aims to answer the question about whether and how prior CEO experience of the new CEO is associated with changes in bank

profitability in the post-succession period. The analysis distinguishes prior CEO experience as two types, based on the context where the experience is obtained: prior CEO experience gained inside the bank, and the experience gained outside the bank. It investigates whether two types of prior CEO experience affect bank profitability differently. The study further examines the channels of profitability improvement. To conduct the analysis, a unique hand-collected dataset is constructed. It captures the information of 147 CEO succession events in US BHCs from 1993 to 2015.

After addressing the question regarding the relation between prior CEO experience and changes in bank profitability, I focus on internal successions and CEO tournament incentives in the second empirical chapter. The internal CEO succession can be viewed as a tournament where several candidates compete for a CEO position. The question is, how are the winners of the internal tournament remunerated by the bank post-succession? The tournament theory's perspective suggests that a larger pay gap between the CEO and other executives induces greater efforts from managers to compete for the CEO position and higher compensation (Lazear and Rosen, 1981; Michael L. Bognanno, 2001; Kale et al., 2009). However, it is unknown whether these candidates get a better reward after being promoted to the CEO position. Recent studies on tournament incentives have mainly discussed the influence of tournament incentives on firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017) and policy (Kini and Williams, 2012), However, not much attention is paid to tournament winners, and the dynamics of their compensation surrounding the promotion.

The second empirical chapter of the thesis aims to answer the question about whether CEO tournaments with certain features result in a better reward to the winner. The analysis uses "pay premium" as a proxy for tournament prize and examines what drives the variation in pay premium among tournament winners. More specifically, it examines

whether a steeper tournament structure (larger pay gaps between the CEO and other top executives) before the new CEO appointment is associated with a larger pay premium of the tournament winner. In addition, the study analyses whether the pay premium is related to higher managerial abilities. The empirical results indicate that the pay premium is a joint effect of the managers' greater efforts induced by a steeper tournament structure as well as higher managerial abilities that they input in winning the competition. The analysis also examines whether the pay premium is an implication of future improvement in bank performance post-appointment.

This thesis is aimed at providing insights into CEO succession in the banking sector. The aforementioned empirical investigations are presented in two empirical chapters. The next section discusses in more detail the research questions, main findings and the contribution of each empirical chapter.

1.2 Research Questions, Main Findings and Contribution

1.2.1 Prior CEO Experience and changes in Bank Profitability Post-CEO Succession

The chapter contributes to the stream of research on the importance of CEO characteristics for firm performance (Peterson et al., 2003; Adams et al., 2005; Kaplan et al., 2012; Custódio et al., 2013), and especially, the influence of CEO demographic characteristics on the performance consequence in a CEO succession setting. With banks increasingly hiring executives with experience as former CEOs to the CEO position, the chapter aims to understand whether different forms of prior CEO experience are associated with changes in bank profitability in the post-succession period. To conduct the analysis, a unique hand-collected dataset is constructed. It captures the information of 147 CEO succession events in US BHCs from 1993 to 2015.

1.2.1.1 Research Questions

Specifically, the analysis conducted in this empirical chapter aims to answer four research questions:

The first research question raised is whether the new CEO's prior CEO experience affects bank profitability change surrounding the succession. I argue that the job-specific experience from prior CEO positions can bring forward some valuable skills to the current position, thus having a positive effect on bank performance post-succession. The question is interesting, given that some evidence is found in non-financial firms showing a negative relation between prior CEO experience and firms' accounting performance (Elsaid et al., 2011; Hamori and Koyuncu, 2015) as well as market performance (Bragaw and Misangyi, 2017). Bragaw and Misangyi (2017) explain the negative relation as follows: the job-specific experience can interfere with the new job due to the change of context. CEOs tend to rely on their past experience that has previously proven to be successful for the firm. If the environment changes, the actions are no longer suitable for the external environment, which will ultimately drag down firm performance.

However, the conclusion might not apply to banks. First, the definition of prior CEO experience in my study is different from existing studies. Different from other firms, many banks are conglomerates with a number of subsidiaries and various market divisions. Previous CEO roles in subsidiaries or market divisions can also have an impact on their current positions. Thus, I extend the boundary of prior CEO experience by including all these experiences in my analysis. Second, banks are very similar in the nature of business. Although the banks in my sample vary a lot in terms of size, age, and other features, they are all commercial banks doing lending business. Thus I conjecture that the skills and experience obtained from a similar position may be easier to be transferred to the new bank. Besides, banks are more complex organizations compared with non-financial firms,

and the management of banks require special expertise (Philippon and Reshef, 2009). Thus the job-specific experience from prior CEO positions may be very beneficial to the current position. Furthermore, while existing studies have focused on the impact of prior CEO experience on post-succession firm performance itself, my study looks at the change in bank performance before and post CEO succession, which might bring a different result.

The second research question raised in this chapter is, whether the context where the prior CEO experience is obtained matters. As large commercial banks are normally operated as bank groups, prior CEO experience of a bank CEO can be distinguished as two types: prior CEO experience gained inside the bank group where appointment occurs, and prior CEO experience gained outside the bank group[1]. Although prior CEO experience has been examined in non-financial firms, no study has distinguished the experience based on the context where it is obtained. I argue that prior CEO experience obtained inside and outside the bank group represent different skill sets, which bring different values to the current position. CEOs who gained the experience outside the bank may possess more general skills, while those who obtained the experience within the bank may have more bank-specific knowledge. This would bring different effects on subsequent bank performance. Actually, existing studies on generalists and specialists find evidence that generalist CEOs gain higher payment than their counterparts (Custódio et al., 2013), and are associated with a higher expected return (Mishra, 2014).

The third research question raised in this chapter is formulated as follows: is the impact of prior CEO experience on bank profitability affected by the succession context?

[1] For conciseness, I use "prior CEO experience inside the bank" and "prior CEO experience outside the bank", or "inside CEO experience" and "outside CEO experience" in the remaining part of the thesis.

For example, if the succession is a forced turnover due to poor performance, the successor is more likely to be charged with a mandate to initiate strategic change to improve firm performance. And it is expected that there is larger change in firm performance post-succession. In contrast, if the successor is appointed following the predecessor's ordinary retirement rather than dismissal, the successor's mandate is more likely to maintain strategic continuity (Brady and Helmich, 1984; Datta and Rajagopalan, 1998; Friedman and Singh, 1989; Shen and Cannella, 2002b). In this case, there should be less performance change after the succession. In addition, there is a concern that endogenous matching between CEOs and banks is driving the results. Banks with bad financial status might be more willing to appoint a more experienced CEO to enhance profitability.

The final research question raised is, how does the prior CEO experience improve bank profitability? In other words, what is the channel of the performance effect?

1.2.1.2 Main findings

To answer the first research question, an ordinary least squares (OLS) model is conducted to examine the relation between prior CEO experience and the change in bank profitability. The study follows Huson et al. (2004)'s method in studying the changes in performance surrounding CEO succession. Bank profitability before CEO succession is measured as the industry-adjusted ROA in year t-1. Profitability after the succession is measured as the average industry-adjusted ROA over event years t+1 and t+2. Prior CEO experience is measured as the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current CEO position. Overall, the results suggest that changes in bank profitability are positively related to prior CEO experience —longer years of prior

CEO experience are associated with a higher level of profitability improvement. The empirical results support my hypothesis.

The second research question raised in this chapter is whether the performance effect of prior CEO experience is affected by the context where the experience is obtained. The results suggest there is a significant positive relation between prior CEO experience outside the bank and the profitability change of the current bank. However, no effect is found for the experience gained inside the bank. The analysis shows that the positive performance effect is mainly driven by the outside CEO experience, thus indicating that successors with prior CEO experience in a different organization bring novel skill sets that enhance bank profitability. Compared with previous analysis where prior CEO experience is examined in general, the economic impact of outside CEO experience on profitability change is stronger. This suggests that generally assuming that all types of prior CEO experience are important can mask the contribution of inside/outside CEO experience.

I replicate the above analysis with alternative CEO experience measures: the number of positions measure and the dummy measure. The results are consistent across different measures. I also examine the performance effect in a longer post-succession period and find a continuous positive relation between outside CEO experience and bank profitability change in up to 5 years after the succession. This suggests that the new CEO's prior CEO experience improves long-term bank performance.

The third research question raised in this chapter is whether the impact of prior CEO experience on bank profitability is affected by the succession context. Two tests are conducted to address the concern. The first test is to control for poorly-performing banks. I examine whether the change in bank profitability is affected by two types of prior CEO experience after accounting for pre-turnover bank performance. The results show that

outside CEO experience is positively related to the profitability change after controlling for poorly-performing banks. The second test is to include an interaction term between outside CEO experience and "bad" banks. The results suggest that prior CEO experience outside the bank helps to improve profitability only in banks that were badly performing before the CEO turnover. I replicate the two tests with alternative measures of prior CEO experience and find consistent results across different measures. Overall, the results discussed in this section suggest that the positive relation between outside CEO experience and profitability improvement still exists after controlling for the bank's pre-turnover performance. However, this is not saying that bank performance pre-turnover does not matter. The analysis indicates that outside CEO experience helps to enhance profitability only in banks with poor financial performance pre-turnover.

The final research question raised is how does prior CEO experience improve bank performance? To answer this question different channels of performance effect are examined. I begin the analysis by investigating whether the profitability improvement is due to any change in banks' business policy. The increase of net income can result from a rise in bank revenues, or a decrease in bank cost. Thus, I first examine whether prior CEO experience outside the bank is associated with a change in operating revenues. The results do not show any relation between the two variables. Another possible channel of profitability improvement is that newly appointed CEOs might cut down operating expenses in order to boost profitability. To examine whether the increase in profitability is due to CEOs' cost management, I test the relation between prior CEO experience and the change in banks' cost-income ratio. The results suggest that outside CEO experience is negatively associated with the change in bank cost. This indicates that CEOs who gained knowledge from a different organization are more likely to cut down operating expenses in order to enhance bank profitability. By contrast, I do not find any relation between the

change in cost-income ratio and prior CEO experience obtained inside the bank. By further examining the change in Loan Loss Provision (LLP), an important part of bank cost, I find that the cost reduction is related to the decrease in the Loan Loss Provision (LLP).

Existing studies suggest that newly appointed CEOs tend to engage in greater income-increasing manipulation in the early years of their tenure due to career concerns (Ali and Zhang, 2015). To favourably influence the market's perception of their ability, new CEOs also have greater incentive to overstate earnings in the early years of their service, especially those recruited from outside the company (Kuang et al., 2014). The external labour market considerations, contract constraints, board pressures, and similar factors cause the job security of CEOs recruited from outside the company to relate more closely to firm performance than is the case for CEOs promoted from inside (Friedman and Saul, 1991; Hermalin and Weisbach, 1998; Shen and Cannella, 2002b). As a result, outside CEOs usually exhibit a stronger desire to demonstrate superior performance after taking the helm.

To test whether the profitability improvement is due to the new CEO's earnings manipulation, I proxy earnings manipulation in banks with discretionary Loan Loss Provision (LLP) following previous banking studies, and examine whether prior CEO experience outside the bank is associated with a change in the level of CEO earnings manipulation. The empirical results show that there is a negative relation between outside CEO experience and the change in discretionary LLP, which suggests that the improvement in bank profitability is an outcome of the new CEO's earnings manipulation by understating expenses. To assess the sensitivity of the results to my proxy for earnings manipulation, I estimate discretionary LLP and non-discretionary LLP with an alternative method. The results are robust to different estimation methods.

The last section in this chapter conducts two additional tests. The first test is to examine whether experienced CEOs achieve higher profitability from risk-taking activities. I do this because a possible mechanism for bank performance improvement is that new CEOs with more prior experience might be engaged in risky activities to boost profitability. To test this speculation, I examine the relation between outside CEO experience and the change in bank risk. Bank risk is measured via earnings volatility and Tier 1 capital respectively. No relation is found between prior CEO experience and the change in any form of bank risk, which indicates that the improvement of bank profitability is not due to the new CEO's risk-taking behaviour.

The second additional test is to examine the performance effect of prior CEO experience in pre- and post-crisis periods. The financial crisis can have a great influence on bank performance and business policies. To examine whether the financial crisis affects the relation between prior CEO experience and bank profitability, I split the sample into two groups: CEO successions pre-crisis period and CEO successions within/post-crisis. The years before 2007 are classified as the pre-crisis period. Year 2007 and afterwards is defined as the within/post-crisis period. The results show that the performance effects of prior CEO experience are quite different in the two periods. While the analysis in my earlier analysis shows that successors' prior CEO experience in general improves bank profitability, the results in this test suggest that this only happens during and after the recent financial crisis.

Overall, the findings in this chapter suggest that the prior experience in CEO positions improves bank profitability post-succession, and the effect is driven by the experience obtained outside the bank. This suggests that experience and skills gained from outside the organization tend to have a more significant impact on bank profitability. By further investigating the channels of profitability improvement, the study finds that the

profitability improvement is due to a decrease in operating expenses, and more specifically, an outcome of the new CEO's earnings manipulation.

1.2.1.3 Contributions

This chapter contributes to the existing literature in several ways. First, the study extends the limited number of studies on CEO succession in banks. Although CEO succession has been studied for decades, existing studies are mostly limited to non-financial firms. The existing banking literature mainly focuses on the question as to what drives CEO turnover (Webb, 2008; Palvia, 2011; Schaeck et al., 2011). However, few studies look at the effect of CEO characteristics. The study by Nguyen et al. (2015) examines executive turnover and executive characteristics in the banking industry. However, the study is an event study on the stock market reactions to appointment announcements. It shows the market expectation towards the appointment but is not related to the new executives' business policies, because the new executives are not even in position yet. In addition, the study focuses on executive directors instead of CEOs. By contrast, my study examines the influence of CEO attributes on banks' accounting performance in a longer post-succession period. To the best of my knowledge, my study is the first to examine the long-term performance effect of CEO succession in the banking sector.

Second, the chapter contributes to the stream of research on the importance of CEO characteristics for firm performance (Adams et al., 2005; Bennedsen et al., 2006; Kaplan et al., 2012; Custódio and Metzger, 2013). Particularly, it contributes to the studies on CEO experience (Elsaid et al., 2011; Hamori and Koyuncu, 2015; Bragaw and Misangyi, 2017). I extend the definition of "prior CEO experience" in a banking context, accounting for not only the experience as a top CEO but also the experience as a subsidiary/division leader. Interestingly, the analysis documents opposite results from related studies. While

previous studies in CEO experience find a negative relation between prior CEO experience and firm's accounting performance (Elsaid et al., 2011; Hamori and Koyuncu, 2015), my analysis supports the hypothesis that prior CEO experience improves bank profitability. Moreover, my study contributes to the literature by differentiating inside and outside CEO experience. I find that generally assuming all types of prior CEO experience are important, as previous studies did, can mask the relative contribution of inside/outside CEO experience.

Furthermore, the chapter is a good supplement to the research on earnings management in banks. Although banking studies have investigated earnings management in many aspects, for instance, earnings management and earnings decline (Beatty et al., 2002), the relation between earnings manipulation and bank stock return (Kanagaretnam et al., 2009), earnings management and tail risk (Cohen et al., 2014), earnings management and discipline of banks' risk-taking (Bushman and Williams, 2012), no study examines banks' earnings management by the newly appointed CEO, and whether it is related to specific CEO characteristics. By studying the features of bank earnings management surrounding CEO succession event, I find evidence that the manipulation is more likely to undertaken by successors with outside CEO experience. This brings a new dimension to CEO earnings management studies.

1.2.2 CEO Tournament and Winners' Reward in US BHCs

The second empirical investigation focuses on internal CEO successions and explores the dynamics of CEO compensation surrounding the succession. An internal succession is a tournament where several candidates within the firm competing for the CEO position, and the candidate who is eventually promoted to the new CEO position is the winner of the tournament. Examining the compensation outcome of the winning candidate is important because it helps to understand whether and how the winners benefit from the

CEO tournament. This chapter aims to understand what drives the cross-sectional variation in the pay premium among tournament winners, and whether a better reward to the tournament winner is an indication of future improvement in bank performance. To answer these questions, I construct a unique hand-collected dataset that captures the information of 130 internal CEO succession events in US BHCs from 1993 to 2016.

1.2.2.1 Research Questions

The analysis starts by revealing a fact that tournament winners overall obtain a pay premium after being promoted to the CEO position. The "pay premium" is a proxy for the tournament prize, defined as the change in the natural log of total compensation from one year before the succession (year t-1) to one year after the succession (year t+1). An alternative measure of pay premium is the industry-adjusted change in total compensation, defined as the change in the natural log of total compensation minus the median value of total compensation change of all the CEOs in the industry. By using an industry-adjusted performance measure, the study eliminates any effect that is driven by the outside environment.

The analysis shows that tournament winners, on average, gain a pay rise after being promoted to the CEO position. The average compensation of tournament winners before promotion is 2682 thousand dollars, while the average compensation after promotion is 4485 thousand dollars. In other words, tournament winners on average get 1.5 times higher compensation after promotion. By further looking at the distribution of pay premium, it shows that the level of the pay premium, with both measures, varies across the selected events.

This chapter addresses four research questions:

The first research question raised is whether the steepness of tournament structure is related to the level of tournament winner's pay premium upon promotion. The

tournament theory argues that a large pay gap between the CEO and other executives provides motivation amongst contenders for the CEO position and higher compensation (Lazear and Rosen, 1981; Michael L. Bognanno, 2001; Kale et al., 2009). A greater pay gap between the CEO and other executives indicates a steeper tournament structure. The second research question of the chapter is whether candidates facing a steeper tournament environment gain better rewards after promotion? I measure tournament structure as the CEO pay ratio, defined as the ratio of the CEO's compensation to the mean (median) of the other highest paid executives (Burns et al., 2017); and CEO pay slice, which is the percentage the CEO claims of the total compensation to the top executive group (Bebchuk et al., 2011; Chen et al., 2013; Burns et al., 2017).

The second research question raised is, does the pay premium reflect CEO ability? The above analysis has suggested that pay premium is related to some specific CEO characteristics such as educational background and prior CEO experience. While holding an MBA degree implies general ability (Murphy and Zabojnik, 2007; Datta and Iskandar-Datta, 2014), there might be other omitted managerial abilities that are valued by shareholders but not captured in the analysis. Existing studies suggest that changes in the value of the firm around the CEO appointment reflect the market's evaluation of the appointed CEO's marginal ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). Thus, the study uses the market reaction towards the CEO appointment as a proxy for CEO managerial ability, measured by the cumulative abnormal return (CAR) surrounding the CEO appointment event.

Although previous sections have examined the effect of tournament structure on winners' pay premium post-promotion, it is unknown whether the effect is conditional on some factors. For example, is it affected by the characteristics of the winner or the

bank feature? This leads to the third research question of this chapter: does the tournament effect always hold or depend on specific conditions?

The final research question raised is, is the higher pay premium of tournament winners an indication of better bank performance post-succession? The tournament theory suggests that the competition to win the tournament is the catalyst for higher efforts and more payoffs for firms (Lazear and Rosen, 1981; Green and Stokey, 1983; Main et al., 1993; Henderson and Fredrickson, 2001). If the tournament theory holds, it would be expected that tournament incentives are associated with an improvement in bank performance.

1.2.2.2 Main Findings

The first research question of this chapter is whether candidates facing a steeper tournament environment are better rewarded after being promoted to the CEO position? Using multivariate analysis the study finds each of the CEO tournament measures is positively related to the level of the pay premium. The results indicate that successors in banks with steeper tournament structures pre-turnover gain higher rewards after winning the competition. It also shows that the pay premium is affected by other factors. For example, the tournament winner is awarded a higher pay premium if he/she holds an MBA degree, and a lower pay premium if he/she has more prior CEO experience.

The second research question is whether the pay premium reflects CEO ability. To answer this question I add managerial ability into the model, measured by the cumulative abnormal return (CAR) surrounding the CEO appointment announcement. This helps to identify whether a better reward is related to higher managerial abilities. The results suggest that high-ability CEOs gain higher rewards upon promotion. Meanwhile, the tournament structure still has an impact on the reward after accounting for managerial abilities and other factors discussed earlier. The pay premium is a joint effect of the

manager's greater effort induced by a steeper tournament structure and the managerial ability. For robustness, I use an alternative estimation model for market reaction: the market-adjusted model, and obtain the cumulated market-adjusted abnormal return (CMAR). The results are robust to the change of market reaction measures.

The third research question of the chapter is whether the tournament effect only occurs under specific conditions. To understand this question I interact the indicator variable for tournament structure with CEO/bank characteristics. The results suggest that the impact of tournament structure on the pay premium is heightened in some situations. First of all, the effect is stronger if shareholders believe the new CEO is a capable candidate. That is, the market believes that the new CEO has high managerial ability. Second, the tournament effect is stronger if the new CEO has more experience in a prior CEO position. In addition, the impact of tournament incentives is weaker if the CEO was COO of the bank before promotion. This means that a steep tournament structure would create more incentives if the candidate was in a low position prior to the promotion, called as an "underdog". Furthermore, the analysis finds that the effect of tournament incentives is weakened if the succession is a planned retirement.

The final research question raised is, whether a higher pay premium is an indication of better bank performance post-succession? With both univariate and multivariate tests, the study documents that CEOs gaining a higher pay premium are associated with a greater improvement in long-term bank performance. The effect holds for both accounting performance and market-based performance. The results support the perspective of tournament theory that tournament incentives elicit greater managerial effort for CEO competition, which eventually results in better bank performance. In addition, the analysis rules out the possibility that the performance improvement is

motivated by new CEOs' risk-taking behaviour. Using three different risk measures, I do not find pay premium is associated with any measure of bank risk.

Taken together, the analysis in this chapter finds that the variation in tournament winners' pay premium is related to the steepness of the tournament structure pre-turnover. Meanwhile, it reflects the new CEO's managerial abilities valued by shareholders. It also shows that a larger CEO reward is an implication of greater improvement in long-term bank performance. This, to some extent, implies that boards could identify CEO ability and select appropriate CEOs for banks.

1.2.2.3 Contributions

The chapter provides several contributions to the existing literature. First, the study contributes to the stream of research on tournament incentives. While existing studies document that the tournament structure affects firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017), corporate policy (Kini and Williams, 2012), and managerial turnover (Kale et al., 2014), there is no answer whether the feature of CEO tournament affects the remuneration outcome of tournament winners. My study adds to the debate of tournament incentives by analysing how CEO tournament structure affects the reward of tournament winners. I obtain evidence that the variation in pay premium is related to the steepness[2] of tournament structure before CEO succession.

Second, the analysis contributes to the study on internal successions. While internal candidates are important sources for future CEOs, which implies that inside succession is a key aspect of CEO succession (Parrino, 1997; Cremers and Grinstein, 2009), studies

[2] Steepness is the gradient of the pay difference between the CEO and the other executives. For instance, a CEO may be paid $2000, which is not a large payment, but if the other execs are only paid $1000, the CEO's pay is 2x the others (i.e., steep).

focusing on internal successions are scarce. Mobbs and Raheja (2012) compare successor-incentive promotions and tournament-incentive promotions among internal successions. They find that firms conducting two types of successions have different features and compensation contracts. My study takes a step further by investigating banks that conduct tournaments (tournament-incentive) among inside managers to succeed the CEO, and the features of their tournament structure.

Furthermore, the chapter provides insights on new CEO compensation design. While existing studies tend to focus on the determinants of incumbent (existing) CEO's compensation, the initial compensation of new CEOs has been neglected. The analysis of this chapter offers new insights to the determinants of the new CEO's initial compensation.

There is only limited evidence that relates new CEO compensation with firm risk (Chang et al., 2016; Chen et al., 2018), and some evidence on changes of compensation structure following CEO succession (Blackwell et al., 2007; Elsaid and Davidson, 2009; Elsaid et al., 2009). My study fills the gap by investigating how banks' tournament structure pre-CEO succession affects the compensation premium of the newly appointed CEO. The study also obtains evidence that CEO's managerial ability is positively related to the size of the reward. The finding is in line with existing studies on managerial ability and (incumbent) CEO's compensation (Murphy and Zabojnik, 2004; Murphy and Zabojnik, 2007; Custódio et al., 2013), indicating that the heterogeneity of managerial ability explains new CEO contracts. In addition, I find some new attributes that affect CEO's initial compensation, such as the MBA degree and prior CEO experience, which is not evidenced by existing studies.

Finally, in a similar manner to the first empirical chapter, the second empirical chapter extends the limited number of studies on CEO succession in the banking sector. The

existing banking literature mainly focuses on the question as to what drives CEO turnover in banks. By contrast, less attention is paid to the outcome of bank CEO succession, with the exception of Schaeck et al. (2011) who study the change of bank performance following a forced turnover. However, I am not aware of any study discussing the impact of succession events on newly appointed CEOs. To the best of my knowledge, this study is the first to examine tournament incentives of CEO successions in the banking industry.

1.3 Structure of the Thesis

The rest of the thesis is structured as follows. First, the background chapter (chapter 2) summarizes relevant studies and describes the trend of new CEO compensation contracts in banks. Chapter 3 and chapter 4 present, respectively, the two empirical investigations conducted for this thesis. The final chapter (chapter 5) draws conclusions, outlines the limitations of the empirical analyses conducted, and offers suggestions for future research.

Chapter 2 Background

2.1 Introduction

Perhaps no single group of individuals has received more attention than chief executive officers (CEOs). Much of this attention surely comes from the fact these individuals are perceived as the key decision-makers in corporations that account for most of the economic activity in modern economies. There is also envy because of the prestige, high social status, and high salaries reserved to this elite group (Bertrand, 2009).

Selecting a CEO is one of the most important hiring events in organizations. From their position at the top of a company, CEOs are able to shape the company's strategy, structure, and culture. By doing so, CEOs are able to actively direct which opportunities their company will pursue (Chester, 1938). Compared with non-financial firms, banks are more complex institutions and require employees with special skills (Philippon and Reshef, 2009), thus selecting the right CEO could give banks a significant competitive advantage as well as contribute to the growth of the economy. Given the sheer size of large commercial banks, there is little doubt that decisions made by their principal officers can create or destroy wealth on a vast scale (Huson et al., 2004). This explains why highly publicized CEO turnover at large banks such as the Bank of New York Mellon, Citigroup, and HSBC has captured much attention from both academic researchers and the business media. And it is quite natural that boards demonstrate a strong interest in identifying the right person to replace the outgoing CEO.

Recently, the banking sector has received much criticism for its contribution to the financial crisis that started in 2007. Many blame incompetent banking executives for engaging in activities that jeopardised the safety and soundness of the financial system and gave rise to unprecedented government support of the banking sector. By the same

token, certain bank executives have been credited with steering their organizations successfully through the financial crisis (Nguyen et al., 2015). Equally, losses incurred by US banks during the recent financial crisis coincided with forced departures of their executives (Schaeck et al., 2011). In this background, CEO selection in banks becomes a more and more important issue in the post-crisis period.

The aim of this chapter is to give an overview of CEO succession and related issues in the banking sector. The rest of this chapter is structured as follows. The next section summarizes the existing CEO succession studies in non-financial firms. Section 2.3 summarizes CEO succession studies in the banking industry. Section 2.4 illustrates how CEO characteristics affect firm performance as well as in banks. Section 2.5 summarizes existing studies on CEO succession and New CEO contracts. Section 2.6 presents the trend of new CEO compensation in banks. Section 2.7 concludes the chapter.

2.2 An Overview of CEO Succession Study

Studying CEO succession has a long tradition in management and financial research: starting from 1960s, there was a surge of research on managerial succession (Kesner and Sebora, 1994). Several scholars have reviewed the CEO succession studies. For example, Kesner and Sebora (1994) review succession literature before 1994. Giambatista et al. (2005) review leader succession research from 1994 to 2004. A recent study by Berns and Klarner (2017) summarizes CEO succession studies over the past five decades and develops a future research agenda for the CEO succession process. As suggested by Berns and Klarner (2017), existing CEO succession studies have explored four primary domains: (1) CEO succession types, (2) the antecedents of CEO succession, (3) the consequences of CEO succession, (4) the contingency factors in CEO succession.

2.2.1 CEO Succession Types

There are several ways to classify succession types. One stream of research identifies CEO turnover as voluntary turnover and forced turnover (Parrino, 1997; Huson et al., 2001; Huson et al., 2004). A turnover is classified as forced if the incumbent CEO departs prior to age 60 and does not leave for other employment or for health reasons or if the Wall Street Journal reports that the CEO was forced from the position. Huson et al. (2004) find evidence that voluntary turnover and forced turnover are associated with different firm performance changes.

Another method is to classify CEO turnover as an "heir apparent" promotion, or "relay" succession, and "nonheir" promotion (Cannella Jr and Shen, 2001; Shen and Cannella Jr, 2003). They identify an heir apparent as an inside or outside executive who was the only person in a firm holding the title of president or of COO or both and who was at least five years younger than the incumbent CEO. Shen and Cannella Jr (2003) find that investors react negatively when the process ends in heir apparent exit from the firm and react positively when the process ends in heir apparent promotion to the CEO position. They also find a strong positive investor reaction to outside CEO promotion and a negative investor reaction to nonheir inside CEO promotion.

Boards can choose between different CEO origin types—that is, candidates from within the organization (insiders) or outside the organization (outsiders). Thus, CEO successions can be classified as internal successions and external successions. A prevailing view is that inside successors have an advantage because the board has detailed information about them, so there is less information asymmetry than with outside successions (Harris and Helfat, 1997; Tian et al., 2011). An inside successor provides relevant human capital (Becker, 1964)—company-specific and industry-specific

knowledge and skills (Kotter, 1982)—as well as social capital (Nahapiet and Ghoshal, 2000) such as social ties to employees (Finkelstein et al., 2009; Zajac, 1990).

Based on the classification of internal and external successions, some scholars further classify CEO successors as outsiders, followers and contenders (Shen and Cannella, 2002b; Barron et al., 2011). Follower successors are inside executives who are promoted to CEO positions following the ordinary retirement of their predecessors. Contender successors are inside executives who are promoted to CEO positions after the dismissals of their predecessors. 'Groomed' follower CEOs usually have a limited ability to initiate strategic changes. Conversely, contender CEOs who have won the power battles with their predecessors, are more likely to conduct strategic changes, and get support from the board and other senior executives for their strategic actions. Thus, contender successions are positively related to firm performance (Shen and Cannella, 2002b).

Apart from the above CEO succession types, Eisfeldt and Kuhnen (2013) classify CEO departures as planned retirements, forced-out departures, and unclassified departures. CEO departures are classified as planned retirements if they are announced at least six months before the succession, or caused by a well-specified health problem. Instances where the press reported that the CEO was fired or left the company due to policy differences with, or pressure from, the board or from shareholders, are classified as forced-out departures. All other events (e.g., unexpected retirements, the acceptance of another position, vaguely described health problems) are labelled unclassified departures, as it is not possible to separate whether the firm or the incumbent CEO initiated the separation.

2.2.2 Antecedents of CEO Succession

Scholars have identified several antecedents of CEO succession at the environment, organizational, board, and individual (CEO) levels. At the environment level, CEO succession is related to environmental dynamism (Friedman and Singh, 1989), environmental instability (Zhang and Rajagopalan, 2004), the level of industry competition (Pfeffer and Leblebici, 1973), and investment analysts (Wiersema and Zhang, 2011).

At the organizational level, CEO succession is influenced by firm size and functional structure. Larger firms have a higher succession rate (Finkelstein et al., 2009), and are more likely to choose an insider CEO because they tend to have a larger pool of internal candidates (Helmich and Brown, 1972; Dalton and Kesner, 1983; Guthrie Datta, 1997; Lauterbach et al., 1999; Naveen, 2006). Similarly, firms with a functional structure tend to choose an insider CEO (Agrawal et al., 2006).

At the board level, CEO succession is related to the board composition and their preferences. The board has a key role in CEO succession. For instance, powerful boards tend to select CEOs who are demographically similar to themselves (Zajac and Westphal, 1996). A high proportion of inside directors are more likely to appoint insider CEOs (Boeker and Goodstein, 1993; Shen and Cannella, 2002a), as an outside successor might be a threat to them and could replace them (Friedman and Saul, 1991). By contrast, outsider-dominated boards are more likely to select an outsider CEO (Borokhovich et al., 1996; Agrawal et al., 2006).

At the individual level, CEO succession is influenced by the characteristics of the incumbent CEO. For example, the likelihood of CEO succession is negatively related to the power of incumbent CEO (Boeker, 1992), while a CEO's lack of specific experience increases the likelihood of CEO succession (Magnusson and Boggs, 2006). The more

questionable the incumbent CEO's ability, the higher the likelihood of CEO turnover (Ocasio, 1994; Shen and Cannella, 2002b).

2.2.3 Consequences of CEO Succession

CEO successions affect firm performance as well as the strategy change. Existing studies have assessed the impact of CEO succession on accounting-related performance (Tushman and Rosenkopf, 1996; Harrison and Fiet, 1999; Shen and Cannella, 2002b; Ang et al., 2003; Zhang and Rajagopalan, 2004; Huson et al., 2004), market-related performance (Khanna and Poulsen, 1995; Lauterbach et al., 1999; Shen and Cannella, 2002b; Ang et al., 2003; Shen and Cannella, 2003), earnings management (Davidson III et al., 2004), organizational failures (Haveman and Khaire, 2004) and other performance-related consequences. Overall, the findings on the impact of CEO succession on performance remain inconsistent. Nonetheless, CEO succession has been shown to have an impact on firm strategy change (Romanelli and Tushman, 1994; Simons, 1994; Wiersema, 1995; Fondas and Wiersema, 1997; Boeker, 1997; Sakano and Lewin, 1999; Barker III et al., 2001).

2.2.4 Contingency Factors in CEO Succession

The inconclusive findings on the performance implications of CEO succession may be due to several contingencies that influence the relationship between the antecedents and CEO succession, as well as the relationship between CEO succession and company outcomes. Existing studies have summarized contingency factors as environmental contingencies (Datta et al., 2003; Zhang and Rajagopalan, 2004; Karaevli, 2007; Chung and Luo, 2013), organizational contingencies (Wiersema and Zhang, 2011; Karaevli and Zajac, 2013; Georgakakis and Ruigrok, 2017), board-level contingencies (Chen et al., 2015), TMT-level contingencies (Barron et al., 2011), and individual contingencies

(Quigley and Hambrick, 2012; Chen and Hambrick, 2012; Gomulya and Boeker, 2014; Zhu and Shen, 2016).

2.3 CEO Succession Studies in the Bank Sector

Although CEO succession has been studied for decades, existing studies are mostly limited to non-financial firms. The study on CEO succession in the banking sector is relatively thin. This section summarizes existing studies on CEO succession in the banking sector. Appendix A.1 provides a brief overview of the major works, where I list the authors (year), research topic, methodology, and key findings of the studies.

Barro and Barro (1990) is amongst the earliest studies on CEO succession in banks. The study examines the compensation, performance and turnover of bank CEOs, using a sample of large US commercial banks over the period 1982-1987. The empirical study begins with the relation between levels of pay and bank size for newly hired CEOs. They find that compensation moves with an elasticity of about one third with respect to assets. For CEOs who continue in office, the growth of compensation varies positively with performance measures based on stock returns and accounting earnings. The sensitivity of compensation changes to performance declines significantly as CEO experience increases. The study estimates logit regressions to relate the probability of CEO departure to age and performance. The probability of departure rises with age (for ages above the early 50s) and becomes particularly high in the normal retirement span around age 65. With regards to performance, they document a significant negative relation between CEO turnover probability and stock performance, but no significant relation between accounting earnings and subsequent CEO turnover. In addition, the sensitivity of turnover probability to stock returns is not affected by CEO experience—the years of prior experience as CEO.

Hubbard and Palia (1995) examine CEO compensation and the CEO turnover rate after the market deregulation. Using panel data on 147 banks over the 1980s, they find both higher levels of CEO compensation and a more pronounced compensation-performance relationship when interstate banking is permitted than when interstate banking is not permitted. The findings support the managerial talent hypothesis that a more competitive environment requires CEOs with higher talent who have to be given higher levels of pay. The study also finds that CEO turnover increases substantially after deregulation. This result is inconsistent with the hypothesis that compensation policies promote risk taking in banks.

Houston and James (1993) examine management and organizational changes among poorly-performing commercial banks and compare these changes to those undertaken by nonbank firms subsequent to poor performance. They find that the frequency of management turnover among poorly-performing commercial banks is similar to the frequency of management turnover among poorly-performing nonbank firms. More important, regulatory intervention is an important determinant of management turnover in banking and more frequently results in management turnover than creditor intervention in nonbanking firms. The study also investigates management compensation in banking and its relation to firm performance. They find the elasticity of compensation with respect to common stock returns is significantly higher in banking than in other industries. The sensitivity of management compensation to the change in firm value in banks increased significantly during the 1980s, evidence that is consistent with an increase in management-borne distress costs during this period.

Houston and James (1995) investigates whether executive compensation in the banking sector is structured to promote risk taking. They compare the CEO compensation package in banks with other industries. The analysis suggests that bank

CEOs receive less cash compensation, are less likely to participate in a stock option plan, hold fewer stock options, and receive a smaller proportion of stocks and options in their total compensation than do CEOs in other industries. The study relates bank risk taking with the penalty for poor performance: the likelihood of being fired conditional on poor performance. Thus the frequency of CEO turnover between the banks and non-banks is examined. The study finds that CEO turnover rate is virtually identical for banks and nonbanks. And there is no significant difference in the sensitivity of CEO turnover to firm performance between banks and nonbanks. Overall the result is inconsistent with the hypothesis that compensation policies promote risk taking in banks.

Webb (2008) examines the impact of monitoring intensity on compensation and turnover for CEOs in publicly-traded banks. The study finds that monitoring intensity plays a significant role in compensation levels, pay-for-performance sensitivity, and CEO turnover. The result justifies that banks are monitored by regulators apart from shareholders and market supervisors. It shows that CEOs from highly-rated institutions receive less payment than CEOs from competing institutions. While the pay-for-performance sensitivity is weak in banks, the insignificant pay-for-performance sensitivity in the banking industry is influenced by CEO age, a proxy for monitoring intensity. The findings also suggest that the relationship between market performance and turnover is weaker for older CEOs than for young bank CEOs.

Palvia (2011) investigates the effect of performance, board independence, and regulatory evaluations on CEO turnover in banks. Consistent with earlier studies in nonbanks, they document that poor performance and a higher level of board independence are positively associated with CEO turnover in banks. Beyond bank performance and board independence, they obtain evidence that poor regulatory evaluations and recent rating downgrades have a positive impact on CEO turnover,

suggesting that regulatory monitoring enhances managerial discipline in banks. In addition, the monitoring role of regulatory discipline is only significant in banks with greater board independence.

Schaeck et al. (2011) test the disciplining mechanism in US community banks by examining the monitoring role of different stakeholders, namely, shareholders, debtholders and regulators. They obtain evidence for shareholder discipline. The analysis documents a positive relation between risk and the likelihood of executive dismissals. However, this relation is weaker when there is awareness of distress from regulators, or on condition that debt holders have a larger stake in the bank. The study also examines the performance effect of CEO turnover. By analysing risk, losses, and profitability following turnovers, they obtain no evidence that replacing executives improves performance.

Hayes et al. (2015) examine the relation between bank CEO turnover and performance under a deregulation framework. They argue that bank CEOs tend to take more risky activities and benefit from deregulation if they are less likely to be fired for poor performance. Using a sample of banks from 1974-2005, they find the result consistent with their expectation, that there is less turnover-performance sensitivity in the post-deregulation period. In addition, they document that the decrease in turnover-performance sensitivity is more significant in large banks, where CEOs can take better advantages of the growth opportunities arising from deregulation, and in banks adopting more aggressive business policies after deregulation. Moreover, the study compares turnover incentives with incentives deriving from compensation, and obtains evidence that the two incentives are complementary.

Nguyen et al. (2015) examine how the characteristics of executive directors affect the market performance of US banks. They conduct an event study with a sample of 252

executive appointment announcements by 145 US banks. Results suggest that age, education, and the prior work experience of executives create shareholder wealth. In comparison, gender is not related to market performance. The wealth effects of executive characteristics are moderated by the level of influence of newly appointed executives. The magnitude of the effect decreases if the board of directors is highly independent, and is stronger if the executive is also appointed as a CEO.

Srivastav et al. (2017) examine the relation between forced CEO turnover and idiosyncratic tail risk in large banks. With a cross-country analysis, they find that the probability of a forced CEO turnover is positively associated with idiosyncratic tail risk. The effect of idiosyncratic tail risk on forced turnover is stronger in less concentrated banking industries and when stakeholders have more to lose from the risk. Overall, the exposure to idiosyncratic tail risk offers valuable information to assess the quality of the choices made by CEOs.

Summarizing the CEO succession studies in banks, I find the banking literature focuses on the question how CEO turnover happens. For example, a lot of them relate the probability of turnover to poor bank performance (Barro and Barro, 1990; Houston and James, 1993; Houston and James, 1995; Webb, 2008; Palvia, 2011; Schaeck et al., 2011; Hayes et al., 2015). Other factors might also affect the probability of CEO turnover, such as the departing CEO's age (Barro and Barro, 1990), board independence (Palvia, 2011) and idiosyncratic tail risk (Srivastav et al., 2017). In addition, several studies have found CEO turnover in banks is affected by regulatory monitoring (Hubbard and Palia, 1995; Webb, 2008; Palvia, 2011; Hayes et al., 2015).

In contrast, there is a lack of attention paid to the consequence of CEO succession in banks. Only two studies have examined the performance effect of CEO succession. Schaeck et al. (2011) investigate whether the executive replacement will improve the

soundness and profitability of banks. They test changes in Z-scores, Loss in USD, and ROE after executive turnover. The study obtains no evidence that replacing executives improves the soundness and profitability of banks. The study ignores the features of successor and the impact of new CEOs on bank performance. Nguyen et al. (2015) examine the impact of executive director characteristics on the short-term market performance in US banks. The study focuses on executive directors instead of CEOs. It shows that age, education and prior work experience of executives create shareholder wealth, while gender has no impact on stock price. However, the study is an event study on the stock market reactions to appointment announcements. It indicates the market expectation towards the appointment, but is not related to the new executives' business policy because the new executive is not even in the position yet.

2.4 CEO Characteristics and Firm Performance Post Succession

The characteristics of the successor are one of the key factors leading to firm performance change. Hambrick and Mason (1984)'s Upper Echelons Theory demonstrates that observable managerial characteristics of top executives are important to an organization's performance and strategic choices, say, innovation, profitability and growth. Examples of such characteristics are age, gender, education, functional background, socioeconomic roots and financial position. In a CEO succession setting, the characteristics of the new CEO influences firm performance in the post succession period. This section summarizes existing studies on how CEO characteristics affect firm performance in a CEO succession background.

2.4.1 Studies in Non-financial Firms

Among the studies on CEO successor characteristics, an important stream of research is a CEO origin. A CEO successor is an insider if he/she is appointed from the same company, and an outsider if he/she has been employed at the firm for one year or less at

the time of the succession (Parrino, 1997; Huson et al., 2001). Earlier studies have undertaken significant effort to understand the performance effect of CEO origin. A large part of the existing literature comes from management studies and is based on non-financial firms. They look at the short-term market reaction as well as long-term accounting performance changes in the post-succession period. However, no consensus has been reached.

A large number of scholars have documented a positive market reaction to the announcement of an outsider CEO appointment (Reinganum, 1985; Chung et al., 1987; Warner et al., 1988; Borokhovich et al., 1996; Lauterbach et al., 1999; Huson et al., 2004). Huson et al. (2004) find that in addition to positive market returns, there are also improvements in operating performance. Meanwhile, other studies demonstrate opposite findings. Worrell and Davidson (1987) examine the effect of CEO succession on stock price following predecessor death and document that the market reacts positively to the announcement of internal succession, but there are no significant abnormal returns for external succession. This indicates that the succession conditions should be taken into consideration in analysing succession events. Zajac (1990) finds evidence that firms with inside CEOs have better profitability than those with outsider CEOs after succession event.

There are also studies showing that there is a mixed consequence regarding the performance effect of outside succession (Davidson et al., 1990; Davidson III et al., 2002; Bailey and Helfat, 2003). Davidson et al. (1990) test the stock market reaction to the appointment announcement of 367 top executives with an event time methodology. They find a significant, positive effect for all top management succession samples, but different results for successor's origin, position and age. The findings amplify the argument that it is important to specify the conditions of succession, under which succession will lead to

different effects. Davidson III et al. (2002) consider not only new CEO origin in terms of insider or outsider, but also which industry the outsider CEO comes from. They obtain evidence that when the outsider CEO is from the same industry as the new firm, the stock market will react more positively to the outside succession appointment. Bailey and Helfat (2003) also examine external succession from an industrial perspective and look into whether the level of transferability of successors' managerial skill will affect firm's long-term performance. They obtain evidence that outside successors with less transferable (related-industry) skills bring a greater variance of firm performance.[1] The variance of firm performance is measured by the change of ROA before and after succession, then subtract the ROA change of control firms. Karaevli (2007) further explores the long-term post-succession performance of new CEO origin. The study seeks to reconcile the inconsistent findings by developing a more refined conceptualization and measurement of insider and outsider CEO, and test the performance effect in a more comprehensive succession context. The study uses a concept called "CEO outsiderness", which captures "the extent to which a new CEO brings different leadership style, knowledge, skills, and perspective to a firm based on his or her previous experience in other firms and industries" (page 682, year 2007).[2] They document that new CEO outsiderness, without considering the succession context, has no main effect on post-succession firm performance. However, there is significant evidence that when contextual factors such as environmental munificence, company's pre-succession firm performance and strategic

[1] Bailey and Helfat (2003) classify managerial skills into four categories: firm-specific, industry-specific, related-industry, and generic skills reflecting different levels of transferability between firms, from most easily transferable between firms (generic skills) to least easily transferable (firm-specific skills).

[2] The new CEO outsiderness is defined as a continuum ranging from new CEOs who have a greater combination of firm and industry tenure to those who have no experience in the firm and the industry, and is measured as an index variable by summing the inverse standardized (Z-score) firm and industry tenure of the new CEO.

changes are considered, the new CEO outsiderness will have different degrees of impact on post-succession firm performance. The findings suggest that both pre- and post-succession contextual factors should be considered in evaluating the performance effect of CEO origin.

Apart from CEO origin, some CEO demographic characteristics have been found to have an impact on firm performance in the post-succession period. Most of the existing literature is based on non-financial firms. It shows that age and gender have influence on CEO succession decisions and firm performance after succession. Elsaid and Ursel (2012) investigate whether age affects CEO succession and the risk-taking behaviour following CEO succession. They find that corporate risk taking declines when the average CEO age increases. Elsaid and Ursel (2011) examine the gender of newly appointed CEOs and assess its impact on firm's risk-taking behaviour. The results show that a female CEO is more likely to be appointed when there is a greater percentage of females on the board. In addition, a change in CEO from male to female brings a decrease in firm's risk taking behaviour. Elsaid (2014) examines the effect of various executive characteristics on the setting of executive succession. The study tries to explore whether the change in CEO gender, functional and educational background affects firm performance (measured by Tobin's Q) and the probability of bankruptcy (measured by Z-score) after CEO succession. The results indicate that the change of CEO gender, functional and educational background will bring changes on firm performance and the probability of bankruptcy, although their effect may be in different directions and different levels.

The functional background is important in shaping different types of CEOs and bringing differences in firm performance. For example, Koyuncu et al. (2010) examine the impact of CEO functional background in operations and document that newly appointed CEOs with previous working experience in operational related departments

achieve better accounting performance in a three year post-succession period. The result is explained by the fact that during this period, supply chain management became essential for companies. Thus CEOs with a functional background in operations tend to have more knowledge in supply chain management. The functional experience can influence not only firm performance but also corporate choices. Dittmar and Duchin (2016) investigate the effect of managers' professional experiences on corporate financial policies. They focus on past professional experiences with negative corporate outcomes and provide evidence that firms with CEOs who experienced distress in working experience tend to have more conservative financial policies.

The working experience in a particular industry gives managers knowledge and expertise in this specific area. Davidson III et al. (2002) investigate the industrial expertise of CEO successors and how it affects the firm's short-term market performance. They focus on the industrial background of CEOs who are hired from outside the firm, and classify the outsider CEOs into two types: CEOs from an industry related firm and CEOs from an industry unrelated firm. The study examines how the market responds to two types of CEOs and find that the stock market has a more positive react to CEO succession announcements when the outsider CEO is appointed from an industry related firm. Bailey and Helfat (2003) compare external successors that have within-industry skills and related-industry skills. They obtain evidence that outside successors with less transferable skills (related-industry) bring greater variance of firm performance.

Studies have documented that the general knowledge and skills acquired from working in a diversified set of industries enhance the competitiveness of CEO in the labour market and brings value to firms (Lazear, 2004; Cremers and Grinstein, 2013; Custódio and Metzger, 2013). Crossland et al. (2014) look at CEOs who have widely diverse career background and experiences. They introduce a new concept called "CEO

career variety", defined as "the array of distinct professional and institutional experiences an executive has had prior to becoming CEO".[3] The study finds strong evidence for the conjecture that CEO career variety is positively related to firm-level strategic novelty.[4] The results give explanation to the recent trend that companies begin to allow and encourage managers to move across functional areas.

While CEOs' industry experience affects firm performance and behaviour, the working experience in specific positions also matters. As different positions require different types of skills, the past experience of working in the same position will help managers understand the role better. Several recent studies started to look at whether a CEO's experience as a prior CEO adds value to firm performance post succession. In general, they document a negative relation between the new CEO's prior CEO experience and firm performance. Elsaid et al. (2011) study how a successor's previous CEO experience affects post-succession firm performance. They further distinguish outside CEO successors between those who have previous CEO experience and those who do not, classifying them as "exCEOs" and "Non-exCEOs". They find that the stock market reacts more positively to the appointment of an exCEO. However, firms with exCEO appointments have worse financial performance after succession. Hamori and Koyuncu (2015) look at the relation between experience in the CEO position of a different firm

[3] Career variety is measured by an index: the sum of distinct industry sectors, distinct firms, and distinct functional areas the individual had worked in prior to becoming CEO of the focal firm, divided by the number of years the person had worked prior to becoming CEO.

[4] Crossland et al. (2014) examine two main manifestations of strategic novelty: strategic dynamism (period-on-period change) and strategic distinctiveness (deviance from industry central tendencies). Strategic dynamism refers to the magnitude of change in a firm's allocation of resources and priorities over time (Miller, 1991; Wiersema & Bantel, 1992). Strategic distinctiveness (or strategic nonconformity) refers to how much a firm's profile differs from the profiles of other firms, or industry central tendencies, at any given point in time. It reflects the degree to which a firm adheres to, or conversely ignores, prevailing industry norms (Geletkanycz & Hambrick, 1997; Miller & Chen, 1996).

and the post-succession financial performance of the firm that they currently lead. They document a negative relation between prior CEO experience and the financial performance. Bragaw and Misangyi (2017) examine the value of prior CEO experience for the companies—as reflected in the firms' subsequent market-based performance. They find a negative relation between prior CEO experience and the market-based performance. The results above seem contradictory to the theories of managerial human capital which suggest that prior CEO experience should be beneficial to the new firm as the newly appointed CEO brings honed general management skills (Harris and Helfat, 1997; Bailey and Helfat, 2003; Murphy and Zabojnik, 2007). Bragaw and Misangyi (2017) explain the negative relation and argue that the job-specific experience may not help, but rather, interfere with the new job due to the change of context. CEOs tend to rely on fewer, more familiar information sources and become overly reliant on a small number of strategic actions that have previously proven to be successful for the firm. However, this will cause problems if the environment changes and the CEO sticks to actions that are no longer suitable for the external environment, which will ultimately drag down firm performance.

Based on existing studies, it can be concluded that post-succession firm performance is affected by successors' characteristics such as his or her origin, the demographic characteristics like age, gender, and educational background. The performance is also related to successor's functional background and industry experience. Specifically, there is evidence that the prior CEO experience of the new CEO affects firm performance in a negative way.

2.4.2 Studies in the Banking Sector

The banking literature on CEO characteristics and bank performance is quite limited. King et al. (2016) study the effect of educational background of bank CEO. They

document that both the level and quality of CEO's education attainment affect bank performance. A management education background which is gained from an MBA degree brings skills for CEOs to deal with larger and more complex banks and improves firm profitability. However, King et al. (2016)'s study is not based on a succession background. It looks at CEOs in general but not the newly appointed ones. Nguyen et al. (2015) examine the impact of the characteristics of newly appointed executive directors on the short-term market performance in US banks. They investigate the market value effect of several executive characteristics including age, gender, education and prior working experience. The result shows that age, education and prior work experience of executives create shareholder wealth, while gender has no impact on stock price. Although the study is conducted under an executive setting, it is an event study on the short-term market reactions to executive announcements. It indicates the market expectation towards executive appointment, but not the related effects brought by the new executives. In addition, the study is about the characteristics of executive directors, not the CEOs. Until now there is no study investigating how CEO successors' characteristics affect long-term bank performance post succession.

2.5 CEO Succession and New CEO Compensation Contract

An important issue related to CEO succession is how to set the compensation of newly appointed CEO. This section summarizes existing studies of the determinants of executive compensation in general, and the CEO compensation contract design of the new CEO.

2.5.1 The Determinants of Executive Compensation

Sparked by the surge in executive pay since the mid-1980s, academics have turned their eyes on the determinants of executive compensation. A lot of theories have been proposed.

One stream of researchers link the level of pay to firm size (Lucas Jr, 1978; Rosen, 1981; Rosen, 1982; Rosen, 1990; Gabaix and Landier, 2008; Tervio, 2008). They predict a positive cross-sectional correlation between firm size and the level of executive compensation. The equilibrium model developed by Gabaix and Landier (2008) suggests that the variation in compensation over time should be positively correlated with the increase in aggregate firm size because competition for talented managers raises the equilibrium level of pay when the sizes of all potential employers expand. The second set of theories relates executive compensation to managers' ability to extract rents (Bertrand and Mullainathan, 2001; Bebchuk and Fried, 2003; Kuhnen and Zwiebel, 2008). They argue that poor corporate governance allows managers to skim profits from the firm, thereby leading to the considerable increase in the level of CEO pay.

Beyond the two streams of research, some scholars have examined the influence of other stakeholders on executive compensation. For example, Core et al. (1999) find the measures of board and ownership structure explain a significant amount of cross-sectional variation in CEO compensation, after controlling for standard economic determinants of pay. The results suggest that CEOs earn greater compensation when governance structures are less effective. Core et al. (2008) investigate the press' role in monitoring and influencing executive compensation. They document that the negative press coverage is more strongly related to excess annual pay than to raw annual pay. However, there is no evidence that firms respond to negative press coverage by decreasing excess CEO compensation or increasing CEO turnover.

Finally, academics have associated the executive compensation with managerial attributes. An early study by Rose and Shepard (1994) has proposed the question why CEO of more diversified firms are paid more. Diversification may raise pay because the CEO's job requires higher ability or because it is associated with CEO entrenchment.

Their results support an ability model over an entrenchment explanation. The study also considers the impact of other CEO characteristics on compensation such as CEO age, tenure, whether the CEO is an outsider or not, and whether the CEO is a founder of the company. Given the prevalent trend that CEOs are receiving a large compensation package, some scholars try to detect why this happens. For example, Murphy and Zabojnik (2004) argue that CEO pay has risen because of the increasing importance of general managerial skills relative to firm-specific abilities. The study suggests that market forces and the composition of managerial skills are of first-order importance in determining the trends in CEO pay and turnover. Murphy and Zabojnik (2007) identify three trends in US corporate governance: the increase in pay levels for top executives, the increasing prevalence of appointing CEOs through external hiring rather than internal promotions, and the increased prevalence of hiring outside CEOs with prior CEO experience. They propose that these trends reflect a shift in the relative importance of "managerial ability" (CEO skills transferable across companies) and "firm-specific human capital" (valuable only within the organization). They build an equilibrium model and test the model using CEO pay and turnover data from 1970 to 2000. The results show that CEO compensation is higher for CEOs hired from outside their firm, and for CEOs in industries where outside hiring is prevalent. Cremers and Grinstein (2013) examine the extent to which variation in the market for CEO talent explains the large compensation packages given to CEOs in recent years. However, they find CEO compensation levels do not depend on whether CEO talent is firm-specific.

Graham et al. (2011) examine the role of firm and manager fixed effects in explaining executive compensation. The study is built on Bertrand and Schoar (2003) findings that manager fixed effects explain a significant extent of the heterogeneity in corporate decisions such as investment policy, financial policy, organizational strategy, and

performance. Graham et al. (2011) document that the majority of the variation in executive pay can be explained by these time-invariant firm and managerial effects. The substantial heterogeneities among firms and managers could result from differences in corporate culture and in managers' latent traits, such as innate ability, personality, risk aversion, etc., none of which can be easily observed or measured. They furthermore relate the manager fixed compensation effects to management styles in corporate policies and find that more aggressive managers appear to be remunerated (possibly for the additional risk they bear).

2.5.2 The Design of New CEO Compensation Contract

The CEO succession event gives the board opportunity to redesign CEO compensation contracts, thus CEO turnover is usually accompanied with a change in compensation. Relatively recent studies have started to look at what happens to CEO compensation following turnover and succession. Elsaid and Davidson (2009) compare the compensation packages of predecessor CEOs to that of the successors using a sample of 508 succession events in US firms. They find that successors earn more, on average, in total compensation than their predecessors, that total compensation of successor CEOs increases by nearly 70% over their predecessors. Apart from the level of compensation, they also examine the change in the structure of compensation contract. The results suggest that boards use the turnover event to redesign the compensation packages of their firm's CEOs. They use this opportunity to make the compensation package more dependent on performance. The successors' non-performance-related portion of compensation decreases, while the payment that is sensitive to performance increases. In addition, the increase in pay related to performance occurs more often in firms with stronger boards. Besides, the analysis suggests that outside successors have greater

bargaining power than insiders. Outside successors' contracts have relatively greater fixed salary, less pay-at-risk, and are not as strongly aligned with the predecessors' contracts.

Blackwell et al. (2007) examine the changes in CEO compensation structure and the impact on firm performance following CEO turnover. The results suggest that, compared to outgoing CEOs, incoming CEOs derive a significantly greater percentage of their compensation from option grants and new stock grants. The study analyses forced and voluntary turnovers separately. The voluntary turnover sample shows similar changes in compensation structure, while the forced turnover sample results suggest that new stock grants drive the significant increase in incentive compensation following turnover. Elsaid et al. (2009) study the CEO compensation structure following succession and how it relates to CEOs' career concerns. As the newly hired CEOs are likely to have some distance from retirement, they have greater career concerns. The study argues that for executives early in their career, performance-based pay may not be the optimal form of compensation, due to the presence of career concerns. They find evidence that although the stock market reacts favourably to succession announcements, it reacts less positively to successions in which the new CEO receives greater equity-based pay. The findings are consistent with the study by Gibbons and Murphy (1992).

Although the determinants of executive compensation have been discussed a lot, the study on new CEOs' initial compensation is quite limited. One perspective of existing studies is to associate new CEO compensation with firm risk. For example, Chang et al. (2016) investigate how ex ante financial distress risk affects new CEOs' compensation. Based on a sample of US firms, they find that financial distress risk affects compensation through two channels. First, new CEOs receive significantly more compensation when financial distress risk is higher. They receive a compensation premium for bearing this risk since CEOs experience large personal costs if the firm later becomes financially

distressed. Second, financial distress risk is associated with the incentives provided to new CEOs—the distress risk premium is driven by higher equity-based compensation. The third channel is that financial distress risk is positively associated with new CEOs' pay-risk sensitivity. On the whole, the analysis suggests that financial distress risk is an economically important determinant of new CEO compensation packages.

In contrast with Chang et al. (2016)'s study, Chen et al. (2018) find a negative relation between the total compensation of newly hired CEOs and financial distress risk in the UK. This negative impact is stronger in firms with a high fraction of bank debt, which suggests that banks play a monitoring role and influence initial CEO compensation packages in firms with high financial distress risk. In addition, the analysis documents that financial distress risk is negatively related to the fraction of equity-based compensation. The study explains the different result as: the two countries differ in the structure of credit markets, which can lead to different ways of incentivising executives when firms have high financial distress risk.

Chen (2015) examines the initial compensation of new CEOs hired in turnaround situations. They find that new CEOs hired in turnaround situations receive a higher level of compensation, particularly higher performance-based pay. Moreover, the pay premium will incentivize them to undertake retrenchment and restructuring turnaround initiatives. The study finds evidence that the pay premium positively interacts with CEO credentials, as measured by CEO prestige and industry experience, to influence the extent to which firms engage in such turnaround initiatives.

The empirical results of studies on initial CEO compensation have confirmed the influence of particular CEO and firm attributes in determining the initial compensation of the newly appointed CEO. For example, Chang et al. (2016)'s study shows that new CEO compensation is affected by CEOs' age, whether he/she is the chairman of the

board, firm performance and risk prior to the succession. The analysis of Chen (2015) suggests that initial compensation of the new CEO is related to firm size and CEO prestige, with the latter referring to prestigious working credentials or an outstanding educational background.

2.5.3 Evidence in Banks

CEO compensation in banks has also raised attention from academic circles. The literature shows that bank CEO compensation depends on stock return and accounting performance (Barro and Barro, 1990) as does the compensation of CEOs generally. However, the composition of CEO compensation in banks differs from CEOs of other industries. In particular, bank CEOs receive a smaller percentage of their total compensation in the form of options and stock than do CEOs in other industries (Houston and James, 1995; Adams and Mehran, 2003). In addition, a more recent study by Kaplan and Rauh (2009) shows that the financial industry has relatively more highly compensated individuals than nonfinancial industries. Several studies investigate the impact of deregulation and the greater competition on bank CEO compensation. They find that deregulation has led to greater pay-for-performance sensitivity of CEO pay at banks (Hubbard and Palia, 1995; Crawford et al., 1995), and contractual risk-taking incentives for CEOs have increased at large banks after deregulation.

Though much debate has taken place about bank CEO compensation, little attention has been paid to the compensation of newly appointed CEOs in the banking sector. An early study by Barro and Barro (1990) relates the level of compensation for new CEOs to bank assets, and find a positive relation. Apart from this study, I am not aware of any other study discussing the initial CEO compensation contract in banks.

2.6 The Trend of New CEO Compensation Contract in Banks

The level and structure of executive compensation has been a frequently debated topic among politicians, CEOs, and academics since the financial crisis of 2007-2009. During the financial crisis, excessive executive compensation became a focal point of criticism for a wide range of reasons, including providing perverse incentives for reckless management and excessive risk taking (Yang et al., 2014). This section summarizes the trend of new CEO compensation contracts in the banking sector over years, and provides some evidence on how it is affected by the recent financial crisis.

The statistics are based on a dataset of newly appointed CEOs in US BHCs from 1993 to 2017. The compensation data is obtained from the Standard and Poor's ExecuComp database. Although ExecuComp provides data since 1992, I drop this year because of the small number of observations. I identify CEOs by searching the title column for the string "CEO". I keep firm-year observations for firms with Standard Industry Classification (SIC) codes between 6000 to 6300, and exclude firms with SIC code 6099 (Functions Related to Depository Banking, not elsewhere classified), 6111 (Federal Credit Agencies), 6141 (Personal Credit Institutions), 6153 (Short-Term Business Credit Institutions, except Agricultural), 6159 (Miscellaneous Business Credit Institutions), 6163 (Loan Brokers), 6200 (Security & Commodity Brokers), 6211 (Security Brokers & Dealers), and 6282 (Investment Advice). In addition, I manually go through the list of firms with SIC code 6199 (Finance Services) and exclude Renn Fund Inc. I exclude these firms because they are not in the lending business. I identify a new CEO appointment to take place when the name of annual CEO changes from the previous year within one bank. The sample consists of 215 new CEO observations from 128 different banks.

Both the trend in total compensation and the structure of new CEOs' compensation are examined. The variables include:

(1) Total compensation: ExecuComp variable TDC1, including salary + bonus + other annual + restricted stock grants + LTIP (long term incentive plan) payouts + all other + value of option grants.

(2) Cash compensation: ExecuComp variable CASH

(3) Bonus compensation: ExecuComp variable BONUS

(4) CEO stock compensation: ExecuComp variable RSTKGRNT (Restricted stock grants) for year before 2006. ExecuComp variable STOCK_AWARDS_FV (Grant Date Fair Value of Stock Awarded Under) for year after 2006.

(5) CEO option compensation: ExecuComp variable OPTION_AWARDS_BLK (Options Granted - Compustat Black Scholes) for year before 2006. ExecuComp variable OPTION_AWARDS_FV (Grant Date Fair Value of Options Granted) for year after 2006.

Due to a major change in the definition of total compensation variable TDC1 in ExecuComp in 2006, I follow (Walker, 2011) and (Focke et al., 2017) and adjust TDC1 from its pre-2006 format to the new format. That is, before 2006, ExecuComp's data item TDC1 was supposed to capture the total compensation given to the CEO in that year, but, in fact, it did not measure the ex ante value of performance shares. Therefore, I first subtract the value of long-term incentive plans (ExecuComp variable LTIP), which measures the ex post value of performance shares from TDC1. Then, I 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, I use TDC1 as provided in ExecuComp.

Figure 2-1 presents the trend of new CEO compensation from 1993 to 2017. The analysis takes the mean value of total compensation in each year. The value has an overall upward trend before 1999. It surges in 1999 and reaches its peak in 2000. The average compensation then falls down sharply in 2001 and stays flat afterwards. There is a small peak in 2006 before the decline during the financial crisis.

[Insert Figure 2-1 here]

Figure 2-2 illustrates the changes in CEO Compensation structure by analysing the proportions of compensation components in total compensation. It shows that each of the compensation components fluctuates a lot over years. The salary compensation composes about 20% of the total compensation at the beginning of the sample period. It has several peaks and bottoms over years. The highest point happens in 2010, constituting over 50% of the total compensation. The bonus compensation comprises 20% of the total compensation in 1993 and climbs up to 30% in 1996. It declines after 1996, staying at around 10% between 2000 and 2002. The figure rises again after 2002, getting to its second peak in 2004, and drops afterwards. It stays below 10% from 2006 to 2014, and surges in 2015. Then it falls down again till the end of sample period.

There is overall an upward trend in stock compensation over years, indicating that banks give a higher proportion of stock compensation to newly appointed CEOs. The figure starts from zero in 1993 and increases to over 30% before the financial crisis. It has a dip during the crisis and slowly grows again afterwards, getting to its peak at about 45% in 2016. The proportion of option to total compensation maintains a higher level before financial crisis. There is an upward trend from 1992 to 2000 with some small fluctuations. The figure reaches its peak between 2000 and 2002, comprising about half of the total

compensation. It plunges from 2002 and starts to raise again after 2004 until the financial crisis. It falls down rapidly from 2007 and gets to its bottom in 2010. The figure stays at a low level afterwards, composing less than 10% of the compensation package

[Insert Figure 2-2 here]

The recent financial crisis is a big shock to the banking industry. Thus I look at how new CEOs' compensation is affected by the recent financial crisis. The analysis defines years 2007–2009 as the within-crisis period. The years before 2006 is defined as the pre-crisis period, and the years in and after 2010 as the post-crisis period. In the first step, a t-test is conducted to compare the new CEO compensation features for the pre-crisis period and the within/post-crisis period. I look at the level of total compensation, levels of each compensation components, and the proportion of each compensation components to total compensation. Table 2-1 presents the results.

The results in Table 2-1 suggest that there is a significant difference in the level of total compensation, the level of compensation components, as well as the fraction of each compensation component in the two periods. New CEOs in banks receive a smaller compensation package during and post the financial crisis. The value of total compensation decreases by 4263, 319 US dollars[5] on average. By analysing the structure of compensation, it shows that the decrease in total compensation is largely due to a decline in bonus compensation and option grants. By contrast, the level of salary compensation and stock grants have increased after the crisis. As for the proportion of compensation components, the results suggest that changes in the proportion of each component follow a similar trend as with the level of components. The proportion of

[5] The compensation data presented in the table is in thousands.

bonus and option in total compensation decrease significantly during and after the crisis, while the proportion of salary and stock compensation have increased significantly.

[Insert Table 2-1 here]

Figure 2-3 further illustrates the changes of new CEO compensation contracts pre-, during and post-financial crisis. It compares the distribution of new CEOs' compensation components in three periods. The figure shows that salary and stock compensation have increased during the financial crisis and keep rising in the post-crisis period. By contrast, the proportion of bonus and option in total compensation have decreased during the crisis and continue to decline after the crisis.

[Insert Figure 2-3 here]

2.7 Conclusions

CEO selection is one of the most important decisions in organizations, and has received more and more attention in the banking sector after the recent financial crisis. Existing studies in CEO succession have undertaken a lot of work from a variety of aspects; namely, CEO succession types, the antecedents of CEO succession, consequences of CEO succession, and the contingency factors in CEO succession. However, existing studies are mostly limited to non-financial firms, with a lack of attention being paid to the topic in the banking sector. The banking studies mainly focus on the question how CEO turnover happens, but not on the consequences of CEO succession.

The characteristics of the CEO successor are one of the key factors leading to firm performance change. Existing studies have documented that post-succession performance is affected by CEO origin, age, gender, and educational background. The performance is also related to new CEO functional background, industry experience and

specifically, the prior experience as a former CEO. Again, the banking literature on CEO characteristics and bank performance is quite limited, which gives me the motivation to explore this question under the succession framework. Particularly, the first empirical chapter of the thesis examines how bank performance post succession is affected by different types of prior CEO experience of the newly appointed CEO.

CEO succession events are usually accompanied with a change in CEO compensation, since the CEO succession event gives the board an opportunity to redesign CEO compensation contracts. Recent studies have found that both the level and structure of CEO compensation change following turnover events. The initial compensation of newly appointed CEO is found to be related to firms' financial distress risk and particular CEO attributes such as CEO age, whether he/she is the chairman of the board, and CEO prestige. However, the studies are limited to non-financial firms. Evidence on new CEO compensation contracts in the banking sector is scarce. To this end, the second empirical chapter of the thesis examines the compensation premium of the new CEO post-promotion. Particularly, the chapter focuses on internal CEO successions and investigates whether CEO tournaments with certain features result in a better reward to the winner.

This chapter also provides an overview of the trend in new CEO compensation contract in US BHCs from 1993 to 2017, and how it is affected by the recent financial crisis. The statistics suggest that new CEOs in banks receive a smaller compensation package after the crisis. The proportions of salary and stock compensation have increased significantly during and after the crisis, while the proportions of bonus compensation and option grants have decreased significantly.

2.8 Figures and Tables

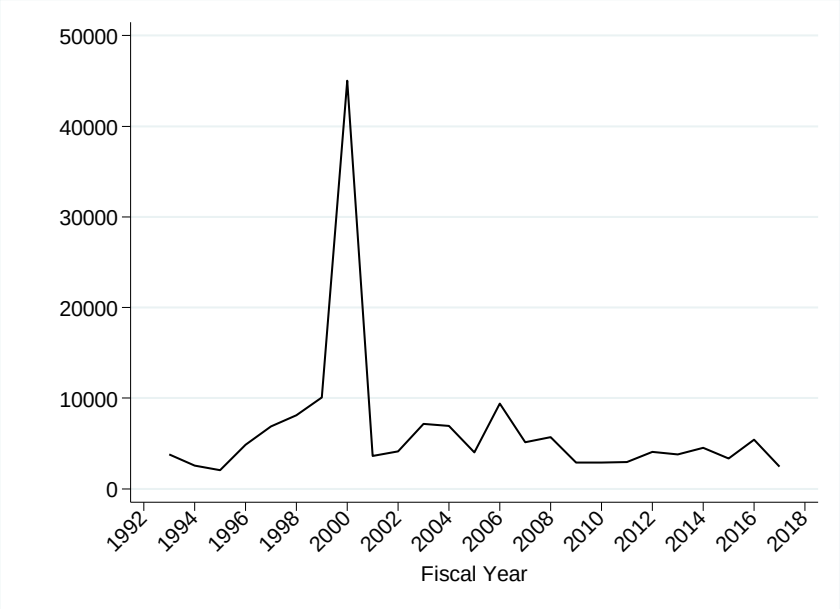

Figure 2-1: New CEOs' Total Compensation over Years

Note: The figure presents total compensation of newly appointed bank CEOs from year 1993 to 2017. The compensation is in thousands of USD.

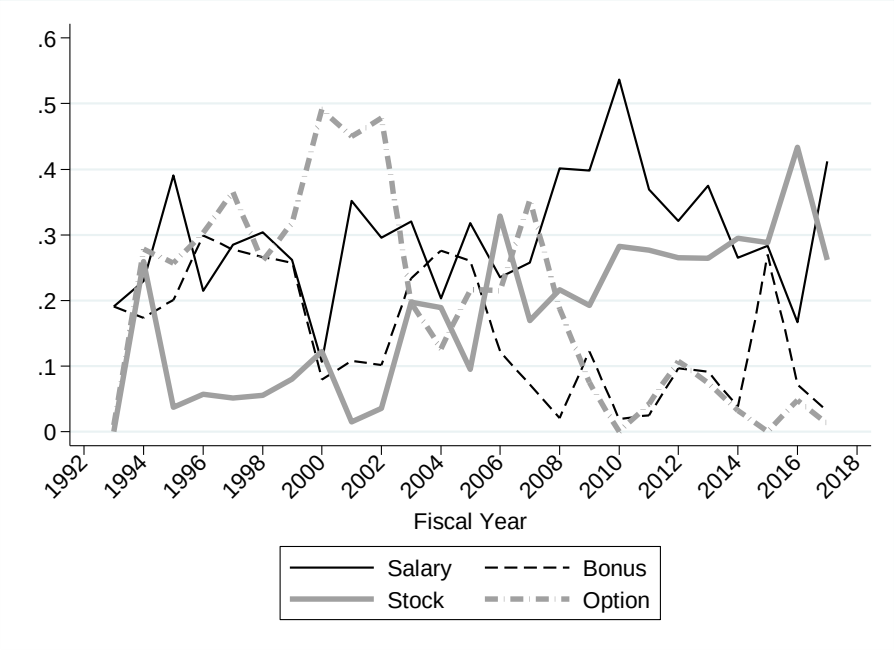

Figure 2-2: Proportions of New CEOs' Compensation Components over Years

Note: The figure presents proportions of compensation components of newly appointed bank CEOs from year 1993 to 2017. It reports the proportions of salary, bonus, stock and option in total compensation.

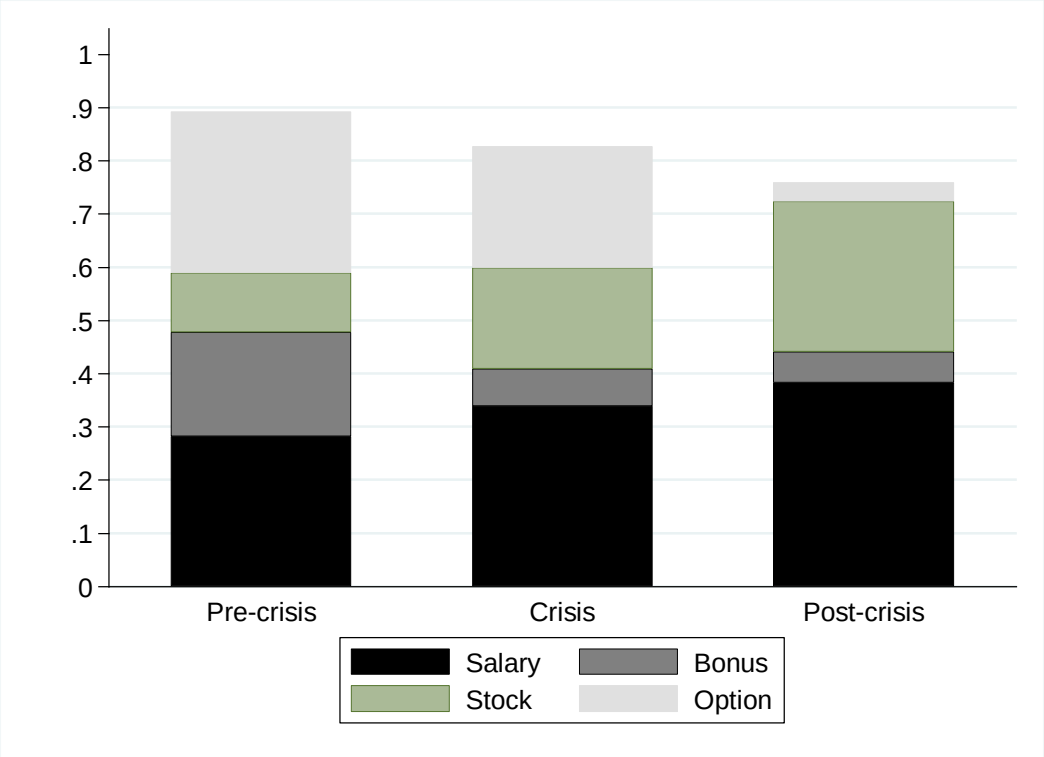

Figure 2-3: Distribution of New CEOs' Compensation Components Pre-, Within- and Post-Crisis

Note: The figure presents the distribution of compensation components of newly appointed bank CEOs across different time periods. It reports the proportions of salary, bonus, stock and option in total compensation. The crisis period is years 2007–2009. The years before 2006 are defined as the pre-crisis period, and the years in and after 2010 as the post-crisis period.

Table 2-1: Comparison of New CEOs' Compensation Contracts Pre, Within- and Post-Crisis

The table compares the level and proportion of compensation components of newly appointed bank CEOs in the pre-crisis period and within/post-crisis period. It reports the level and proportion of salary, bonus, stock and option in total compensation. The crisis period is years 2007–2009. The years before 2006 are defined as the pre-crisis period, and the years in and after 2010 as the post-crisis period. The level of compensation components is in thousands of USD. TDC1 is the level of total compensation, Salary is the level of salary compensation. Bonus is the level of bonus compensation. Stock is the level of stock compensation. Option is the level of option compensation. Salary_proportion is the proportion of salary compensation in total compensation. Bonus_proportion is the proportion of bonus compensation in total compensation. Stock_proportion is the proportion of stock compensation in total compensation. Option_proportion is the proportion of option compensation in total compensation.

	Pre-crisis			Within/Post-crisis			Difference	
	N	Mean	Median	N	Mean	Median	Mean	Median
TDC1	100	8146.965	2570.716	113	3883.646	2039.462	-4263.319*	-531.254
Salary	101	655.471	598.000	114	768.727	717.042	113.255*	119.042**
Bonus	101	1344.435	371.709	114	263.736	0.000	-1080.699***	-371.709***
Stock	101	1237.988	0.000	113	1436.813	477.424	198.825	477.424***
Option	100	4415.092	556.498	113	572.803	0.000	-3842.289*	-556.498***
Salary_proportion	100	0.281	0.228	113	0.368	0.290	0.087***	0.062***
Bonus_proportion	100	0.197	0.178	113	0.062	0.000	-0.134***	-0.178***
Stock_proportion	100	0.112	0.000	113	0.252	0.205	0.140***	0.205***
Option_proportion	100	0.302	0.249	113	0.099	0.000	-0.203***	-0.249***

2.9 Appendix A

A.1: CEO Succession Studies in the Banking Sector

Author(s) (year)	Research Topic	Methodology	Key findings
Barro and Barro (1990)	Probability of CEO turnover	Mixed method Sample of 83 large US commercial banks Period: 1982-1987	The probability of CEO departure rises with age and reaches the highest point around age 65. There is a significant negative relation between CEO turnover probability and stock performance, but no significant relation between accounting earnings and subsequent CEO turnover.
Houston and James (1993)	CEO turnover in poorly-performing banks and nonbank firms	Quantitative method Sample of 262 firm-years Period: 1980-1989	The frequency of management turnover among poorly-performing commercial banks is similar to the frequency of management turnover among poorly-performing nonbank firms. Regulatory intervention is an important determinant of management turnover in banking and more frequently results in management turnover than creditor intervention in nonbanking firms. The elasticity of compensation with respect to common stock returns is significantly higher in banking than in other industries.
Hubbard and Palia (1995)	CEO compensation and CEO turnover post deregulation	Quantitative method Sample of 147 US banks with the Securities and Exchange Commission Period: 1980-1989	CEO pay is positively related with bank performance (measured by shareholder wealth). The pay-performance relationship is stronger in competitive markets than in markets where interstate banking is not permitted. CEO turnover increases substantially after deregulation.
Houston and James (1995)	CEO compensation and bank risk	Quantitative method Sample of CEOs of 134 US commercial banks Period: 1980-1989	On average, bank CEOs receive less cash compensation, are less likely to participate in a stock option plan, hold fewer stock options, and receive a smaller proportion of stocks and options in their total compensation than do CEOs in other industries. CEO turnover rate is virtually identical for banks and nonbanks. And there is no significant difference in the sensitivity of CEO turnover to firm performance between banks and nonbanks.

A.1 (continued)

Author(s) (year)	Research Topic	Methodology	Key findings
Webb (2008)	The effects of monitoring intensity on CEO compensation and CEO turnover	Quantitative method Sample of CEOs of 107 banks Period: 1992-2004	Monitoring intensity has a great influence on compensation levels, pay-for-performance sensitivity, and CEO turnover. The relationship between market performance and turnover is weaker for older CEOs than for young bank CEOs.
Palvia (2011)	The impact of performance, board independence, and regulatory evaluations on CEO Turnover.	Quantitative method Sample of 3327 bank-year observations, 169 CEO turnover Period: 2003-2004, 2004-2005, 2006-2006	Weak performance and greater board independence are positively related to CEO turnover. In addition, poor regulatory ratings and recent rating downgrades have a positive impact on turnover. The relation between CEO turnover and weak regulatory evaluations is only significant for banks with more independent boards.
Schaeck et al. (2011)	Mechanism of CEO turnover and Performance Effect	Quantitative method Sample of unlisted community bank in US, 59 turnover banks and 219 non-turnover banks as control group. Period: 1992-2007	There is evidence of shareholder discipline. The likelihood of executive dismissals is positively related to bank risk. However, this relation is weaker when there is awareness of distress from regulators, or on condition that debt holders have a larger stake in the bank. There is no evidence that replacing executives improves performance.
Hayes et al. (2015)	The relation between bank CEO turnover and performance, and whether this relation has been affected by the banking deregulation.	Quantitative method Sample of 15,497 firm-year observations, with 1,442 CEO turnovers and 14,055 firm-year observations in the control sample. Period: 1974-2005	Bank CEO turnover is significantly less sensitive to performance in the post-deregulation period. The decrease in turnover-performance sensitivity is more significant in large banks, where CEOs can take better advantages of growth opportunities, and in banks that adopt more aggressive business policies after deregulation. Incentives derived from bank CEO turnover and CEO compensation are complementary.
Nguyen et al. (2015)	The characteristics of executive directors and the market performance of US banks	Quantitative method Sample of 252 executive appointment announcements by 145 US banks Period: 1999-2011	Age, education, and the prior work experience of executives create shareholder wealth. In comparison, gender is not related to market performance. The wealth effects of executive characteristics are moderated by the level of influence of newly appointed executives. The magnitude of the effect decreases under independent boards and increases if the executive is also appointed as CEO.

A.1 (continued)

Author(s) (year)	Research Topic	Methodology	Key findings
Srivastav et al. (2017)	The probability of forced CEO turnover and idiosyncratic tail risk.	Quantitative method Sample of 1994 observations in 261 banks in 46 countries Period: 2004-2013	The probability of a forced CEO turnover in large banks is positively associated with idiosyncratic tail risk. The effect of idiosyncratic tail risk on forced turnover is stronger in less concentrated banking industries and when stakeholders have more to lose from the risk. Overall, the exposure to idiosyncratic tail risk offers valuable information to assess the quality of the choices made by CEOs.

Chapter 3 Prior CEO Experience and Changes in Bank Profitability Post-CEO Succession

3.1 Introduction

Selecting a CEO is one of the most important hiring events in organizations. Banks are more complex institutions and require employees with special skills (Philippon and Reshef, 2009), thus selecting the right CEO could give banks a significant competitive edge. Some regulators have attributed the recent crisis to bank CEOs not having the necessary skills, raising the question on how to select an appropriate CEO in the banking industry.

Over the past decade, there has been an important new trend in CEO succession with companies increasingly hiring executives with experience as former CEOs to the CEO position (Murphy and Zabojnik, 2007; Karlsson and Neilson, 2009). This trend may be driven by organizations being unwilling to take the risk of appointing individuals with no previous leadership-specific experience (Charan, 2005). This chapter focuses on newly appointed CEOs in the banking sector with the purpose to understand whether different forms of prior CEO experience are associated with the change in bank profitability in the post-succession period. To conduct the analysis, I carefully construct a unique hand-collected dataset that captures the information of 147 CEO succession events in US BHCs from 1993 to 2015.

Several recent studies have explored the value of prior CEO experience on firm performance in non-financial industries (Elsaid et al., 2011; Hamori and Koyuncu, 2015; Bragaw and Misangyi, 2017). However, they have missed the fact that CEO experience may be gained in different contexts (Quińones et al., 1995). My analysis in this chapter looks at this issue and investigates prior CEO experience obtained in different contexts.

Critical to the analysis is the measurement of different forms of prior CEO experience that might characterize the professional profile of the newly appointed CEO. As suggested by Quińones et al. (1995), the appropriate measurement mode for job-specific experience is the time spent on the job. My primary measure of prior CEO experience is to capture the experience as the number of years that the new CEO spent in prior CEO positions. **CEO_years** is defined as the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current CEO position.

While previous studies suggest that the context in which prior CEO experience was gained affects the performance consequence (Bragaw and Misangyi, 2017), I argue that the place where the CEO experience is obtained matters. Accordingly, I classify prior CEO experience into two types based on which organization the experience is obtained from: prior CEO experience gained inside the bank group where appointment occurs and prior CEO experience gained outside this bank group. **CEO_years_inside** is defined as the logarithm of total number of years the successor worked as a CEO within the bank group before the appointment. **CEO_years_outside** is the logarithm of total number of years he/she worked as a CEO outside the bank group prior to the current CEO position. On top of the above measures, I construct two alternative measures for prior CEO experience. One measure is the number of CEO positions the new CEO has held before the appointment. Another measure is a dummy to indicate whether the CEO has former CEO experience or not. The results of the analysis have shown additional robustness across different measures.

The empirical analysis starts by examining the relation between prior CEO experience and the (industry-adjusted) profitability changes surrounding the succession. The results indicate that prior CEO experience is positively related to bank profitability changes in

the post-succession period—longer years of prior CEO experience is associated with a higher level of profitability improvement post-turnover. This result contrasts with the findings in previous studies based on the influence on performance played by the previous experience of the newly appointed CEO as a CEO in different firms and on samples of non-financial firms (Elsaid et al., 2011; Hamori and Koyuncu, 2015). They generally document a negative relationship between prior CEO experience and firms' accounting performance.

The study then proceeds by investigating whether the context where the prior CEO experience is obtained matters. Essentially, I look at whether there is any different role played by the experience gained inside or outside the bank group. Previous studies have documented that the beneficial effect of CEO's prior experience on firm performance is contingent on the context in which such skills are developed (Bragaw and Misangyi, 2017), and there is evidence that insider CEO and outsider CEOs have different impacts on firm performance (Huson et al., 2004; Zajac, 1990). Thus it would be interesting to test whether successors' prior CEO experience obtained within the bank or outside the bank affects bank performance in different ways. The results show that there is a significant positive relation between outside CEO experience and the profitability change of the current bank. However, no effect is found for the experience gained inside the bank. The analysis indicates that the positive performance effect is mainly driven by the outside experience, that successors with prior CEO experience in a different organization bring better skill sets that enhance bank profitability. Compared with the baseline model where I just look at prior CEO experience in general, the results become stronger empirically after differentiating inside and outside CEO experience. That is, I find the economic impact of outside CEO experience on profitability change is higher than prior CEO experience in general. This suggests that generally assuming that all types of prior CEO

experience are important can mask the contribution of inside/outside CEO experience.

I replicate the above analysis with alternative CEO experience measures: the number of positions measure and the dummy measure. The results are consistent across different measures. I also examine the performance effect in a longer post-succession period and find a continuous positive relation between prior CEO experience and bank profitability change in up to 5 years after the turnover event. This suggests that the new CEO's prior CEO experience improves long-term bank performance.

The results so far have shown a relation between prior CEO experience and the bank's accounting performance post-succession. However, the outcome of CEO succession can be driven by the succession context. For example, if the succession is a forced turnover due to poor performance, the successor is more likely to be charged with a mandate to initiate strategic change to improve firm performance. In this situation, it is expected that there is larger change in firm performance post-succession. In contrast, if the successor is appointed following the predecessor's ordinary retirement rather than dismissal, the successor's mandate is more likely to maintain strategic continuity (Brady and Helmich, 1984; Datta and Rajagopalan, 1998; Friedman and Singh, 1989; Shen and Cannella, 2002b). In this case, there should be less performance change after the succession Thus whether the CEO succession is a forced vs. voluntary turnover, and the financial status pre-turnover, are much related to the performance outcome post-succession. In addition, there is a concern that endogenous matching between CEOs and firms is driving the results. For instance, banks with bad financial status might be more willing to appoint a more experienced CEO to enhance profitability. In this sense, the pre-turnover bank performance may drive the results in the analysis.

To address the above concern, I control for the succession context in my empirical analysis. Due to the data constraint, I am not able to evaluate the impact of forced vs.

voluntary turnover directly. However, since a forced CEO turnover is usually associated with poor firm performance, I use pre-turnover bank performance as a proxy and control for poorly-performing banks in the empirical tests. The results show that there is higher level of profitability improvement in poorly-performing banks. Meanwhile, the positive effect of outside CEO experience on bank profitability change still holds. My further analysis with an interaction term between outside CEO experience and "bad" banks indicates that prior CEO experience helps to improve performance only in banks that performed badly before the CEO turnover. The empirical results support my hypothesis that the performance effect post-succession is not only related to the successor's prior CEO experience but also depends on the succession context.

To identify the channel through which prior CEO experience improves the bank profitability, I first investigate whether the performance improvement is due to any change in banks' business policy. By analysing the revenue and cost, I find that prior CEO experience outside the bank is not related to the change in operating revenues. By contrast, it is negatively associated with the change in banks' cost-income ratio. It indicates that successors with outside CEO experience are more likely to cut down operating expenses, thus bring an improvement in bank profitability. Specifically, I find the cost reduction is related to the decrease in Loan Loss Provision (LLP), an important part of bank operating expenses.

Existing studies in non-financial firms suggest that newly appointed CEOs tend to engage in greater income-increasing manipulation in the early years of their tenure due to career concerns (Fama, 1980; Holmstrom, 1982; Gibbons and Murphy, 1992; Hermalin and Weisbach, 1998; Holmström, 1999). In addition, CEOs recruited from outside the company are more likely to manipulate firm earnings than CEOs promoted from inside, because they have a stronger desire to demonstrate superior performance immediately

after taking the helm (Kuang et al., 2014). I conjecture that newly appointed CEOs in banks would manipulate reported earnings in order to boost profitability, especially for outsider CEOs who are more eager to show their ability and build a good reputation. Following previous banking studies, I proxy earnings manipulation in banks with discretionary loan loss provision (LLP) (Beatty et al., 2002; Bushman and Williams, 2012; Beatty and Liao, 2014; Cohen et al., 2014; Jiang et al., 2016). The empirical results show there is a negative relation between outside CEO experience and the change in discretionary LLP. On the other hand, no relation is found between prior CEO experience and the non-discretionary part of LLP. The results show that the improvement in bank profitability is an outcome of new CEOs' earnings manipulation by understating operating expenses.

The last step of the analysis examines whether experienced CEOs achieve higher profitability from risk-taking activities. The positive performance consequence does not rule out the possibility that the profitability improvement is motivated by bad choices by the newly appointed CEO. For instance, to boost profitability, the new CEO might engage in aggressive risk-taking. To verify this speculation, I analyse whether prior CEO experience affects the change in bank risk. Two risk measures are constructed. The first measure is the change in earnings volatility pre- and post-CEO turnover. The second measure is the change in Tier 1 capital ratio, which represents a bank's leverage risk. There is no relation found between prior CEO experience and the change in any risk measure. In conclusion, the results indicate that the improvement of bank profitability is not due to the new CEO's risk-taking behaviour.

The chapter provides several contributions to the existing literature. First, the study extends the limited number of studies on CEO succession in banks. Although CEO succession has been studied for decades, existing studies are mostly limited to non-

financial firms and there is a lack of attention given to the banking sector. The existing banking literature mainly focuses on the question as to what drives CEO turnover (Webb, 2008; Palvia, 2011; Schaeck et al., 2011). However, few studies look at the effect of CEO characteristics of the newly appointed CEO. Till now I find only one study on executive turnover and executive characteristics in the banking industry by Nguyen et al. (2015). The study examines the impact of executive director characteristics on short-term market performance in US banks. My study is quite different from theirs. Nguyen et al. (2015) study executive directors and my study focuses on CEOs. The study is an event study on the stock market reactions to appointment announcements. It indicates the market expectation towards the appointment but is not related to the new executives' business policies because the new executives are not even in position. Instead, my study investigates the changes in bank accounting performance in a longer post-succession period. Previous studies have suggested that realized long-run outcomes of firms' public events need not be consistent with short-run market reactions, and the initial reaction of a semi-strong efficient market may be an inefficient long-run predictor of firm value (Delong and Deyoung, 2007). To the best of my knowledge, this study is the first to examine the long-term performance effect of CEO succession in the banking sector.

Second, the chapter contributes to the stream of research on the importance of CEO characteristics for firm performance (Adams et al., 2005; Bennedsen et al., 2006; Kaplan et al., 2012; Custódio and Metzger, 2013), and contributes to the studies on CEO experience (Elsaid et al., 2011; Hamori and Koyuncu, 2015; Bragaw and Misangyi, 2017). I extend the definition of "prior CEO experience" in a banking context, accounting for not only the experience as a top CEO but also the experience as a subsidiary/division leader. My study documents an opposite result to the related studies. While previous studies in CEO experience found a negative relation between prior CEO experience and

firms' accounting performance (Elsaid et al., 2011; Hamori and Koyuncu, 2015), my analysis supports the hypothesis that prior CEO experience improves bank profitability. Moreover, the study differentiates inside and outside CEO experience. I find that generally assuming all types of prior CEO experience are important, as previous studies did, can mask the contribution of inside/outside CEO experience.

Furthermore, the chapter is a good supplement to the research on earnings management in banks. Although banking studies have investigated earnings management in many aspects, for instance, earnings management and earnings decline (Beatty et al., 2002), the relation between earnings manipulation and bank stock return (Kanagaretnam et al., 2009), bank earnings management and tail risk (Cohen et al., 2014), earnings management and discipline of banks' risk-taking (Bushman and Williams, 2012), no study examines banks' earnings management by newly appointed CEOs and whether it is related to specific CEO characteristics. By studying the features of bank earnings management surrounding CEO turnover event, I find evidence that new CEOs manipulate earnings in order to boost bank profitability in the post-succession period, and it is more likely to happen for successors with outside CEO experience. This could be a new dimension that future studies can explore regarding CEO earnings management.

The rest of this chapter is organized as follows. Section 2 summarizes the existing literature and develops hypotheses. Section 3 describes the data and variables. Section 4 discusses the methodology and empirical results. Section 5 gives conclusions.

3.2 Literature Review and Hypotheses Development

3.2.1 Prior CEO Experience and Firm Performance

As the CEO is the top position of a company and requires specific skills, it is reasonable that the previous experience of a CEO matters because of the acquired human capital and the enhanced understanding in managing the firm, and in particular, if the

experience comes from a similar position before taking the helm. Several recent studies started to look at whether a CEO's experience as a prior CEO adds value to firm performance. In general, they document a negative relation between prior CEO experience and firm performance. Elsaid et al. (2011) distinguish outside CEO successors between "exCEOs" and "non-exCEOs" based on whether they have previous CEO experience or not. They find that the stock market reacts more positively to the appointment of an exCEO. However, firms with exCEO appointment have worse financial performance after the succession. Hamori and Koyuncu (2015) also document a negative relation between prior CEO experience and the firm's accounting performance. Bragaw and Misangyi (2017) find a negative relation between prior CEO experience and the market-based performance. The results seem contradictory to the theories of managerial human capital which suggest that prior CEO experience should be beneficial to the new firm as the newly appointed CEO brings honed general management skills (Harris and Helfat, 1997; Bailey and Helfat, 2003; Murphy and Zabojnik, 2007). Bragaw and Misangyi (2017) explain the negative relation as that—the job-specific experience may not help, but rather, interfere with the new job due to the change of context. They argue that CEOs tend to rely on fewer, more familiar information sources and become overly reliant on a small number of strategic actions that have previously proven to be successful for the firm. However, this will cause problems if the environment changes and the CEO sticks to actions that are no longer suitable for the external environment, which will ultimately drag down firm performance.

Given the evidence that prior CEO experience affects performance in non-financial firms, I conjecture that this also applies to banks. Different with other firms, many banks are conglomerates with a number of subsidiaries and various market divisions. Previous CEO roles in subsidiaries or market divisions can also have impact on their current

positions. Thus, I extend the boundary of prior CEO experience by including all these experience in my analysis. Compared with non-financial firms, banks are complex institutions and require managers with special knowledge and skill sets (Philippon and Reshef, 2009). The job-specific experience from prior CEO positions can bring forward some valuable skills to the current position. In addition, banks are similar in the nature of business. The banks in my sample are all traditional commercial banks which focus on the lending business. Thus I conjecture that the skills and experience obtained from a similar position are easier to be transferred to the new bank. Although they differ in size, age and capital structure, I have controlled for these factors in my empirical analysis. Based on the above reasoning it is very likely that a successor's prior CEO experience has a positive effect on bank profitability change post-succession. The first hypothesis is proposed:

Hypothesis 1: After controlling for other factors, a CEO's prior CEO experience is positively associated with the change in bank profitability post-CEO succession.

3.2.2 Firm Performance and Where the Prior CEO Experience is Gained

The prior CEO experience can be gained in quite different contexts and this can matter for firm performance. Along these lines, Bragaw and Misangyi (2017) contend that the beneficial effect of prior CEO experience on market performance is contingent on the context in which such skills are developed. They document that when CEOs gain their experience in a dynamic industry, it will ameliorate the negative effect such experience have on subsequent market-based performance.

I argue that an important perspective regarding the context is whether the prior CEO experience is obtained from inside or outside the company. As large commercial banks are normally operated as bank groups, prior CEO experience of a bank CEO can be

distinguished as prior CEO experience gained inside the bank group, and prior CEO experience gained outside the bank group.

Although no study has analysed the context of prior CEO experience in terms of inside or outside the firm, there have been extensive studies on the origin of new CEOs. Existing studies in the succession area have grouped CEO turnover as internal and external successions based on the origin of the new CEO. The CEO is an insider if he or she is appointed from the same company, and an outsider if the CEO has been employed at the firm for one year or less at the time of the succession (Parrino, 1997; Huson et al., 2001). Earlier studies have done a lot of work regarding how CEO origin affects the firm's accounting performance. However, they haven't reached any consensus. For instance, Huson et al. (2004) find a positive relation between outside appointment and firms' operating performance. On the contrary, Zajac (1990) documents that firms appointing insider CEOs have better profitability after succession events. There are also studies showing a mixed consequence of outside succession (Davidson et al., 1990; Davidson III et al., 2002; Bailey and Helfat, 2003).

There is a trend that companies appear to have a growing appetite for hiring outside CEOs, particularly those who have prior experience as a CEO (Murphy and Zabojnik, 2007; Elsaid et al., 2011). These trends reflect a shift in the relative importance of "general managerial ability" (managerial skills critical in leading a complex modern corporation but not specific to any organization) and "firm-specific managerial ability" (skills, knowledge, contacts, and experience valuable only within the organization)(Murphy and Zabojnik, 2007). It is assumed that when firms hire outsider CEOs, they choose candidates with high general skills. Similarly, insider CEOs are more likely to have high firm-specific skills (Palomino and Peyrache, 2013). Existing studies on generalists and specialists find

evidence that generalist CEOs get higher payment than their counterparts (Custódio et al., 2013) and are associated with higher expected returns (Mishra, 2014).

My study in this chapter aims to investigate whether banks' accounting performance post-succession is affected by the context where prior CEO experience is obtained—whether the experience is obtained from inside or outside the bank. To be noticed, the context where the prior CEO experience is obtained and the origin of the CEO are two different but related concepts. CEO origin describes all the CEOs and distinguishes between those hired from inside the company and outside the company. By contrast, the context where the prior CEO experience is obtained focuses on only those CEOs who have prior CEO experience, and examine whether the experience is gained within or outside the bank. However, there are some links between the two concepts. By conjecture, a newly appointed CEO with prior CEO experience obtained within the bank is highly possible to be an insider at the time of the appointment. Likewise, there is a high possibility that a new CEO with prior CEO experience gained outside the bank is an outsider at the time of the appointment. My sample (as explained in the next section) confirms the overlap and inconsistency of the two concepts. As the results regarding the performance effect of CEO origins remain blurred, and there is lack of evidence found in CEO experience studies, it is still an open question how bank profitability is affected by where the prior CEO experience is obtained. Thus, I make two alternative hypotheses regarding the relationship between two types of prior CEO experience and the change in bank profitability:

Hypothesis 2a: After controlling for other factors, prior CEO experience gained inside the bank is positively associated with the change in bank profitability post-CEO succession.

Hypothesis 2b: After controlling for other factors, prior CEO experience gained outside the bank is positively associated with the change in bank profitability post-CEO succession.

3.2.3 The Succession Context and Performance Effect

The outcome of CEO succession can be driven by the succession context. As noted by Finkelstein et al. (2009), it is not the event of CEO succession per se, but the succession context, that affects post-succession firm performance. The succession type is an important context that may determine the succession outcome through strategic change or strategic continuity. For example, according to power circulation theory (Ocasio, 1994; Ocasio and Kim, 1999), a contender succession coincides with a mandate for strategic change. In this situation, the succession reflects a successful internal power contest against the CEO, and the successor is a contending executive who has won the support and approval of the board of directors. He/she is more likely to be charged with a mandate to initiate strategic change, rather than a mandate to maintain strategic continuity. In contrast, if an inside successor is appointed following the predecessor's ordinary retirement rather than dismissal, the successor's mandate is more likely to maintain strategic continuity (Brady and Helmich, 1984; Datta and Rajagopalan, 1998; Friedman and Singh, 1989; Shen and Cannella, 2002b). In other words, a forced turnover (CEO dismissal) is more likely to be followed with strategic change, while a voluntary turnover (CEO retirement) is more likely to be followed with strategic continuity.

Existing studies have shown a negative relation between firm performance and CEO turnover. There is an increased likelihood of CEO turnover following poor firm performance (Coughlan and Schmidt, 1985; Warner et al., 1988; Weisbach, 1988; Parrino, 1997; Huson et al., 2004). Poor performance typically makes organizations more open to change in the status quo, and under such conditions, the board and other stakeholders are more likely to urge the changes be made (Boeker, 1989). If a CEO is forced out due to poor performance, the board would expect the new CEO initiate strategic changes to improve firm performance. Huson et al. (2004) find evidence that the change in firm

performance preceding forced turnover is larger in absolute value than that preceding voluntary turnovers.

Based on the above analysis, the succession context, specifically, whether the succession is forced or voluntary turnover, is a non-negligible factor that affects the level of firm performance change post-succession through strategic change or continuity. Due to the data availability, I am not able to access the data whether the succession is forced or voluntary. However, since a forced CEO turnover is usually associated with poor firm performance, I use pre-turnover bank performance as a proxy for forced turnover vs. voluntary turnover. When the bank is performing badly, a forced turnover is more likely to happen and the board is more likely to urge strategic changes, which may bring greater improvement in bank performance. To empirically test whether there is a link between pre-turnover bank performance and the succession outcome, I propose that:

Hypothesis 3: After controlling for other factors, poorly-performing banks are associated with greater changes in bank profitability post-CEO succession.

3.3 Data and Variables

3.3.1 Sample and Data

This analysis is based on new CEO appointments in large, publicly traded US BHCs between 1993 and 2015[8]. I use ExecuComp as the starting point to form the sample. Although ExecuComp provides data since 1992, I drop this year because of the small number of observations. Following Fahlenbrach and Stulz (2011)'s method, I download firm-year observations for firms with Standard Industry Classification (SIC) codes

[8] I choose year 2015 as the end of sample period because the accounting data is available up to 2017, and the primary analysis requires accounting information for two years post-CEO succession. Thus, CEO succession events after 2015 are not included.

between 6000 and 6300 from year 1993 to 2015, and exclude firms with SIC code 6099 (Functions Related to Depository Banking, not elsewhere classified), 6111 (Federal Credit Agencies), 6141 (Personal Credit Institutions), 6153 (Short-Term Business Credit Institutions, except Agricultural), 6159 (Miscellaneous Business Credit Institutions), 6163 (Loan Brokers), 6200 (Security & Commodity Brokers), 6211 (Security Brokers & Dealers), and 6282 (Investment Advice). In addition, I manually go through the list of firms with SIC code 6199 (Finance Services) and exclude Renn Fund Inc. I exclude these firms because they are not in the lending business. This leaves 269 unique banks. To increase transparency, the excluded firms are listed in Appendix B.1.

I only keep records for annual CEOs, and identify a new CEO appointment to take place when the name of annual CEO changes from the previous year within one bank. From this initial list, I manually verify the appointment information according to banks' annual report and proxy statements. Only the records with the correct information are kept. I drop CEO succession events that happen after mergers and acquisitions, because it is difficult to compare bank performance pre and post the event. I also drop the events where two co-CEOs are appointed at the same time. In addition, as the primary analysis looks at bank profitability in two years post-succession, I only keep observations where the CEO stays in the position for at least two years. Finally, I only retain CEOs for whom detailed background information can be collected.

I then collect information for newly appointed CEOs. I retrieve CEO age information from ExecuComp and recover missing values from Bloomberg. Other information such as CEO origin, education background, industry experience, prior CEO experience is hand-collected from a variety of data sources including: companies' annual reports (10-K report in SEC filings), proxy statements (DEF 14A report in SEC filings), S&P Capital IQ, Bloomberg and web sources. By doing this I construct a unique dataset for CEO's

demographic and background information. The accounting data for banks is obtained from Compustat. The market data is collected from the Centre for Research in Securities Prices (CRSP) database. Information of board size and board independence is obtained from BoardEx and Institutional Shareholder Sevices (ISS). I retrieve data from Bloomberg and S&P Capital IQ to fill some missing data. My final sample consists of 147 CEO successions from year 1993 to 2015, taking place in 103 unique banks. The first CEO succession event I record occurs in November 1993 and the last succession event occurs in November 2015. Appendix B.2 lists all the CEO succession events in the final sample.

3.3.2 Measures

3.3.2.1 Dependent Variables

The main question of the study is to investigate how prior CEO experience of the newly appointed CEO affects bank profitability change post-CEO succession. I first examine the change in ROA (**ROA_change**), an indicator of profitability. **ROA_change** is measured by the difference of ROA before and after the succession. In choosing the "event window", I use a similar approach as in Huson et al. (2004)'s study. Profitability before succession is measured by ROA in year t-1, and profitability after succession is calculated as the average over years t+1 and t+2, the post two years after CEO succession event. ROA is calculated using net income divided by book value of assets. I choose accounting-based performance measures instead of short-term market-based performance measures because, as noted by previous studies, realized long-run outcomes of public events and announcements need not be consistent with short-run market reactions. The initial reaction of the market may be an inefficient long-run predictor of firm value (Delong and Deyoung, 2007). To control for industry effects, I use an industry-adjusted ROA, which is defined as a bank's ROA minus the mean ROA of all other banks

in the specific year. This approach has been adopted by other CEO-related studies (Parrino, 1997; King et al., 2016). By using an industry-adjusted performance measure, I could eliminate any effect that is driven by the outside environment and is beyond the CEO's control (Holmstrom, 1982; Gibbons and Murphy, 1990; Schaeck et al., 2011; Jenter and Kanaan, 2015).

In order to study the channels of profitability improvement, I break down banks' income statement and examine the elements of bank profitability. The first step is to look at the change in bank revenue (**Revenue_change**), the difference of industry-adjusted revenue between year-1 and the average over years t+1 and t+2. Revenue the total current operating revenues scaled by total assets. Then I examine whether the change in profitability is a result from the cost management of the new CEOs. I compute the change in bank cost (**Cost_change**) as the difference of industry-adjusted cost-income ratio between year t-1 and the average over years t+1 and t+2. Cost-income ratio is the total current operating expenses divided by the sum of net interest income and non-interest income. As the loan loss provision (LLP) is an important part of banks' operating expenses, I investigate the change in LLP (**LLP_change**), the difference of industry-adjusted LLP between year t-1 and the average over years t+1 and t+2. I further examine the change in the discretionary and non-discretionary part of LLP. With the same method I construct the change in discretionary LLP (**Discre_LLP_change**) as the difference of industry-adjusted discretionary LLP between year t-1 and the average over years t+1 and t+2. The definition and estimation method of discretionary LLP will be explained in detail in section 3.4.6.3. Likewise, the change in non-discretionary LLP (**NonDiscreLLP_change**) is the difference of industry-adjusted non-discretionary LLP between year t-1 and the average over years t+1 and t+2. **NonDiscreLLP** is the value of total LLP subtracted by the amount of discretionary LLP.

The last part of the analysis investigates whether the change in profitability improvement is due to the new CEO's risk-taking behaviour. I compute two measures of the change in bank risk pre- and post-CEO succession. The first measure is the change in earnings volatility (**VOL_change**). Earnings volatility pre-succession is calculated as the standard deviation of industry-adjusted ROA over years t-3 through t-1, while earnings volatility post-succession is the standard deviation of industry-adjusted ROA over years t through t+2. The second measure is the change in bank leverage risk (**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.

I multiply all the changes by 100 to indicate the percentages of change in these variables. Thus the results in the tables indicate how many percentages of change occur surrounding the CEO succession event.

3.3.2.2 Independent Variables

The study looks into how bank profitability changes are affected by a new CEO's prior CEO experience and where the experience is obtained. Quińones et al. (1995) develop a framework of work experience measurements, suggesting that the appropriate measurement mode for job-specific experience is the time spent on the job. Enlighted by this, my first method is to measure prior CEO experience as the number of years that each CEO spent in prior CEO positions. **CEO_years** is defined as the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. As many BHCs are conglomerates with a number of subsidiaries and various divisions, I identify prior CEO experience if the successor has prior experience in the following situations: 1) The successor worked as the top CEO of a company or bank group before the appointment.

For example, Walter V. Shipley was appointed as CEO of JPMorgan Chase & Co in 1994 and he previously worked as the CEO of the Chemical Banking Corp from 1983 to 1991. 2) The successor worked as the CEO of a bank subsidiary. For instance, Henry L. Meyer was hired as the new CEO of KeyCorp in 2001 and previously he was the CEO of KeyBank National Association, a subsidiary of KeyCorp. 3) The successor worked as the CEO of a market division. For example, Michael L. Corbat, the new CEO of Citigroup Inc in 2012, was the CEO of the bank's Global Wealth Management division between 2008 and 2009, and the CEO of the bank group's Europe, Middle East & Africa market division between 2011 and 2012.

I find that the length of a new CEO's prior CEO experience varies substantially within my sample. While some new CEOs have no prior CEO experience at all, some have a short period of experience in a former CEO position, and some CEOs have long years of prior CEO experience. For instance, Dennis J. Kuester, the new CEO of Marshall & Ilsley Corp in 2002, has 3 months' experience in a prior CEO position—he was the CEO of Marshall & Ilsley Bank, a subsidiary of Marshall & Ilsley Corporation, from October 2001 to January 2002. Larry D. Richman, the new CEO of Privatebancorp Inc in 2007, has 9 months experience in a prior CEO position—he was the CEO of LaSalle Bank, N.A. from March 2007 to November 2007. By contrast, some CEOs have a lot of prior CEO experience. For example, Joseph L. Hooley, the new CEO of State Street Corp in 2010, holds 12 years of prior CEO experience, which includes 10 years' experience in International Financial Data Services, and 2 years' experience in Boston Financial Data Services. The most experienced CEO in my sample is Robert G. Wilmers, the new CEO of M&T Bank Corp in 2007, holds 22 years and 2 months' experience in former CEO positions.

Based on where the CEO experience is gained, the prior CEO experience is distinguished into two types: prior CEO experience gained inside the bank, and prior CEO experience gained outside the bank. **CEO_years_inside** is defined as the logarithm of total number of years the successor worked as a CEO within the bank group before the appointment. **CEO_years_outside** is the logarithm of total number of years he/she worked as a CEO outside the bank group prior to the current position. I find that some CEOs only have prior CEO experience within the bank group. For instance, E. Philip Wenger, the new CEO of Fulton Financial Corp in 2013, has 3 years' prior CEO experience, and he gained all the experience in Fulton Bank NA, a subsidiary of the bank. By contrast, some CEOs only have prior CEO experience gained outside the bank. For example, Russell D. Goldsmith, II, the new CEO of City National Corp in 1995, has prior CEO experience for 8 years, with all the experience obtained in Republic Pictures Corporation, a movies and entertainment company. There are also some CEOs with prior CEO experience both inside and outside the bank. For example, Kessel D. Stelling, Jr., the new CEO of Synovus Financial Corp in 2010, was the CEO of Riverside Bancshares Inc from 1996 to 2006. He was also a former CEO in the subsidiary of Synovus Financial Corp from 2008 to 2010.

I measure prior CEO experience with two alternative dimensions as a robustness test. One alternative measure of prior CEO experience is the number of CEO positions that the successor has held before the appointment. I find some CEOs hold more than one CEO positions prior to the current position. Take Mark A. Hoppe, the new CEO of Taylor Capital Group Inc in 2010 as an example. Before the appointment, Mark was previously the CEO of Cole Taylor Bank from January 2008 to March 2010, CEO of LaSalle Bank Midwest National Association from September 2005 to December 2007, and CEO of Standard Federal Bank from April 2005 to September 2005. John C. Dean,

Jr., the new CEO of Central Pacific Financial Corp in 2011, worked in 6 CEO positions before, including the experience as the CEO of First interstate System Inc from 1981 to 1986, CEO of Silicon Valley Bank from 1993 to 2001, CEO of Entrepreneurs' Foundation from September 2001 to February 2002. He also has CEO experience in First Interstate Bank, First Interstate Bank of Washington NA, and Pacific First Bank. I believe that the number of prior CEO positions would affect the new CEO's business decision, bringing differences to bank performance and risk. I measure **CEO_positions** as the logarithm of total number of CEO positions the successor held as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. Likewise, **CEO_positions_inside** is defined as the logarithm of total number of CEO positions the successor held within the bank before the appointment. **CEO_positions_outside** is defined as the logarithm of total number of CEO positions the successor held outside the bank prior to the current position.

Another measure of prior CEO experience is a dummy variable. **ExCEO** is a dummy that equals one if the successor held at least one CEO position before the appointment. **ExCEO_inside** is a dummy that equals one if the successor held at least one CEO position within the bank prior to the current position. **ExCEO_ouside** is a dummy that equals one if the successor held at least one CEO position outside the bank prior to the current position.

Table 3-1 presents a distribution of CEO successions over the sample years. The table lists the total number of CEOs in each year, the number of new CEO appointments for the year, and among them how many are insiders/outsiders. There are 147 CEO appointments between the year 1993 and 2015, among the 147 new CEOs 117 are insiders and 30 are outsiders.

[Insert Table 3-1 here]

Table 3-2 gives a distribution of the new CEOs' prior CEO experience in my sample. Panel A shows the number and percentage of CEOs with prior CEO experience, prior CEO experience inside the bank, and prior CEO experience outside the bank. Among the 147 CEO successors 42.86% of them have prior CEO experience before the appointment. 16.33% obtained the experience within the bank, while 29.93% obtained the experience outside the bank. In addition, I find that almost all the CEOs with prior CEO experience inside the bank are insider CEOs—among the CEOs who gained prior CEO experience within the bank, 95.83% of them are insiders using the definition used in this study. A very small number of CEOs who gained prior CEO experience inside the bank are outsiders according to the definition used here. For example, Vikram S. Pandit, the new CEO of Citigroup Inc in 2007, was former CEO of the bank's market divisions before the appointment. However, his work experience in Citigroup was less than one year. Thus Vikram S. Pandit is an outsider according to the definition in this analysis[9].

Meanwhile, for CEOs who gained the experience outside the bank, the proportion of insiders and outsiders are nearly half and half. I find 45.45% outsiders and 54.55% insiders among the CEOs who obtained the experience outside the bank. The results further confirm the necessity to differentiate the two concepts: the context where prior CEO experience is obtained and the CEO origin: where the CEO is appointed from. Panel B shows the distribution of how many CEO positions the new CEO held prior to the current position. It shows that 23.13% of the new CEOs hold one CEO position before the appointment, and 19.73% CEOs hold more than one prior CEO positions. The table also presents the distribution of the number of prior CEO positions inside and outside the bank.

[9] See the definition of outsider in the next paragraph.

[Insert Table 3-2 here]

3.3.2.3 Control Variables

To control for other possible explanations of changes in bank profitability, I control for factors at both the CEO level and the firm level. At the CEO level, the control variables include CEO age (**CEO Age**), outsider (**Outsider**), industry experience (**Industry Experience**), and education background (**MBA Degree** and **AF Degree**). **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Outsider** is a dummy that equals one if the CEO is an outsider and zero if the CEO is an insider. The study follows Parrino (1997) and Huson et al. (2001)'s definition that an outsider is a new CEO who has been employed at the firm for one year or less at the time of the succession, and a CEO who has been working in the company for more than one year is classified as an insider. **Industry Experience** is defined as the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree.

To account for bank-specific factors that may influence the dependent variables, I control for firm-level conditions measured in the year prior to the CEO turnover event, including bank size, bank age, equity capital, charter value, and deposits. Earlier studies on executive succession have consistently identified the role of firm size and firm age on organization performance (Tushman and Rosenkopf, 1996; Karaevli, 2007). Therefore, this study puts **Bank Size** and **Bank Age** as controls for performance. **Bank Size** is measured as the logarithm of total assets. **Bank Age** is measured as the logarithm of total number of years the bank has been in Compustat. There is evidence that the level of capitalisation and investment opportunities also influence bank performance (Berger and

Bouwman, 2013; Demirguc- Kunt et al., 2013), thus the analysis controls for these traits through **Equity Capital** (the fraction of equity book value to total assets, which is also called the equity ratio) and **Charter Value** (the logarithm of market to book value of equity). The study controls for **Deposits** (the fraction of customer deposits to total assets) since banks with a larger amount of deposits are less likely to face funding fragility thus influencing performance (Demirguc- Kunt et al., 2013).

Recent studies have documented the influence of board size (Coles et al., 2008) and board independence (Dulewicz and Herbert, 2004; Dahya and McConnell, 2007) on firm performance. I include both as corporate governance controls. **Board Size** is measured as the logarithm of total number of directors sitting on the board. **Board Independence** is measured as the ratio of independent directors to the total directors on the board.

In order to control for bank characteristics and board features before CEO appointment, all firm-level and corporate governance controls are taken one-year lag, thus the values in year t-1 are applied. All the variables are winsorized at the 2.5% and 97.5% levels. Table 3-3 presents summary statistics of the variables used in the analysis. The change in bank profitability ranges from -2.376% to 3.542%. The new CEOs in my sample have an average of 2.312 years of prior CEO experience, 0.509 years of CEO experience within the bank, and 1.668 years of experience outside the bank. The average age of them is about 54 years old. Around 20% of the CEOs are outsiders. The new CEOs have an average of 23.755 years of work experience in the financial industry. Around 40% of the CEOs hold an MBA degree and 28% have an Accounting or Finance related degree. The average age of the sample banks is 24.558 years. Banks in my sample on average hold 9.24% of equity capital, and the average fraction of customer deposits to total assets is 68.805%. The variable definitions and data source are given in Table A 3-1 in the Additional Tables section (section 3.6.1). In Table A 3-2 I report the original value

of several variables such as CEO age, years of prior CEO experience, number of prior CEO positions, years of industry experience, bank age, and board size.

[Insert Table 3-3 here]

3.4 Methodology and Results

3.4.1 The New CEO's Prior CEO Experience and Changes in Bank Profitability

The main test of the study addresses the question: does prior CEO experience of the new CEO affect bank profitability post-CEO succession? In this section, I investigate the relation between prior CEO experience and the change in bank profitability measured by change in ROA. The analysis is conducted with the following regression model:

$$\textit{The Change in Bank Profitability} = a + \beta 1 * \textit{Prior CEO Experience} + \gamma * \textit{Controls} + \varepsilon \quad (1)$$

I follows Huson et al. (2004)'s method in studying the changes in performance surrounding the CEO succession. Bank profitability before CEO succession is measured as the industry-adjusted ROA in year t-1. Bank profitability after succession is measured as the average industry-adjusted ROA over event years t+1 and t+2. The industry-adjusted ROA is ROA of the year minus the mean value of the industry ROA in the specific year.

To examine the relation between prior CEO experience and bank performance, I run ordinary least squares (OLS) regressions in which the dependent variable is **ROA_change**, and the independent variable is **CEO_years**. Columns (1) to (3) of Table 3-4 report the results. In column (1) I include only bank-level controls such as bank size, bank age, equity capital, charter value, and deposits. In column (2) I add CEO-level controls as well, including CEO age, whether the CEO is an outsider, the CEO's industry experience, and the education background. In column (3) I further add corporate

governance controls: board size and board independence. As my dataset covers about two decades during which there are substantial variations in economic conditions and the regulatory environment, I include year fixed effect in all the specifications.

[Insert Table 3-4 here]

The results show that prior CEO experience is positively associated with the change in bank profitability: the change in ROA enters all model specifications with a positive coefficient that is significant at customary levels. The effect holds when I add CEO-level controls and corporate governance controls. The results for prior CEO experience are statistically significant: a one standard deviation increase in prior CEO experience leads to an increase in the change of ROA by 0.199 percentage using the coefficients obtained from column (1). And with the coefficients obtained from column (2) and column (3), the figure is 0.208 and 0.179 respectively.

My results are different from the findings in previous studies on prior CEO experience in non-financial firms. While Elsaid et al. (2011) and Hamori and Koyuncu (2015) find a negative relation between prior CEO experience and firms' accounting performance, my study documents an opposite result, that prior CEO experience creates value to bank's accounting performance post-succession. One reason for the inconsistency might be: I test the relation in a new industry—the banking sector. Previous studies explain the negative relation with the argument that prior CEO experience is firm-specific and difficult to transfer. CEOs who come into their jobs with prior CEO experience tend to have a hardened worldview and set of actions, which makes it slower for them to adapt and learn in a new environment (Bragaw and Misangyi, 2017). Given this explanation, I argue that the portability of prior CEO experience is different in the banking industry. The banking sector is unique—they are complex organizations and the operation of banks require special skills (Philippon and Reshef, 2009). The prior experience in a similar

position would be valuable to management activities in banks. In addition, the banking industry is homogeneous in the nature of business (the banks in my sample are all commercial banks that focus on the lending business), thus the skills and experience obtained from a similar position would be easier to be transferred to the new company, and improve bank profitability. The empirical results support my hypothesis.

Moving onto the analysis of the control variables, I find a negative relation between the change in bank profitability and bank size. However, it is only significant at 10% after controlling for board size and board independence. This indicates that larger banks are associated with less improvement in profitability after CEO turnover events. The results also suggest that profitability changes are negatively associated with the level of equity capital and charter value, suggesting that better-capitalised banks and banks with higher charter values have less performance improvement. The coefficients of equity capital and charter value are significant at the 5% level or stronger across all the specifications. My results in general are consistent with existing studies on performance change (Huson et al., 2001; Huson et al., 2004).

3.4.2 Does the Context Where Prior CEO Experience is Gained Matter?

In the next step, I examine whether the relation between prior CEO experience and the change in bank profitability is affected by the context where the experience is obtained. Prior CEO experience is distinguished between the experience gained inside the bank and the experience obtained outside the bank. The regression model below is applied to test this effect:

$$\textit{The Change in Bank Profitability} = a + \beta 1 * \textit{Prior CEO Experience Gained inside the Bank} + \beta 2 * \textit{Prior CEO Experience gained outside the Bank} + \gamma * \textit{Controls} + \varepsilon \quad (2)$$

The dependent variable in the model is **ROA_change**, with **CEO_years_inside** and **CEO_years_outside** as independent variables. Columns (4) to (6) of Table 3-4 display

the OLS results from regressing the change in bank profitability on two types of prior CEO experience. In column (4) I only include firm-level controls, then add CEO-level controls in column (5), and finally add corporate governance controls in column (6). The results show that change in ROA is positively related to prior CEO experience gained outside the bank: outside CEO experience enters all model specifications with a negative coefficient that is significant at customary levels. This suggests that banks have a greater improvement in profitability when they appoint a CEO with more prior CEO experience outside the organization. Specifically, a one standard deviation increase in outside CEO experience leads to an increase in the change of bank profitability by 0.243 percentage using the coefficients obtained from column (4). And the increase in the change of bank profitability is 0.257 and 0.237 percentage with the coefficients obtained from column (5) and column (6) respectively. On the contrary, I do not find any evidence showing that prior CEO experience within the bank matters for profitability changes post-succession.

Interestingly, I find the economic impact of CEO experience is stronger if I differentiate inside and outside CEO experience. Comparing the results in column (3) and column (6) where all relevant controls are included, the economic significance of outside CEO experience is higher than prior CEO experience in general. In addition, the R-squared of the regression model also rises from column (3) to column (6). This suggests that differentiating the contexts of prior CEO experience is important both conceptually and in the empirical sense on its economic impact. Generally assuming that all types of prior CEO experience are important is likely to mask the important of outside CEO experience.

Regarding the control variables, I find change in bank profitability is negatively related to bank size after adding the board governance controls. And the profitability change is

negatively and significantly related to the level of equity capital and charter value. The results are consistent with the analysis in the previous section.

I further test whether inside/outside CEO experience impacts on bank profitability changes by splitting the sample. I first exclude CEOs with outside CEO experience and test how inside CEO experience affects bank profitability changes. Results are presented in columns (7)–(9). While they suggest that inside CEO experience is negatively related to the change in bank profitability, the relation is not statistically significant. I then exclude CEOs with inside CEO experience and tests how outside CEO experience affects bank profitability changes. Results are presented in columns (10)–(12). There is a positive relation between outside CEO experience and the change in bank profitability, and it is statistically significant in column (10) when firm-level controls are added. The results are consistent with the former analysis, showing that the performance effect is driven by outside CEO experience.

To summarize, while prior CEO experience enhances bank profitability in general, the context where the CEO obtained the experience matters. The positive performance effect is driven by the experience gained outside the bank, which indicates that the knowledge and skills obtained from a different organization create value to the bank. Thus hypothesis 2a is rejected and hypothesis 2b is supported.

3.4.3 Alternative Measures of Prior CEO Experience

As a robustness test, I measure prior CEO experience with two alternative dimensions: the number of CEO positions that the successor has held before the appointment, and a dummy variable whether the successor held a former CEO position. Based on where the experience is obtained, I also construct the number of CEO positions that the successor held inside/outside the bank, and the dummy whether the successor held a CEO position inside/outside the bank before the appointment. I replicate the

regression process in section 3.4.1 and 3.4.2, and change the independent variable accordingly. Table 3-5 presents the results. In regressions (1)–(6), prior CEO experience is measured with the number of positions. The independent variable in regressions (1)–(3) is **CEO_positions**, and the independent variables in regressions (4)–(6) are **CEO_positions_inside** and **CEO_positions_outside**. The results suggest that the change in bank profitability is positively related to the number of CEO positions the successor held before the appointment. The more prior CEO positions he/she held, the greater improvement in bank profitability post-succession. Meanwhile, the change in profitability is only related to the number of CEO positions the successor held outside the bank. The results are consistent with the findings that the profitability improvement is driven by CEO experience gained outside the organization. The results are consistent with the analysis in previous sections where CEO experience is measured by years.

[Insert Table 3-5 here]

Columns (7)–(12) give the results where prior CEO experience is measured with dummy variables. The independent variable in regressions (7)–(9) is **ExCEO**, a dummy that equals one if the successor held at least one former CEO position before the appointment. The independent variables in regressions (10)–(12) are **ExCEO_inside** and **ExCEO_outside**, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. In line with the prior analysis, it is found that banks have a larger degree of improvement in profitability if the successor is a former CEO before the appointment. Successors with outside CEO experience are associated with more significant profitability improvements than those without prior CEO experience or the ones who gained the experience inside the bank.

To sum up, the results suggest that banks appointing experienced CEOs have a greater improvement in profitability, and the performance effect is driven by prior CEO

experience obtained outside the bank. The results are consistent across different measures of CEO experience.

The results in this section also show that results become stronger empirically after differentiating inside and outside CEO experience. For example, the impact of prior CEO experience with the dummy measure column is weak (columns (7)–(9)). However, results become significantly stronger after differentiating two types of CEO experience (columns (10)–(12)): the coefficient of outside CEO experience dummy is significant at the 5% levels in all the three specifications. The results further confirm that considering the context where prior CEO experience is important. The traditional model where people use prior CEO experience may underestimate the impact of outside experience.

3.4.4 Does the Performance Effect Continue in a Longer Post-succession Period?

So far the analysis has documented that banks appointing more experienced CEOs, especially those who obtained the experience outside the organization, are associated with a greater improvement in profitability post-CEO succession. Although I have investigated the effect in two years post-succession: the profitability change from year t-1 to the average over years t+1 and t+2, it is unknown whether the performance effect continues in a longer period post-succession.

[Insert Table 3-6 here]

To answer this question, I replicate the analysis of previous sections and examine whether the change in bank profitability is affected by two types of prior CEO experience in up to five years after the succession event. Results are reported in Table 3-6. Panel A, B and C present the performance effect in post 3 years, 4 years and 5 years respectively. To make the analysis more convincing, I conduct tests with three measures of prior CEO experience: CEO experience measured by the number of years, the number of CEO

positions held, and dummy variables. The independent variables in regressions (1)–(3) are **CEO_years_inside** and **CEO_years_outside**. Independent variables in regressions (4)–(6) are **CEO_positions_inside** and **CEO_positions_outside**. Finally, independent variables in regressions (7)–(9) are **ExCEO_inside** and **ExCEO_outside**.

The results in Table 3-6 continuously show a positive relation between outside CEO experience and the change in bank profitability in post-succession years. Banks that appoint CEOs with outside CEO experience are associated with a greater profitability improvement up to 5 years after the succession. Meanwhile, the results are consistent across different measures of prior CEO experience. The sample size drops with time because I only keep CEOs who are still in position at the time the performance effect is examined.

3.4.5 Does the Succession Context Matter?

The findings in previous sections are consistent with an effect of prior CEO experience on banks' accounting performance. However, it is possible that the outcome of CEO succession is driven by the succession context. For example, if the succession is a forced turnover due to poor performance, the successor is more likely to be charged with a mandate to initiate strategic change to improve firm performance. In this situation, the bank is more likely to have a larger extent of performance change after a new CEO appointment, irrespectively what kind of CEO is hired. In contrast, if the successor is appointed following the predecessor's ordinary retirement rather than dismissal, the successor's mandate is more likely to maintain strategic continuity (Brady and Helmich, 1984; Datta and Rajagopalan, 1998; Friedman and Singh, 1989; Shen and Cannella, 2002b). In this case, there should be less performance change after the succession. Another concern is that endogenous matching between CEOs and firms is driving the results. For instance, banks with bad financial status might be more willing to appoint a

more experienced CEO to enhance profitability. In this sense, the pre-turnover bank performance may drive the results in the analysis.

To address the above concern, I control for the succession context in my empirical analysis. Due to the data constraint, I am not able to evaluate the impact of forced vs. voluntary turnover directly. However, since a forced CEO turnover is usually associated with poor firm performance, I use the bank's financial status pre-turnover as a proxy. I examine whether the change in ROA is affected by two types of prior CEO experience after controlling for the pre-turnover bank performance. Otherwise, the tests replicate exactly the setup in Table 3-4. Two dummy variables are used to measure bank performance pre-turnover. One measure is **ROA_neg**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative.

[Insert Table 3-7 here]

Columns (1)–(3) of table 3-7 report the results after controlling for this dummy. The results show that poorly-performing banks are associated with more significant bank profitability changes post-succession. At the same time, outside CEO experience is positively related to the change in profitability after controlling for these banks whose ROA is below the industry mean. The second measure is **ROA_p25**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample. I obtain similar results with this dummy, as reported in columns (4)–(6) of the table. For completeness, I also conduct a regression with alternative measures of prior CEO experience when pre-turnover bank performance is included, and obtain similar findings. Results of this additional test are presented in Table A 3-3 in the Additional Tables section (section 3.6.1). To conclude, the results support hypothesis 3 that poorly-performing banks are associated with greater changes in bank profitability post-CEO

succession. Meanwhile, prior CEO experience outside the bank is positively related to the profitability change after controlling for poorly-performing banks.

To capture the influence of poorly-performing banks, I estimate models with interaction terms between outside CEO experience and ROA dummies. The results in table 3-8 suggest that outside CEO experience is associated with profitability improvement only in banks that performed badly pre-turnover. I replicate the test with alternative measures of prior CEO experience and obtain consistent results across all the measures. The results for this additional test are reported in Table A 3-4 in the Additional Tables section.

[Insert Table 3-8 here]

Overall, the analysis discussed in this section suggests that succession context is a non-negligible factor that affects post-succession bank performance. Meanwhile, the positive relation between outside CEO experience and profitability improvement still exists after controlling for the succession context. The further analysis with the interaction term indicates that prior CEO experience outside the bank helps to enhance profitability only in banks with poor financial status before CEO turnover.

3.4.6 The Channels of Profitability Improvement

In this section I evaluate through which channel prior CEO experiene (specifically, the experience obtained outside the bank) generates an improvement in bank profitablity.

3.4.6.1 Is the Profitability Improvement Related to Changes in Business Policy?

The improvement in bank profitablity may be due to either an increase in bank revenue or a decrease in bank cost by definition. A new CEO may implement new business policies to boost revenue or cut down expenses, in whichever way, to create an improvement in bank profitability. Thus, this section investigate the driving force of

profitability improvement from both the revenue and cost sides. I start the analysis by examining whether outside CEO experience is associated with a change in bank revenue. Column (1) of Table 3-9 reports the regression results of the change in bank revenues on two types of prior CEO experience. I do not find any relation between the dependent vairable and explanary variables.

[Insert Table 3-9 here]

A newly appointed CEO may cut down opearting expenses to boost profitability. To examine whether the increase in profitability is due to the CEO's cost management, I test the relation between prior CEO experience and the change in bank's cost-income ratio. Column (2) of Table 3-9 shows the regression results in which the dependent variable is the change in cost-income ratio, and independent variables are two types of prior CEO experience. The estimated coefficient on outside CEO experience is negative and significant at the 1% level, supporting my speculation that banks managed by experienced CEOs are associated with cost-reducing activities. Specifically, a one standard deviation increase in outside CEO experience leads to a decrease in the change of cost-income ratio by approximately 15.291 percent. The results suggest that CEOs who gained knowledge from a different organization are more likely to cut down operating expenses thus enhancing bank profitability. By contrast, I do not find a significant relation between the change in cost-income ratio and prior CEO experience within the bank.

3.4.6.2 A Further Investigation of the Change in Loan Loss Provision

Loan loss provision (LLP) is an important part of cost in banks. It is the amount charged against earnings to establish a reserve sufficient to absorb expected loan losses. Prior research shows that loan loss provisions are used as a tool to manage earnings by listed banks (Ma, 1988; Collins et al., 1995; Kanagaretnam et al., 2003; Leventis et al., 2011). Bank managers tend to save earnings through LLP in good times and borrow

earnings using LLP in bad times (Kanagaretnam et al., 2003). This suggests that the level of LLP is closely related to bank profitability, at least the reported earnings. Based on this argument, I investigate whether the cost reduction is related to any change in the level of LLP. Column (3) of Table 3-9 reports the regression results examining whether two types of prior CEO experience affect the change in LLP. The results suggest that outside CEO experience is negatively and significantly associated with the change in LLP, while experience inside the bank is not. In other words, CEOs with prior experience obtained outside the bank are more likely to reduce the level of PLL. A one standard deviation increase in outside CEO experience leads to a decrease in LLP by 1.253 percentage.

3.4.6.3 Is the Profitability Improvement due to Earnings Manipulation by the Newly Appointed CEO?

There is evidence that newly appointed CEOs tend to engage in greater income-increasing manipulation in the early years of their tenue due to career concerns (Ali and Zhang, 2015). Previous studies argue that the market's perception of a CEO's ability is a valuable asset, because it is associated with several long-term benefits to the CEO, such as higher future compensation, reappointments, and managerial autonomy (Fama, 1980; Hermalin and Weisbach, 1998). The market tends to be more uncertain about CEOs' ability in the early years of their services, thus earnings reported during this period would have a greater effect on the market's assessment of their ability (Fama, 1980; Gibbons and Murphy, 1992; Hermalin and Weisbach, 1998; Holmström, 1999). Holmstrom (1982) argues that managers are motivated to work harder in the early years of service because of career concerns, while the market is still assessing their ability. To favourably influence the market's perception of their ability, new CEOs also have greater incentives to overstate earnings in the early stage of their service. Based on these arguments I speculate that it is very likely that newly appointed CEOs manipulate their banks' earnings at a greater magnitude, thus there would be changes in the level of earnings manipulation

surrounding the CEO appointment. Successors with more prior CEO experience possess more knowledge and skills in managing banks, thus I conjecture that experienced CEOs are more likely to manipulate earnings towards their aims.

While new CEOs have the motivation to boost bank profitability through earnings management, the place where the CEO is promoted might affect the incentive. Kuang et al. (2014) examine the influence of CEO origin on earnings management and find that outside CEOs engage in greater income-increasing manipulation in the early years of their tenure. Previous studies suggest that external labour market considerations, contract constraints, board pressures, and similar factors cause the job security of CEOs recruited from outside the company to relate more closely to firm performance than is the case for CEOs promoted from inside (Friedman and Saul, 1991; Hermalin and Weisbach, 1998; Shen and Cannella, 2002b). As a result, outside CEOs usually exhibit a stronger desire to demonstrate superior performance after taking the helm. Regarding the context of this study, I expect that CEOs who gained prior CEO experience from outside the organization have more incentives to prove their ability by improving bank performance, thus are more likely to engage in earnings management.

Is the profitability improvement an outcome of the new CEO's earnings manipulation? To test my conjecture, I construct a proxy for earnings manipulation and examine whether outside CEO experience is associated with a change in the level of CEO earnings manipulation. A large number of studies have used *Discretionary Loan Loss Provision (LLP) as* a proxy for earnings manipulation in banks, which is the "discretionary" part of LLP (Beatty et al., 2002; Bushman and Williams, 2012; Beatty and Liao, 2014; Cohen et al., 2014; Jiang et al., 2016). As discretionary LLP is a form of bank expenses, I expect that new CEOs understate the value of discretionary LLP in order to cut down cost and enhance bank profitability. Thus I propose that more experienced CEOs are

associated with less discretionary LLP compared with their counterparts. The discretionary LLP is estimated with the following model:

$$LLP_t = a_0 + a_1 \Delta NPA_{t+1} + a_2 \Delta NPA_t + a_3 \Delta NPA_{t-1} + a_4 SIZE_{t-1} + a_5 \Delta LOAN_{t-1} + a_6 EBLLP_t + a_7 CAP_{t-1} + \delta_j + \varepsilon_t \quad (3)$$

In this model, LLP_t represents loan loss provision scaled by lagged total loans. ΔNPA_t is the change in nonperforming assets scaled by lagged total loans. Following Bushman and Williams (2012) and Jiang et al. (2016), this model includes current period ΔNPA_t and next-period ΔNPA_{t+1} because banks might use current and forward-looking information on nonperforming assets in selecting LLPs. I do not include ΔNPA_{t-2} as in Beatty and Liao (2014) because it eliminates many observations. However, including it does not affect the results. $SIZE_{t-1}$ is the natural logarithm of total assets in year t-1. $\Delta LOAN_{t-1}$ is the change in total loans divided by total loans. $EBLLP_t$ is the earnings before loan loss provisions and taxes for year t scaled by lagged total loans. CAP_{t-1} is equity capital to total assets in year t-1. I also include state fixed effect δ_j, to account for any time-invariant state characteristics that shape loan loss provision.

I estimate Equation (3) with a pooled, time series regression using all the banks in all years. I obtain discretionary LLP as the residuals from the model. The residuals represent the "abnormal" accrual of LLP—the component of LLP unexplained by the regresssion's fundamental determinants. An extensive literature uses error terms from these models to proxy for earnings management, as discussed in Dechow et al. (2010), Ali and Zhang (2015), Kanagaretnam et al. (2009), and Cohen et al. (2014).

After getting the value of discretionary LLP, I compute the non-discretionary LLP (**NonDiscreLLP**) as the value of total loan loss provision subtracted by the amount of discretionary LLP. Then I construct the change in discretionary LLP and non-discretionary LLP. Columns (4) and (5) of Table 3-9 report the regression results whether

two types of prior CEO experience affect the change in discretionary LLP and the non-discretionary LLP respectively. The results show that the change in discretionary LLP is negatively related to prior CEO experience outside the bank. The impact is statistically significant at the level of 5%. A one standard deviation increase in outside CEO experience leads to a decrease in the change of discretionary LLP by approximately 0.330 percent. Meanwhile, no effect is found for non-discretionary LLP. The negative sign of the change in discretionary LLP indicates that more experienced CEOs tend to understate cost and enhance the profitability. This confirms my speculation that the reduction of bank expenses is an outcome of the new CEO's earnings manipulation. My results support the findings of Kanagaretnam et al. (2003)'s study that discretionary LLP is the key part of LLP used by managers to manage earnings.

To assess the sensitivity of the results to the proxy for earnings manipulation, I estimate discretionary LLP and non-discretionary LLP with an alternative method. Instead of using a pooled, time series regression for all banks in all years, I estimate equation (3) for banks in each year. The residuals from the model are taken as the proxy for discretionary LLP. The regression results under this estimation method is presented in Table A 3-5 in the Additional Tables section (section 3.6.1). The results are consistent with my prior analysis, showing that the effect of earnings manipulation is robust to different estimation methods.

3.4.7 Additional Tests

In this section some additional tests are conducted. Results are presented in the Additional Tables section (section 3.6.1).

3.4.7.1 Is the Performance Improvement due to the New CEO's Risk-taking Behaviour?

Thus far, the results suggest that the improvement of bank profitability is related to the new CEO's cost management through earnings manipulation. Another possible mechanism is that new CEOs might undertake risky activities to boost profitability. CEOs who gained experience outside the bank are more likely to do so because they have a stronger motivation to prove their ability as an outsider. If this is the case, I expect to find a positive relation between outside CEO experience and the change in bank risk.

To test my speculation, I replicate the analysis of profitability effect and replace the dependent variable with the change in bank risk. My first measure of bank risk is earnings volatility. Results in columns (1)–(3) of Table A 3-6 show no relation between two types of prior CEO experience and the change in earnings volatility. The second measure of bank risk is Tier 1 capital ratio, an indicator of leverage risk. Again, no risk effect is found, as suggested in columns (4)–(6).

The results in this section suggest that the improvement of bank profitability is not due to the risk-taking behaviour of the new CEOs. Although existing studies have tested the market reaction towards prior CEO experience (Elsaid et al., 2011), the relation between prior CEO experience and firms' accounting performance (Elsaid et al., 2011; Hamori and Koyuncu, 2015) as well as market-based performance (Bragaw and Misangyi, 2017), there is no study looking at how prior CEO experience of the newly appointed CEO affect firm risk. Although the empirical results reject my speculation, the analysis is still a good complement to existing studies on prior CEO experience.

3.4.7.2 Performance Effect Pre-crisis and Within/Post-Financial Crisis

The financial crisis can have a great influence on bank performance and business policy. To examine whether the financial crisis affects the relation between prior CEO experience and bank profitabiliy, I split the sample between CEO successions pre-crisis and CEO successions within/post-crisis. I define the crisis period as years 2007–2009.

The years before 2007 are classified as the pre-crisis period. Year 2007 and afterwards is defined as the within/post-crisis period. I replicate the analysis in earlier sections with two sub-samples respectively.

Results in Table A 3-7 report the relation between prior CEO experience and the change in bank profitability pre- and within/post-financial crisis. The dependent variable is **ROA_change**, and the independent variable is **CEO_years**. Panel A reports the results for CEO successions occurring in the pre-crisis period. It shows that prior CEO experience is negatively related to the change in bank profitability. However, the result is not statistically significant. Meanwhile, outside CEO experience is negatively related to the change in bank profitability, and inside CEO experience is positively related to the change in bank profitability. However, none of the relations is statistically significant. Panel B reports the results for the sample within/post-crisis period. It shows that prior CEO experience in general is positively and significantly associated with the change in bank profitability. The experience obtained outside the bank is positively and significantly related to the profitability change, while the performance effect for the inside CEO experience is not significant. This indicates that the performance effect within/post-crisis is driven by outside CEO experience. On the whole, the results in Table A 3-6 suggest that the performance effects of prior CEO experience are quite different in pre- and within/post-crisis periods. While the analysis in my earlier analysis shows that successors' prior CEO experience in general improves bank profitability post-succession, the results in this section suggest that this only happens during and after the recent financial crisis.

I then replicate the analysis with alternative measures of prior CEO experience. Results are reported in Table A 3-8. In specifications (1)–(6) the prior CEO experience is measured with the positions measure. In specifications (7)–(12) the prior CEO experience is measured with the dummy measure. I obtained consistent results with Table A 3-7. It

shows that the positive effect of prior CEO experience only exists in the within/post-crisis period, and is driven by the experience obtained outside the bank.

3.5 Conclusions

This chapter examines how prior CEO experience of the newly appointed CEO affects long-term bank accounting performance post-CEO succession. The study is based on a unique hand-built dataset of 147 CEO succession events in US BHCs from 1993 to 2015. I offer robust evidence that experience in former CEO positions improves bank performance post-succession, and the effect is driven by the experience obtained outside the bank. Banks that appoint CEOs with longer years of prior CEO experience, especially when the experience is gained outside the organization, tend to have a more significant improvement in profitability. The performance effect holds across different measures of prior CEO experience, and continues up to five years in the post-succession period. Meanwhile, I find that the succession context and more specifically, the pre-turnover bank performance matters. Although the performance effect still holds after controlling for banks with poor financial status, the analysis suggests that prior CEO experience helps to improve bank profitability only in banks that have performed badly.

To explain what drives the profitability improvement, the study examines whether prior CEO experience is associated with the change in a bank's business policy. I start the analysis by investigating the change in bank revenue and cost. Prior CEO experience is found to have no impact on the change in bank revenues. By contrast, experienced CEOs are more likely to cut down operating expenses in order to boot profitability. Specifically, there is a significant decrease in loan loss provision for banks appointing a more experienced CEO. By further looking into the discretionary and non-discretionary part of bank LLP, the study documents that outside CEO experience is negatively related to the change in discretionary LLP but is not associated with non-discretionary LLP. This

suggests that the decrease in operating expenses and improvement in bank profitability are outcomes of the new CEO's earnings manipulation. Newly appointed CEOs, especially those that gained experience from outside the bank, have a strong desire to show their ability and build a good reputation in their early years of tenure, leading to greater income-increasing manipulation after promotion. Finally, the analysis finds that the improvement of bank profitability is not due to the new CEO's risk-taking behaviour.

The analysis in this chapter is related to the limited number of CEO experience studies but gives some new insights. As the first relevant study in the banking sector, the chapter broadens the concept of prior CEO experience due to the uniqueness of banks: I include not only the experience as top CEOs of bank groups or companies, but also CEO experience in bank subsidiaries or market divisions. In addition, the chapter extends existing studies on prior CEO experience by distinguishing the experience based on the context where the experience is obtained: CEO experience gained inside the bank and CEO experience gained outside the bank. My study has quite different findings with earlier studies on CEO experience: I document a positive relation between prior CEO experience and the change in bank profitability. The performance effect is an outcome of earnings management by new CEOs who gained prior experience outside the bank, because they have more incentives to show their ability with superior performance in their early years of tenure. The chapter contributes to CEO succession studies in the banking industry and gives implications on how to select a right CEO in large commercial banks. It also provides new indications on CEO earnings management in banks.

3.6 Tables

Table 3-1: Distribution of CEO Successions

The table presents the number of CEO successions from 1993 to 2015. It gives the total number of CEO appointments in each year, among the newly appointed CEOs how many are insiders, and how many are outsiders. An outsider is a new CEO who has been employed at the bank for one year or less at the time of the succession. And an insider is a new CEO who has been working in the bank for more than one year (Parrino, 1997; Huson et al., 2001).

Year	Total Number of CEO Successions	Number of Insiders	Number of Outsiders
1993	2	2	0
1994	7	6	1
1995	9	7	2
1996	3	2	1
1997	4	4	0
1998	6	6	0
1999	1	1	0
2000	11	9	2
2001	11	6	5
2002	5	5	0
2003	4	3	1
2004	6	6	0
2005	3	3	0
2006	6	5	1
2007	13	9	4
2008	9	8	1
2009	9	4	5
2010	11	9	2
2011	9	7	2
2012	6	4	2
2013	8	7	1
2014	2	2	0
2015	2	2	0
Total	147	117	30

Table 3-2: Distribution of Prior CEO Experience

The table presents the distribution of new CEOs' prior CEO experience. Panel A shows the number and percentage of successors with prior CEO experience, with prior CEO experience gained inside the bank and prior CEO experience gained outside the bank. Panel B gives the distribution of the number of CEO positions that the successors held prior to the current position, and the number of CEO positions held inside/outside the bank.

Panel A: Distribution of prior CEO experience		
	Number of Successors	Percentage
New CEO with Prior CEO experience	63	42.86%
New CEO with prior CEO experience inside the bank	24	16.33%
New CEO with prior CEO experience outside the bank	44	29.93%
Panel B: Distribution of the number of prior CEO positions held		
Number of Prior CEO Positions	Number of Successors	Percentage
0	84	57.14%
1	34	23.13%
2	23	15.65%
3	4	2.72%
4	2	1.36%
Total	147	100.00%
Number of Prior CEO Positions inside the Bank	Number of Successors	Percentage
0	123	83.67%
1	15	10.20%
2	7	4.76%
3	2	1.36%
Total	147	100.00%
Number of Prior CEO positions outside the Bank	Number of Successors	Percentage
0	103	70.07%
1	28	19.05%
2	13	8.84%
3	1	0.68%
4	2	1.36%
Total	147	100.00%

Table 3-3: Descriptive Statistics

The table gives summary of descriptive statistics of all the variables employed in the analysis. It presents the number of observations, mean, median, standard deviation, minimum, and maximum for each variables. All variables are winsorized at the 2.5% and 97.5% levels. Variable definitions are provided in Table A 3-1 in the Appendix.

Variable	N	Mean	Median	SD	Min	Max
Dependent variables:						
ROA_change	147	-0.039	0.021	0.973	-2.376	3.542
VOL_change	146	0.041	0.011	0.601	-1.657	1.935
CAPR1_change	137	-3.129	5.647	200.830	-521.227	470.273
Revenue_change	139	-0.138	-0.195	0.863	-2.510	1.726
Cost_change	114	-0.485	1.700	42.545	-134.520	84.507
LLP_change	139	0.285	-0.021	11.298	-32.634	37.824
Discre_LLP_change	119	-0.026	0.102	1.073	-3.387	2.538
NonDiscreLLP_change	119	-0.029	-0.004	0.351	-1.127	0.724
Independent Variables:						
CEO_years	147	2.312	0.000	3.587	0.000	13.167
CEO_years_outside	147	1.668	0.000	3.131	0.000	11.000
CEO_years_inside	147	0.509	0.000	1.343	0.000	6.000
CEO_positions	147	0.667	0.000	0.886	0.000	3.000
CEO_positions_outside	147	0.408	0.000	0.680	0.000	2.000
CEO_positions_inside	147	0.224	0.000	0.546	0.000	2.000
ExCEO	147	0.429	0.000	0.497	0.000	1.000
ExCEO_ouside	147	0.299	0.000	0.460	0.000	1.000
ExCEO_inside	147	0.163	0.000	0.371	0.000	1.000
CEO-level Controls:						
CEO Age	147	53.680	54.000	5.247	43.000	65.000
Outsider	147	0.204	0.000	0.404	0.000	1.000
Industry Experience	147	23.755	25.000	9.176	3.000	38.000
MBA Degree	147	0.401	0.000	0.492	0.000	1.000
AF Degree	147	0.279	0.000	0.450	0.000	1.000
Firm-level Controls:						
Bank Size	147	9.817	9.553	1.580	7.482	13.908
Bank Age	147	24.558	23.000	12.096	4.000	47.000
Equity	147	9.240	8.764	2.570	4.792	17.160
Charter	147	0.373	0.406	0.576	-1.044	1.456
Deposits	147	68.805	70.551	12.783	27.812	86.789
ROA	147	0.000	0.001	0.009	-0.036	0.016
VOL	146	0.005	0.002	0.006	0.000	0.025
ROA_neg	147	0.415	0.000	0.494	0.000	1.000
ROA_p25	147	0.245	0.000	0.431	0.000	1.000
Corporate Governance Controls:						
Board Size	147	13.742	13.000	3.898	7.000	23.000
Board Independence	147	0.787	0.818	0.123	0.455	0.952

Table 3-4: Prior CEO Experience and Changes in Bank Profitability

The table reports results from regressions examining whether the change in bank profitability surrounding CEO appointment is affected by the new CEO's prior CEO experience, and where the experience is obtained. The dependent variable is **ROA_change**, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variable in regressions (1)-(3) is **CEO_years**, the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. The independent variables in regressions (4)-(6) are **CEO_years_inside** and **CEO_years_outside**, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. Regressions (7)-(9) excludes CEOs with outside CEO experience and tests how inside CEO experience affects bank profitability changes. Regressions (10)-(12) excludes CEOs with inside CEO experience and tests how outside CEO experience affects bank profitability changes. **Outsider** is a dummy that equals one if the CEO is an outsider and zero if the CEO is an insider. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Bank Size** is the logarithm of total assets. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Equity Capital** is the fraction of equity book value to total assets. **Charter Value** is the logarithm of market to book value of equity. **Deposits** is the fraction of customer deposits to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) Years	(2) Years	(3) Years	(4) Years	(5) Years	(6) Years	(7) Years	(8) Years	(9) Years	(10) Years	(11) Years	(12) Years
CEO Experience	0.215**	0.224**	0.192*									
	(0.099)	(0.109)	(0.107)									
CEO Experience_outside				0.284**	0.300**	0.277**				0.224*	0.228	0.203
				(0.126)	(0.138)	(0.133)				(0.129)	(0.153)	(0.147)
CEO Experience_inside				0.045	0.061	0.014	-0.105	-0.084	-0.077		0.831	0.687
				(0.148)	(0.144)	(0.146)	(0.127)	(0.129)	(0.138)		(1.048)	(1.079)
CEO Age		0.981	0.926		0.978	0.905		0.147	0.177		-0.127	-0.029
		(0.943)	(0.957)		(0.936)	(0.944)		(0.612)	(0.650)		(0.301)	(0.287)
Outsider		-0.002	0.117		-0.079	0.034		0.306	0.323		-0.210	-0.196
		(0.259)	(0.249)		(0.267)	(0.256)		(0.216)	(0.218)		(0.150)	(0.151)
Industry Experience		-0.184	-0.189		-0.165	-0.166		0.059	0.018		0.188	0.133
		(0.155)	(0.152)		(0.147)	(0.145)		(0.092)	(0.109)		(0.216)	(0.238)
MBA Degree		0.037	-0.004		0.016	-0.028		0.082	0.109		-0.042	-0.032
		(0.190)	(0.202)		(0.192)	(0.206)		(0.148)	(0.181)		(0.197)	(0.191)
AF Degree		0.057	0.056		0.057	0.060		0.182	0.196	-0.144*	-0.144	-0.241**
		(0.190)	(0.185)		(0.186)	(0.180)		(0.119)	(0.128)	(0.084)	(0.088)	(0.101)
Bank Size	-0.104	-0.097	-0.180*	-0.095	-0.095	-0.179**	0.048	0.055	0.066	0.257	0.209	0.249
	(0.080)	(0.081)	(0.092)	(0.076)	(0.077)	(0.088)	(0.060)	(0.065)	(0.074)	(0.208)	(0.216)	(0.236)
Bank Age	0.227	0.213	0.227	0.251	0.237	0.254	-0.083	-0.084	-0.126	-0.101**	-0.110**	-0.115**
	(0.186)	(0.191)	(0.202)	(0.188)	(0.195)	(0.207)	(0.153)	(0.161)	(0.196)	(0.044)	(0.045)	(0.046)
Equity Capital	-0.097**	-0.104**	-0.106**	-0.100**	-0.105***	-0.108***	-0.007	-0.009	-0.007	-0.566**	-0.593**	-0.580**
	(0.039)	(0.040)	(0.041)	(0.039)	(0.040)	(0.041)	(0.021)	(0.021)	(0.020)	(0.264)	(0.269)	(0.267)
Charter Value	-0.520**	-0.514**	-0.512**	-0.511**	-0.510**	-0.511**	-0.262*	-0.267**	-0.260**	0.004	0.004	-0.000
	(0.254)	(0.257)	(0.252)	(0.245)	(0.244)	(0.239)	(0.132)	(0.124)	(0.125)	(0.008)	(0.008)	(0.009)
Deposits	0.007	0.007	0.004	0.007	0.006	0.003	0.007	0.008	0.009			0.839**
	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.005)	(0.006)	(0.006)			(0.391)

Table 3-4 (continued)

Board Size			0.842***			0.862**			0.015			0.279
			(0.319)			(0.334)			(0.259)			(1.002)
Board Independence			0.020			0.033			-0.507	1.003	-1.423	-2.250
			(0.784)			(0.781)			(0.788)	(1.330)	(4.204)	(4.202)
							-0.346	-1.357	-0.996			
Observations	147	147	147	147	147	147	(0.987)	(2.849)	(2.869)	123	123	123
R-squared	0.294	0.304	0.337	0.307	0.317	0.352				0.284	0.301	0.334
Year Dummy	YES	YES	YES	YES	YES	YES	103	103	103	YES	YES	YES
Adj. R-squared	0.126	0.100	0.128	0.135	0.110	0.140	0.545	0.579	0.582	0.081	0.052	0.077

Table 3-5: Prior CEO Experience and Changes in Bank Profitability – Alternative Measures of Prior CEO Experience

The table reports results from regressions examining whether the change in bank profitability surrounding CEO appointment is affected by the new CEO's prior CEO experience, and where the experience is obtained, with alternative measures of prior CEO experience. The dependent variable is **ROA_change**, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variable in regressions (1)-(3) is **CEO_positions**, the logarithm of total number of CEO positions the successor held as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. The independent variables in regressions (4)-(6) are **CEO_positions_inside** and **CEO_positions_outside**, the logarithm of total number of CEO positions the successor held within/outside the bank group prior to the current position. The independent variables in regressions (7)-(9) is **ExCEO**, a dummy variable that equals one if the successor held at least one CEO position prior to the current position. The independent variables in regressions (10)-(12) are **ExCEO_inside** and **ExCEO_outside**, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Outsider** is a dummy that equals one if the CEO is an outsider and zero if the CEO is an insider. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Bank Size** is the logarithm of total assets. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Equity Capital** is the fraction of equity book value to total assets. **Charter Value** is the logarithm of market to book value of equity. **Deposits** is the fraction of customer deposits to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) Positions	(2) Positions	(3) Positions	(4) Positions	(5) Positions	(6) Positions	(7) Dummy	(8) Dummy	(9) Dummy	(10) Dummy	(11) Dummy	(12) Dummy
CEO Experience	0.432**	0.457**	0.374*				0.342*	0.357*	0.290			
	(0.186)	(0.206)	(0.207)				(0.178)	(0.196)	(0.196)			
CEO Experience_outside				0.626**	0.701**	0.623**				0.490**	0.539**	0.497**
				(0.247)	(0.276)	(0.274)				(0.218)	(0.240)	(0.236)
CEO Experience_inside				0.087	0.095	0.020				0.087	0.091	0.030
				(0.256)	(0.244)	(0.255)				(0.228)	(0.220)	(0.225)
CEO Age		1.056	1.001		1.074	1.006		1.065	1.004		1.064	0.989
		(0.968)	(0.978)		(0.961)	(0.967)		(0.975)	(0.982)		(0.966)	(0.969)
Outsider		-0.023	0.099		-0.123	-0.005		-0.016	0.113		-0.093	0.023
		(0.259)	(0.252)		(0.261)	(0.254)		(0.259)	(0.251)		(0.260)	(0.251)
Industry Experience		-0.186	-0.190		-0.174	-0.174		-0.161	-0.169		-0.164	-0.167
		(0.153)	(0.152)		(0.148)	(0.146)		(0.154)	(0.152)		(0.145)	(0.144)
MBA Degree		0.037	0.002		-0.006	-0.044		0.022	-0.014		-0.007	-0.048
		(0.191)	(0.203)		(0.197)	(0.211)		(0.195)	(0.206)		(0.198)	(0.212)
AF Degree		0.049	0.048		0.083	0.082		0.046	0.045		0.069	0.073
		(0.185)	(0.184)		(0.182)	(0.179)		(0.187)	(0.184)		(0.184)	(0.180)
Bank Size	-0.113	-0.107	-0.183*	-0.089	-0.091	-0.168*	-0.111	-0.108	-0.189**	-0.098	-0.099	-0.183**
	(0.082)	(0.083)	(0.093)	(0.076)	(0.076)	(0.086)	(0.084)	(0.085)	(0.095)	(0.079)	(0.080)	(0.090)
Bank Age	0.229	0.214	0.222	0.238	0.226	0.240	0.220	0.213	0.223	0.241	0.234	0.251
	(0.185)	(0.191)	(0.202)	(0.186)	(0.194)	(0.206)	(0.186)	(0.192)	(0.204)	(0.188)	(0.197)	(0.212)
Equity Capital	-0.091**	-0.098**	-0.101**	-0.097**	-0.102**	-0.105**	-0.097**	-0.103**	-0.106**	-0.100**	-0.106**	-0.109***
	(0.039)	(0.040)	(0.041)	(0.040)	(0.040)	(0.041)	(0.040)	(0.041)	(0.042)	(0.040)	(0.041)	(0.041)
Charter Value	-0.514**	-0.510*	-0.511**	-0.506**	-0.504**	-0.505**	-0.527**	-0.526**	-0.524**	-0.509**	-0.508**	-0.508**
	(0.255)	(0.260)	(0.255)	(0.251)	(0.252)	(0.247)	(0.260)	(0.265)	(0.259)	(0.251)	(0.252)	(0.246)

Table 3-5 (continued)

Deposits	0.009	0.009	0.005	0.009	0.008	0.004	0.008	0.008	0.004	0.007	0.007	0.003
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)
Board Size			0.806***			0.805**			0.858***			0.864***
			(0.304)			(0.311)			(0.309)			(0.318)
Board Independence			-0.048			0.038			-0.031			0.049
			(0.767)			(0.771)			(0.761)			(0.769)
Observations	147	147	147	147	147	147	147	147	147	147	147	147
R-squared	0.295	0.306	0.336	0.310	0.324	0.353	0.283	0.294	0.328	0.301	0.313	0.348
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.128	0.104	0.127	0.139	0.118	0.142	0.113	0.087	0.115	0.128	0.104	0.134

Table 3-6: Prior CEO Experience and Changes in Bank Profitability in a Longer Post-succession Period

The table reports results from regressions examining whether the change in bank profitability is affected by two types of prior CEO experience in a longer post-succession period. The results in different panels show the effect as time goes by. The dependent variable is **ROA_change**, the difference of industry-adjusted ROA between year t-1 and the average over years post-succession. The independent variables in regressions (1)-(3) are **CEO_years_inside** and **CEO_years_outside**, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. The independent variables in regressions (4)-(6) are **CEO_positions_inside** and **CEO_positions_outside**, the logarithm of total number of CEO positions the successor held within/outside the bank group prior to the current position. The independent variables in regressions (7)-(9) are **ExCEO_inside** and **ExCEO_outside**, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. Control variables in regression (1), (4) and (7) are firm-level controls only: Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Regression (2), (5) and (8) add CEO-level controls including CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Regression (3), (6) and (9) further add corporate governance controls: Board Size and Board Independence. Variable definitions can be found in Table A 3-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) Years	(2) Years	(3) Years	(4) Positions	(5) Positions	(6) Positions	(7) Dummy	(8) Dummy	(9) Dummy
Panel A: from year t-1 to t+3									
CEO Experience_outside	0.286**	0.295**	0.284**	0.599***	0.658***	0.608**	0.480**	0.514**	0.486**
	(0.116)	(0.124)	(0.120)	(0.222)	(0.245)	(0.247)	(0.201)	(0.217)	(0.216)
CEO Experience_inside	0.033	0.060	0.016	0.069	0.089	0.032	0.087	0.100	0.047
	(0.133)	(0.133)	(0.134)	(0.244)	(0.240)	(0.250)	(0.209)	(0.207)	(0.213)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes	No	No	Yes
Observations	131	131	131	131	131	131	131	131	131
Panel B: from year t-1 to t+4									
CEO Experience_outside	0.322**	0.311**	0.304**	0.711***	0.720***	0.670**	0.607**	0.588**	0.557**
	(0.127)	(0.130)	(0.125)	(0.252)	(0.267)	(0.262)	(0.235)	(0.235)	(0.230)
CEO Experience_inside	-0.060	0.023	-0.019	-0.086	0.016	-0.044	-0.026	0.077	0.026
	(0.164)	(0.171)	(0.165)	(0.297)	(0.299)	(0.296)	(0.262)	(0.257)	(0.253)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes	No	No	Yes
Observations	111	111	111	111	111	111	111	111	111
Panel C: from year t-1 to t+5									
CEO Experience_outside	0.341**	0.350**	0.331**	0.620**	0.682**	0.614*	0.552**	0.586**	0.538**
	(0.131)	(0.151)	(0.143)	(0.275)	(0.327)	(0.317)	(0.236)	(0.273)	(0.264)
CEO Experience_inside	0.120	0.177	0.126	0.212	0.293	0.227	0.238	0.308	0.236
	(0.141)	(0.142)	(0.145)	(0.270)	(0.265)	(0.272)	(0.246)	(0.244)	(0.260)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes	No	No	Yes
Observations	82	82	82	82	82	82	82	82	82

Table 3-7: Prior CEO Experience and Changes in Bank Profitability – Controlling for Pre-turnover Bank Performance

The table reports results from regressions examining whether the change in bank profitability is affected by two types of prior CEO experience after controlling for pre-turnover bank performance. The dependent variable is **ROA_change**, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variables are **CEO_years_inside** and **CEO_years_outside**, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. In regressions (1)-(3) I control for **ROA_neg**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative. In regressions (4)-(6) I control for **ROA_p25**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Variable definitions can be found in Table A 3-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) ROA_neg	(2) ROA_neg	(3) ROA_neg	(4) ROA_p25	(5) ROA_p25	(6) ROA_p25
CEO Experience_outside	0.279**	0.300**	0.277**	0.234**	0.254**	0.230**
	(0.117)	(0.130)	(0.124)	(0.109)	(0.120)	(0.113)
CEO Experience_inside	0.120	0.181	0.136	0.193	0.223*	0.177
	(0.137)	(0.137)	(0.140)	(0.131)	(0.134)	(0.138)
ROA Dummy	0.709***	0.777***	0.752***	0.919***	0.975***	0.965***
	(0.180)	(0.192)	(0.189)	(0.235)	(0.242)	(0.236)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.380	0.400	0.427	0.399	0.419	0.450
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.219	0.211	0.233	0.244	0.236	0.263

Table 3-8: Prior CEO Experience and Changes in Bank Profitability – Controlling for the Interaction Between Pre-turnover Bank Performance and Prior CEO Experience

The table reports results from regressions examining whether the change in bank profitability is affected by two types of prior CEO experience after controlling for the interaction between pre-turnover bank performance and prior CEO experience. The dependent variable is **ROA_change**, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variables are **CEO_years_inside** and **CEO_years_outside**, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. In regressions (1)-(3) the interaction term is **ROA_neg**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative. In regressions (4)-(6) the interaction term is **ROA_p25**, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Variable definitions can be found in Table A 3-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) ROA_neg	(2) ROA_neg	(3) ROA_neg	(4) ROA_p25	(5) ROA_p25	(6) ROA_p25
CEO Experience_outside	-0.071	-0.085	-0.075	-0.032	-0.027	-0.053
	(0.116)	(0.146)	(0.131)	(0.105)	(0.136)	(0.120)
CEO Experience_inside	0.100	0.201	0.186	0.050	0.091	0.068
	(0.151)	(0.168)	(0.177)	(0.124)	(0.134)	(0.142)
ROA Dummy	0.356**	0.430**	0.450**	0.428**	0.468**	0.467**
	(0.166)	(0.180)	(0.181)	(0.201)	(0.210)	(0.206)
ROA Dummy * CEO Experience_outside	0.705***	0.732***	0.681***	0.761***	0.743***	0.761***
	(0.219)	(0.227)	(0.219)	(0.269)	(0.278)	(0.269)
ROA Dummy * CEO Experience_inside	0.088	0.035	-0.018	0.559	0.540	0.378
	(0.248)	(0.258)	(0.268)	(0.390)	(0.420)	(0.445)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.454	0.473	0.489	0.486	0.495	0.525
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.300	0.294	0.303	0.341	0.324	0.352

Table 3-9: The Channels of Bank Profitability Improvement

The table reports the results examining different channels of bank profitability improvement. Columns (1) to (5) reports results from regressions examining whether two types of CEO experience affect the change in bank revenue, cost, loan loss provision (LLP), non-discretionary LLP, discretionary LLP respectively. The dependent variables are **Revenue_change**, **Cost_change**, **LLP_change**, **NonDiscreLLP_change**, **Discre_LLP_change** from specification (1) to (5). Variable definitions can be found in Table A 3-1. The independent variables are **CEO_years_inside** and **CEO_years_outside**, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Outsider** is a dummy that equals one if the CEO is an outsider and zero if the CEO is an insider. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Bank Size** is the logarithm of total assets. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Equity Capital** is the fraction of equity book value to total assets. **Charter Value** is the logarithm of market to book value of equity. **Deposits** is the fraction of customer deposits to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) Revenue	(2) Cost	(3) LLP	(4) Non-Discretionary LLP	(5) Discretionary LLP
CEO Experience_outside	-0.020	-17.982***	-2.630*	-0.025	-0.405**
	(0.084)	(6.651)	(1.468)	(0.049)	(0.198)
CEO Experience_inside	-0.042	5.827	-2.309	0.025	-0.171
	(0.162)	(7.332)	(2.148)	(0.050)	(0.216)
CEO Age	0.146	-7.913	-12.369	-0.188	-1.399
	(0.836)	(40.963)	(12.112)	(0.352)	(1.110)
Outsider	0.172	-4.245	-1.202	-0.034	0.133
	(0.187)	(11.996)	(3.342)	(0.105)	(0.321)
Industry Experience	-0.095	4.446	3.660*	0.013	0.512**
	(0.169)	(7.549)	(1.905)	(0.072)	(0.244)
MBA Degree	0.041	7.275	-3.157	0.054	-0.323
	(0.168)	(9.640)	(2.536)	(0.068)	(0.275)
AF Degree	0.173	-11.983	-2.738	-0.115	0.027
	(0.150)	(8.102)	(2.242)	(0.084)	(0.232)
Bank Size	-0.170	5.314	0.754	-0.009	0.020
	(0.103)	(4.424)	(1.128)	(0.033)	(0.134)
Bank Age	0.051	-7.562	-1.032	-0.077	-0.052
	(0.235)	(8.874)	(2.803)	(0.082)	(0.293)
Equity Capital	0.019	5.555***	1.093**	0.033**	0.064
	(0.034)	(1.687)	(0.542)	(0.016)	(0.055)
Charter Value	-0.584***	23.812**	5.527*	0.336***	0.097
	(0.222)	(9.617)	(3.042)	(0.094)	(0.271)
Deposits	-0.011	-0.022	-0.091	-0.001	-0.017
	(0.010)	(0.552)	(0.130)	(0.004)	(0.015)
Board Size	0.232	-29.533*	-0.658	0.125	0.260
	(0.303)	(17.345)	(3.966)	(0.133)	(0.538)
Board Independence	0.112	-10.424	13.684	0.436	0.545
	(1.000)	(40.377)	(10.387)	(0.401)	(1.094)
Observations	139	114	139	119	119
R-squared	0.361	0.426	0.264	0.409	0.307
Year Dummy	YES	YES	YES	YES	YES
Adj. R-squared	0.135	0.200	0.004	0.180	0.038

3.6.1 Additional Tables

Table A 3-1: Variable Definitions

The table gives definitions of all the variables employed in the analysis.

Variable	Definition	Data Source
Dependent variables:		
ROA_change	The difference of industry-adjusted ROA 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
Revenue_change	The difference of industry-adjusted revenue between year t-1 and the average over years t+1 and t+2. Revenue is total current operating revenues scaled by total assets.	Compustat
Cost_change	The difference of industry-adjusted cost-income ratio between year t-1 and the average over years t+1 and t+2. Cost-income ratio is total current operating expenses divided by the sum of net interest income and non-interest income.	Compustat
LLP_change	The difference of industry-adjusted loan loss provision (LLP) between year t-1 and the average over years t+1 and t+2.	Compustat
Discre_LLP_change	The difference of industry-adjusted discretionary LLP between year t-1 and the average over years t+1 and t+2. Discretionary LLP is estimated with Model (3).	Compustat
NonDiscreLLP_change	The difference of industry-adjusted non-discretionary LLP (NonDiscreLLP) between year t-1 and the average over years t+1 and t+2. NonDiscreLLP is the value of total LLP subtracted by the amount of discretionary LLP.	Compustat
Independent Variables:		
CEO_years	The logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position.	Hand-collected
CEO_years_inside	The logarithm of total number of years the successor worked as a CEO within the bank group prior to the current position.	Hand-collected
CEO_years_outside	The logarithm of total number of years the successor worked as a CEO outside the bank group prior to the current position.	Hand-collected
CEO_positions	The logarithm of total number of CEO positions the successor held as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position.	Hand-collected

Table A 3-1 (continued)

CEO_positions_inside	The logarithm of total number of CEO positions the successor held within the bank group prior to the current position.	Hand-collected
CEO_positions_outside	The logarithm of total number of CEO positions the successor held outside the bank group prior to the current position.	Hand-collected
ExCEO	A dummy variable that equals one if the successor held at least one CEO position prior to the current position.	Hand-collected
ExCEO_inside	A dummy variable that equals one if the successor held at least one CEO position within the bank group prior to the current position.	Hand-collected
ExCEO_ouside	A dummy variable that equals one if the successor held at least one CEO position outside the bank group prior to the current position.	Hand-collected
CEO-level Controls:		
CEO Age	The logarithm of the natural age of the new CEO when he/she is appointed.	Execucomp
Outsider	Dummy that equals one if the CEO is an outsider and zero if the CEO is an insider.	Hand-collected
Industry Experience	The logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms.	Hand-collected
MBA Degree	Dummy that equals one if the CEO has an MBA degree.	Hand-collected
AF Degree	Dummy that equals one if the CEO has an accounting or finance related degree.	Hand-collected
Firm-level Controls:		
Bank Size	The logarithm of total assets.	Compustat
Bank Age	The logarithm of total number of years the bank has been in Compustat.	Compustat
Equity Capital	The fraction of equity book value to total assets.	Compustat
Charter Value	The logarithm of market to book value of equity.	CRSP, Compustat, Bloomberg
Deposits	The fraction of customer deposits to total assets.	Compustat, S&P Capital IQ, Bloomberg
ROA_neg	Dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative.	Compustat
ROA_p25	Dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample.	Compustat
Corporate Governance Controls:		
Board Size	The logarithm of total number of directors sitting on board.	BoardEx, ISS, annual report
Board Independence	The ratio of independent directors to the total directors on the board.	BoardEx, ISS, annual report

Table A 3-2: Descriptive Statistics

The table gives summary of descriptive statistics (the original value) of the variables as a supplement of Table 3-3. It presents the number of observations, mean, median, standard deviation, minimum, and maximum for each variables. All variables are winsorized at the 2.5% and 97.5% levels. Variable definitions are provided in Table A 3-1 in the Appendix.

Variable	N	Mean	Median	SD	Min	Max
CEO_years	147	0.720	0.000	0.928	0.000	2.651
CEO_years_outside	147	0.520	0.000	0.857	0.000	2.485
CEO_years_inside	147	0.215	0.000	0.525	0.000	1.946
CEO_positions	147	0.389	0.000	0.478	0.000	1.386
CEO_positions_outside	147	0.252	0.000	0.401	0.000	1.099
CEO_positions_inside	147	0.138	0.000	0.323	0.000	1.099
CEO Age	147	3.978	3.989	0.099	3.761	4.174
Industry Experience	147	3.105	3.258	0.521	1.386	3.664
Bank Age	147	3.104	3.178	0.564	1.609	3.871
Board Size	147	2.579	2.565	0.292	1.946	3.135

Table A 3-3: Prior CEO Experience and Changes in Bank Profitability – Controlling for Pre-turnover Bank Performance; Alternative Measures of Prior CEO Experience

The table reports results from regressions examining whether the change in bank profitability is affected by two types of prior CEO experience after controlling for pre-turnover bank performance, with alternative measures of prior CEO experience. The dependent variable is ROA_change, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variables in regressions (1)-(3) are CEO_positions_inside and CEO_positions_outside, the logarithm of total number of CEO positions the successor held within/outside the bank group prior to the current position. The independent variables in regressions (4)-(6) are ExCEO_inside and ExCEO_outside, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. In Panel A I control for ROA_neg, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative. In Panel B I control for ROA_p25, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Positions	(2) Positions	(3) Positions	(4) Dummy	(5) Dummy	(6) Dummy
Panel A: Controlling for ROA_neg						
CEO Experience_outside	0.638***	0.731***	0.658***	0.498**	0.559**	0.515**
	(0.223)	(0.250)	(0.246)	(0.202)	(0.224)	(0.218)
CEO Experience_inside	0.237	0.308	0.245	0.219	0.278	0.225
	(0.240)	(0.235)	(0.244)	(0.211)	(0.211)	(0.217)
ROA_neg	0.732***	0.800***	0.778***	0.735***	0.800***	0.776***
	(0.181)	(0.192)	(0.192)	(0.184)	(0.196)	(0.194)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.387	0.411	0.434	0.379	0.400	0.428
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.229	0.225	0.242	0.218	0.211	0.233
Panel A: Controlling for ROA_p25						
CEO Experience_outside	0.525**	0.611**	0.532**	0.419**	0.484**	0.439**
	(0.212)	(0.236)	(0.233)	(0.191)	(0.209)	(0.203)
CEO Experience_inside	0.343	0.369	0.303	0.301	0.321	0.266
	(0.232)	(0.231)	(0.246)	(0.205)	(0.209)	(0.218)
ROA_p25	0.921***	0.976***	0.971***	0.941***	0.998***	0.989***
	(0.238)	(0.243)	(0.239)	(0.240)	(0.246)	(0.239)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.403	0.426	0.453	0.399	0.420	0.452
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.249	0.244	0.267	0.244	0.238	0.266

Table A 3-4: Prior CEO Experience and Changes in Bank Profitability – Controlling for the Interaction Between Pre-turnover Bank Performance and Prior CEO Experience; Alternative Measures of Prior CEO Experience

The table reports results from regressions examining whether the change in bank profitability is affected by two types of prior CEO experience after controlling for the interaction between pre-turnover performance and prior CEO experience, with alternative measures of prior CEO experience. The dependent variable is ROA_change, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variables in regressions (1)-(3) are CEO_positions_inside and CEO_positions_outside, the logarithm of total number of CEO positions the successor held within/outside the bank group prior to the current position. The independent variables in regressions (4)-(6) are ExCEO_inside and ExCEO_outside, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. In Panel A I control the interaction term is ROA_neg, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is negative. In Panel B the interaction term is ROA_p25, a dummy that equals one if the bank's industry-adjusted ROA pre-turnover is below the 25th percentile of the sample. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Positions	(2) Positions	(3) Positions	(4) Dummy	(5) Dummy	(6) Dummy
Panel A: Interaction with ROA_neg						
CEO Experience_outside	-0.003	0.056	0.035	-0.031	0.009	0.021
	(0.212)	(0.264)	(0.257)	(0.196)	(0.242)	(0.234)
CEO Experience_inside	0.230	0.325	0.302	0.218	0.299	0.297
	(0.246)	(0.255)	(0.276)	(0.231)	(0.244)	(0.261)
ROA_neg	0.383**	0.462**	0.474**	0.370**	0.447**	0.475**
	(0.167)	(0.181)	(0.186)	(0.167)	(0.180)	(0.184)
ROA_neg * CEO experience_outside	1.474***	1.426***	1.344***	1.275***	1.249***	1.145***
	(0.435)	(0.444)	(0.441)	(0.406)	(0.409)	(0.404)
ROA_neg * CEO experience_inside	0.034	-0.025	-0.109	0.067	0.025	-0.083
	(0.481)	(0.498)	(0.508)	(0.412)	(0.425)	(0.448)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.459	0.474	0.490	0.448	0.462	0.479
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.308	0.295	0.303	0.293	0.280	0.288
Panel B: Interaction with ROA_p25						
CEO Experience_outside	0.026	0.075	-0.009	0.019	0.066	0.019
	(0.192)	(0.254)	(0.250)	(0.176)	(0.226)	(0.217)
CEO Experience_inside	0.111	0.159	0.118	0.106	0.143	0.125
	(0.218)	(0.226)	(0.255)	(0.197)	(0.206)	(0.229)
ROA_p25	0.473**	0.527**	0.520**	0.466**	0.521**	0.519**
	(0.208)	(0.217)	(0.218)	(0.196)	(0.206)	(0.206)
ROA_p25 * CEO Experience_outside	1.458***	1.367**	1.406**	1.421***	1.340**	1.374**
	(0.516)	(0.540)	(0.540)	(0.541)	(0.555)	(0.540)
ROA_p25 * CEO Experience_inside	0.966	0.926	0.654	0.549	0.514	0.284
	(1.132)	(1.182)	(1.223)	(0.690)	(0.725)	(0.759)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	147	147	147	147	147	147
R-squared	0.473	0.482	0.509	0.475	0.483	0.514
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.326	0.306	0.330	0.328	0.308	0.337

Table A 3-5: Prior CEO Experience and Earnings Manipulation – Alternative Estimation Method

The table reports results from regressions examining whether the changes in non-discretionary LLP and discretionary LLP are affected by two types of prior CEO experience. Columns (1)-(3) report results whether the change in non-discretionary LLP is affected by two types of prior CEO experience. The dependent variable is NonDiscreLLP_change, the difference of non-discretionary LLP between year t-1 and the average over years t+1 and t+2. Columns (4)-(6) report results whether the change in non-discretionary LLP is affected by two types of prior CEO experience. The dependent variable is Discre_LLP_change, the difference of non-discretionary LLP between year t-1 and the average over years t+1 and t+2. Discretionary LLP is estimated with Model (3) using an alternative method described in section 3.4.6.3. The independent variables are CEO_years_inside and CEO_years_outside, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Non-Discretionary LLP	(2) Non-Discretionary LLP	(3) Non-Discretionary LLP	(4) Discretionary LLP	(5) Discretionary LLP	(6) Discretionary LLP
CEO Experience_outside	-0.074	-0.086	-0.082	-0.314**	-0.331**	-0.335**
	(0.136)	(0.172)	(0.181)	(0.120)	(0.133)	(0.136)
CEO Experience_inside	-0.011	-0.050	-0.065	0.014	-0.033	-0.056
	(0.136)	(0.137)	(0.139)	(0.160)	(0.170)	(0.170)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	119	119	119	119	119	119
R-squared	0.212	0.229	0.237	0.147	0.192	0.195
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	-0.011	-0.046	-0.059	-0.095	-0.096	-0.117

Table A 3-6: Prior CEO Experience and Changes in Bank Risk

The table reports results from regressions examining whether the change in bank risk is affected by two types of prior CEO experience. Columns (1)-(3) report results whether the change in bank earnings volatility is affected by two types of prior CEO experience. The dependent variable is 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-1 through t-3. Earnings volatility post succession is the standard deviation of industry-adjusted ROA over years t through t+2. Columns (4)-(6) report results whether the change in bank leverage risk measured by Tier 1 capital ratio is affected by two types of prior CEO experience. The dependent variable is 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. The independent variables are CEO_years_inside and CEO_years_outside, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Earnings Volatility	(2) Earnings Volatility	(3) Earnings Volatility	(4) Leverage Risk	(5) Leverage Risk	(6) Leverage Risk
CEO Experience_outside	-0.095	-0.061	-0.060	-8.024	-1.487	-4.146
	(0.062)	(0.067)	(0.066)	(22.010)	(25.670)	(26.279)
CEO Experience_inside	0.134	0.145	0.147	18.666	3.850	-3.023
	(0.086)	(0.092)	(0.092)	(26.411)	(28.375)	(25.947)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	146	146	146	137	137	137
R-squared	0.341	0.361	0.362	0.357	0.373	0.389
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.176	0.165	0.151	0.191	0.172	0.177

Table A 3-7: Prior CEO Experience and Changes in Bank Profitability: Pre- and Within/Post-Financial Crisis Periods

The table reports results whether the relation between prior CEO experience and the change in bank profitability is affected by the recent financial crisis. The regressions are conducted with two sub-samples respectively: the succession events pre-crisis and the events during and post-crisis. Years before 2007 are classified as the pre-crisis period. Year 2007 and afterwards is defined as the within/post-crisis period. Panel A reports results for the pre-crisis period and Panel B reports results for the within/post-crisis. The dependent variable is ROA_change, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variable in regressions (1)-(3) is CEO_years, the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. The independent variable in regressions (4)-(6) are CEO_years_inside and CEO_years_outside, the logarithm of total number of years the successor worked as a CEO within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Years	(2) Years	(3) Years	(4) Years	(5) Years	(6) Years
Panel A: Pre-crisis						
CEO Experience	-0.093	-0.095	-0.108			
	(0.076)	(0.089)	(0.080)			
CEO Experience_outside				-0.116	-0.134	-0.130
				(0.092)	(0.106)	(0.089)
CEO Experience_inside				0.028	0.064	0.030
				(0.109)	(0.108)	(0.119)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	78	78	78	78	78	78
R-squared	0.552	0.562	0.650	0.558	0.574	0.655
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.405	0.364	0.472	0.402	0.369	0.468
Panel B: Within/post-crisis						
CEO Experience	0.451***	0.507***	0.464**			
	(0.155)	(0.169)	(0.175)			
CEO Experience_outside				0.601***	0.614***	0.574***
				(0.196)	(0.193)	(0.196)
CEO Experience_inside				0.053	0.151	0.079
				(0.222)	(0.242)	(0.277)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes
Observations	69	69	69	69	69	69
R-squared	0.367	0.394	0.408	0.402	0.417	0.433
Year Dummy	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.202	0.159	0.143	0.233	0.173	0.162

Table A 3-8: Prior CEO Experience and Changes in Bank Profitability: Pre- and Within/Post-Financial Crisis - Alternative Measures of Prior CEO Experience

The table reports results whether the relation between prior CEO experience and the change in bank profitability is affected by the recent financial crisis. The regressions are conducted with two sub-samples respectively: the succession events pre-crisis and the events during and post-crisis. Years before 2007 are classified as the pre-crisis period. Year 2007 and afterwards is defined as the within/post-crisis period. Panel A reports results for the pre-crisis period and Panel B reports results for the within/post-crisis. The dependent variable is ROA_change, the difference of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. The independent variable in regressions (1)-(3) is CEO_positions, the logarithm of total number of CEO positions the successor held as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. The independent variables in regressions (4)-(6) are CEO_positions_inside and CEO_positions_outside, the logarithm of total number of CEO positions the successor held within/outside the bank group prior to the current position. The independent variables in regressions (7)-(9) is ExCEO, a dummy variable that equals one if the successor held at least one CEO position prior to the current position. The independent variables in regressions (10)-(12) are ExCEO_inside and ExCEO_outside, dummy variables that equal one if the successor held at least one CEO position within/outside the bank group prior to the current position. CEO-level controls include CEO Age, Outsider, Industry Experience, MBA Degree, and AF Degree. Firm-level controls include Bank Size, Bank Age, Equity Capital, Charter Value, and Deposits. Corporate Governance Controls are Board Size and Board Independence. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) Positions	(2) Positions	(3) Positions	(4) Positions	(5) Positions	(6) Positions	(7) Dummy	(8) Dummy	(9) Dummy	(10) Dummy	(11) Dummy	(12) Dummy
Panel A: Pre-crisis												
CEO Experience	-0.012	0.022	-0.043				-0.086	-0.078	-0.109			
	(0.120)	(0.136)	(0.145)				(0.119)	(0.130)	(0.132)			
CEO Experience_outside				-0.054	-0.041	-0.056				-0.129	-0.146	-0.132
				(0.171)	(0.200)	(0.195)				(0.152)	(0.168)	(0.160)
CEO Experience_inside				0.085	0.143	0.044				0.124	0.170	0.133
				(0.223)	(0.225)	(0.250)				(0.170)	(0.171)	(0.181)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Observations	78	78	78	78	78	78	78	78	78	78	78	78
R-squared	0.535	0.548	0.633	0.537	0.551	0.633	0.539	0.551	0.638	0.546	0.562	0.642
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.383	0.343	0.446	0.375	0.336	0.436	0.389	0.347	0.453	0.387	0.351	0.449
Panel B: Within/post-crisis												
CEO Experience	0.758**	0.790**	0.669*				0.666**	0.661*	0.517			
	(0.313)	(0.332)	(0.365)				(0.325)	(0.347)	(0.391)			
CEO Experience_outside				1.135**	1.129**	0.994**				0.930**	0.915**	0.800*
				(0.426)	(0.453)	(0.469)				(0.386)	(0.406)	(0.411)
CEO Experience_inside				0.154	0.253	0.147				0.084	0.153	-0.021
				(0.384)	(0.386)	(0.460)				(0.358)	(0.373)	(0.463)
CEO-level Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Firm-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate Governance Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Observations	69	69	69	69	69	69	69	69	69	69	69	69
R-squared	0.344	0.365	0.380	0.375	0.386	0.400	0.324	0.340	0.363	0.359	0.369	0.391

Table A 3-8 (continued)

Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.174	0.119	0.103	0.198	0.130	0.113	0.148	0.084	0.078	0.177	0.105	0.100

3.7 Appendix B

The initial sample of this chapter is all the firms in ExecuComp from 1993 to 2015 with SIC code between 6000 and 6300. I exclude firms that do not match well the definition of a lending institution. Appendix B.1 shows the firms that are exclude from the final sample, and Appendix B.2 lists all the CEO succession events in the final sample.

B.1: Excluded Financial Firms in SIC Codes 6000-6300

1	AFFILIATED MANAGERS GRP INC	53	INVESTMENT TECHNOLOGY GP INC
2	ALEX BROWN INC	54	JANUS CAPITAL GROUP INC
3	AMERICAN EXPRESS CO	55	JANUS HENDERSON GROUP PLC
4	AMERIPRISE FINANCIAL INC	56	JEFFERIES GROUP LLC
5	ASSOCIATES FIRST CAP -CL A	57	LABRANCHE & CO INC
6	AXA FINANCIAL INC	58	LEGG MASON INC
7	BEAR STEARNS COMPANIES INC	59	LEHMAN BROTHERS HOLDINGS INC
8	BENEFICIAL CORP	60	LENDINGTREE INC
9	BISYS GROUP INC	61	MARKETAXESS HOLDINGS INC
10	BLACKROCK INC	62	MASTERCARD INC
11	BLUCORA INC	63	MERRILL LYNCH & CO INC
12	CALAMOS ASSET MANAGEMENT INC	64	METAVANTE TECHNOLOGIES INC
13	CAPITAL ONE FINANCIAL CORP	65	METRIS COMPANIES INC
14	CBOE GLOBAL MARKETS INC	66	MONEYGRAM INTERNATIONAL INC
15	CITIGROUP GLOBAL MKTS HLDGS	67	MORGAN KEEGAN INC
16	CME GROUP INC	68	MORGAN STANLEY
17	CONCORD EFS INC	69	MSCI INC
18	CONSECO FINANCE CORP	70	NASDAQ INC
19	CREDIT SUISSE USA INC	71	NATIONAL DISC BROKERS INC
20	DAIN RAUSCHER CORP	72	NAVIENT CORP
21	DEAN WITTER DISCOVER & CO	73	NEUBERGER BERMAN INC
22	DISCOVER FINANCIAL SVCS	74	NUVEEN INVESTMENTS INC
23	DREYFUS CORP	75	NYSE EURONEXT
24	E TRADE FINANCIAL CORP	76	OPTIONSXPRESS HOLDINGS INC
25	EATON VANCE CORP	77	PAINE WEBBER GROUP
26	EDWARDS (A G) INC	78	PIONEER GROUP INC
27	ENCORE CAPITAL GROUP INC	79	PIPER JAFFRAY COS
28	ENOVA INTERNATIONAL INC	80	PRA GROUP INC
29	EVERCORE INC	81	PRICE (T. ROWE) GROUP
30	FANNIE MAE	82	PRINCIPAL FINANCIAL GRP INC
31	FEDERAL HOME LOAN MORTG CORP	83	QUICK & REILLY GROUP INC
32	FEDERATED INVESTORS INC	84	RAYMOND JAMES FINANCIAL CORP
33	FINANCIAL ENGINES INC	85	RENN FUND INC
34	FINANCIAL FEDERAL CORP	86	SCHWAB (CHARLES) CORP
35	FINOVA GROUP INC	87	SEI INVESTMENTS CO
36	FIRST USA INC	88	SLM CORP

B.1 (continued)

37	FOOTHILL GROUP INC -CL A	89	STIFEL FINANCIAL CORP
38	FRANKLIN RESOURCES INC	90	SWK HOLDINGS CORP
39	GENERAL MOTORS FINL CO INC	91	SWS GROUP INC
40	GLOBAL BROKERAGE INC	92	SYNCHRONY FINANCIAL
41	GOLDMAN SACHS GROUP INC	93	TD AMERITRADE HOLDING CORP
42	GREENHILL & CO INC	94	TD WATERHOUSE GROUP INC
43	HAMBRECHT & QUIST GROUP INC	95	TRADESTATION GROUP INC
44	HEARTLAND PAYMENT SYSTEMS	96	TUCKER ANTHONY SUTRO
45	HELLER FINANCIAL INC	97	VIRTUS INVESTMENT PTNRS INC
46	HFF INC	98	VISA INC
47	HIGHER ONE HOLDINGS INC	99	WADDELL&REED FINL INC -CL A
48	HSBC FINANCE CORP	100	WATERHOUSE INVESTORS SVCS
49	INTERACTIVE BROKERS GROUP	101	WESTERN UNION CO
50	INTERCONTINENTAL EXCHANGE	102	WISDOMTREE INVESTMENTS INC
51	INTL FCSTONE INC	103	WORLD ACCEPTANCE CORP/DE
52	INVESCO LTD		

B.2: CEO Succession Events in the Final Sample

No.	Company name	Year	New CEO Full Name	Outgoing CEO Full Name	Outsider	Prior CEO Experience (years)	Prior CEO Experience inside the Bank (years)	Prior CEO Experience outside the Bank (years)	Tenure (years)
1	AHMANSON (H F) & CO	1993	Charles R. Rinehart	Richard H. Deihl	0	6.00	0.00	6.00	5
2	AMEGY BANCORPORATION INC	2000	Paul B. Murphy, Jr.	Walter E. Johnson	0	0.00	0.00	0.00	5
3	AMSOUTH BANCORPORATION	1996	C. Dowd Ritter	John W. Woods	0	0.00	0.00	0.00	10
4	ANCHOR BANCORP WISCONSIN INC	2009	Chris Michael Bauer	Douglas J. Timmerman	1	3.00	0.00	3.00	6
5	ASSOCIATED BANC-CORP	2000	Robert C. Gallagher	Harry B. Conlon	0	0.00	0.00	0.00	2
6	ASSOCIATED BANC-CORP	2003	Paul S. Beideman	Robert C. Gallagher	1	0.00	0.00	0.00	6
7	ASSOCIATED BANC-CORP	2009	Philip B. Flynn	Paul S. Beideman	1	0.00	0.00	0.00	9
8	ASTORIA FINANCIAL CORP	2011	Monte N. Redman	George L. Engelke, Jr.	0	0.00	0.00	0.00	6
9	BANCORPSOUTH BANK	2012	James D. Rollins, III	Aubrey Burns Patterson, Jr.	1	0.00	0.00	0.00	6
10	BANK MUTUAL CORP	2013	David A. Baumgarten	Michael T. Crowley, Jr.	0	22.00	0.00	22.00	4
11	BANK OF AMERICA CORP	2001	Kenneth D. Lewis	Hugh L. McColl, Jr.	0	0.00	0.00	0.00	8
12	BANK OF AMERICA CORP	2010	Brian T. Moynihan	Kenneth D. Lewis	0	0.00	0.00	0.00	8
13	BANK OF HAWAII CORP	1994	Lawrence M. Johnson	H. Howard Stephenson	0	0.00	0.00	0.00	6
14	BANK OF HAWAII CORP	2000	Michael E. O'Neill	Lawrence M. Johnson	1	0.00	0.00	0.00	4
15	BANK OF HAWAII CORP	2004	Allan R. Landon	Michael E. O'Neill	0	0.00	0.00	0.00	6
16	BANK OF HAWAII CORP	2010	Peter S. Ho	Allan R. Landon	0	0.00	0.00	0.00	8
17	BANK OF NEW YORK MELLON CORP	1997	Thomas A. Renyi, B.A., M.B.A.	J. Carter Bacot	0	0.00	0.00	0.00	10
18	BANK OF NEW YORK MELLON CORP	2011	Gerald L. Hassell	Robert P. Kelly, CA	0	0.00	0.00	0.00	6
19	BANK ONE CORP	2000	James Dimon	John Bonnet McCoy	1	1.00	0.00	1.00	4
20	BANKBOSTON CORP	1995	Charles K. Gifford	Ira Stepanian	0	0.00	0.00	0.00	3
21	BANKERS TRUST CORP	1996	Frank N. Newman	Charles Steadman Sanford, Jr.	1	0.00	0.00	0.00	2
22	BB&T CORP	2009	Kelly S. King	John A. Allison, IV	0	0.00	0.00	0.00	9

B.2 (continued)

23	BOFI HOLDING INC	2007	Gregory Garrabrants	Gary Lewis Evans	1	0.00	0.00	0.00	11
24	BOSTON PRIVATE FINL HOLDINGS	2010	Clayton G. Deutsch	Timothy Landon Vaill	1	0.00	0.00	0.00	8
25	BROOKLINE BANCORP INC	2009	Paul A. Perrault	Richard P. Chapman, Jr.	1	10.00	0.00	10.00	9
26	CASCADE BANCORP	2012	Terry E. Zink	Patricia L. Moss	1	5.50	0.00	5.50	4
27	CENTER FINANCIAL CORP	2002	Seon Hong Kim	Robert J. Narkis	0	4.08	4.08	0.00	4
28	CENTER FINANCIAL CORP	2007	Jae Whan Yoo	Seon Hong Kim	1	1.42	0.00	1.42	3
29	CENTRAL PACIFIC FINANCIAL CP	2011	John C. Dean, Jr.	Ronald K. Migita	0	20.33	0.00	20.33	3
30	CENTRAL PACIFIC FINANCIAL CP	2015	Agnes Catherine Ngo	John C. Dean, Jr.	0	0.00	0.00	0.00	3
31	CENTURA BANKS INC	1997	Cecil W. Sewell, Jr.	Robert R. Mauldin	0	0.00	0.00	0.00	3
32	CIT GROUP INC	2004	Jeffrey M. Peek	Albert R. Gamper, Jr.	0	0.00	0.00	0.00	5
33	CIT GROUP INC	2010	John A. Thain	Jeffrey M. Peek	1	4.92	0.00	4.92	5
34	CITIGROUP INC	2003	Charles Prince, III	Sanford I. Weill	0	1.08	1.08	0.00	4
35	CITIGROUP INC	2007	Vikram S. Pandit	Charles Prince, III	1	0.67	0.67	0.00	5
36	CITIGROUP INC	2012	Michael L. Corbat	Vikram S. Pandit, Ph.D.	0	4.08	4.08	0.00	6
37	CITY NATIONAL CORP	1995	Russell D. Goldsmith, II	Bram Goldsmith	1	8.00	0.00	8.00	18
38	COMERICA INC	2002	Ralph W. Babb, Jr.	Eugene A. Miller	0	0.00	0.00	0.00	16
39	COMMUNITY BANK SYSTEM INC	2006	Mark E. Tryniski	Sandford A. Belden	0	0.00	0.00	0.00	12
40	COMMUNITY FIRST BANKSHARES	2000	Mark A. Anderson	Donald R. Mengedoth	0	0.00	0.00	0.00	3
41	COUNTRYWIDE FINANCIAL CORP	1998	Angelo R. Mozilo	David S. Loeb	0	0.00	0.00	0.00	9
42	CULLEN/FROST BANKERS INC	1997	Richard W. Evans, Jr.	T. C. Frost	0	0.00	0.00	0.00	18
43	DIME BANCORP INC	1997	Lawrence J. Toal	James M. Large, Jr.	0	0.00	0.00	0.00	3
44	DOWNEY FINANCIAL CORP	1994	Stephen W. Prough	Robert L. Kemper	1	11.00	0.00	11.00	2
45	DOWNEY FINANCIAL CORP	1998	Daniel D. Rosenthal	James W. Lokey	0	0.00	0.00	0.00	5
46	DOWNEY FINANCIAL CORP	2004	Daniel D. Rosenthal	Daniel D. Rosenthal	0	0.00	0.00	0.00	4

B.2 (continued)

47	F N B CORP/FL	2012	Vincent J. Delie, Jr.	Stephen J. Gurgovits, Sr.	0	3.00	3.00	0.00	6
48	FIFTH THIRD BANCORP	2007	Kevin T. Kabat	George A. Schaefer, Jr.	0	6.17	2.67	3.50	8
49	FIFTH THIRD BANCORP	2015	Greg D. Carmichael	Kevin T. Kabat	0	0.00	0.00	0.00	3
50	FIRST BANCORP P R	2005	Luis M. Beauchamp	Angel Alvarez-Perez	0	0.00	0.00	0.00	4
51	FIRST BANCORP P R	2009	Aurelio Aleman-Bermudez	Luis M. Beauchamp	0	0.00	0.00	0.00	9
52	FIRST CHICAGO NBD CORP	1993	Verne G. Istock	Charles Thomas Fisher III	0	0.00	0.00	0.00	4
53	FIRST COMMONWLTH FINL CP/PA	2007	John J. Dolan	Joseph E. O'Dell	0	0.00	0.00	0.00	4
54	FIRST COMMONWLTH FINL CP/PA	2012	Thomas Michael Price	John J. Dolan	0	3.33	0.00	3.33	6
55	FIRST HORIZON NATIONAL CORP	1994	Ralph Horn	Ronald A. Terry	0	0.00	0.00	0.00	8
56	FIRST HORIZON NATIONAL CORP	2002	J. Kenneth Glass	Ralph Horn	0	0.00	0.00	0.00	4
57	FIRST HORIZON NATIONAL CORP	2008	D. Bryan Jordan	Gerald L. Baker	0	0.00	0.00	0.00	10
58	FIRST MIDWEST BANCORP INC	2003	John M. O'Meara	Robert P. O'Meara	0	0.00	0.00	0.00	5
59	FIRST MIDWEST BANCORP INC	2008	Michael L. Scudder	John M. O'Meara	0	0.00	0.00	0.00	10
60	FIRST NIAGARA FINANCIAL GRP	2006	John R. Koelmel	Paul J. Kolkmeyer	0	0.00	0.00	0.00	6
61	FIRST NIAGARA FINANCIAL GRP	2013	Gary M. Crosby	John R. Koelmel	0	0.00	0.00	0.00	3
62	FIRST VIRGINIA BANKS INC	1995	Barry J. Fitzpatrick	Robert H. Zalokar	0	0.00	0.00	0.00	8
63	FIRSTMERIT CORP	1995	John R. Cochran	Howard L. Flood	1	6.00	0.00	6.00	10
64	FIRSTMERIT CORP	2006	Paul G. Greig	John R. Cochran	1	7.00	0.00	7.00	10
65	FLAGSTAR BANCORP INC	2009	Joseph P. Campanelli	Mark T. Hammond	1	6.33	0.00	6.33	3
66	FLAGSTAR BANCORP INC	2013	Alessandro P. DiNello	Joseph P. Campanelli	0	0.00	0.00	0.00	5
67	FLEETBOSTON FINANCIAL CORP	2001	Charles K. Gifford	Terrence Murray	0	2.75	2.75	0.00	2
68	FULTON FINANCIAL CORP	2013	E. Philip Wenger	R. Scott Smith, Jr.	0	3.00	3.00	0.00	5
69	GREATER BAY BANCORP	2004	Byron A. Scordelis	David L. Kalkbrenner	0	10.00	0.00	10.00	3
70	HANMI FINANCIAL CORP	2008	Jay Seung Yoo	Sung Won Sohn, Ph.D.	1	6.00	0.00	6.00	4

B.2 (continued)

71	HANMI FINANCIAL CORP	2013	Chong Guk Kum	Jay Seung Yoo	1	7.50	0.00	7.50	5
72	HIBERNIA CORP -CL A	2000	J. Herbert Boydstun	Stephen A. Hansel	0	0.00	0.00	0.00	5
73	HOPE BANCORP INC	2006	Min Jung Kim	Ho Yang	0	0.00	0.00	0.00	3
74	HOPE BANCORP INC	2010	Alvin D. Kang	Min Jung Kim	0	0.00	0.00	0.00	2
75	HOPE BANCORP INC	2013	Kevin S. Kim	Alvin D. Kang	0	0.00	0.00	0.00	5
76	HUNTINGTON BANCSHARES	2001	Thomas E. Hoaglin	Frank G. Wobst	1	4.33	0.00	4.33	7
77	HUNTINGTON BANCSHARES	2009	Stephen D. Steinour	Thomas E. Hoaglin	1	1.00	0.00	1.00	9
78	INDEPENDENCE CMNTY BK CORP	2001	Alan H. Fishman	Charles J. Hamm	1	1.67	0.00	1.67	5
79	INDEPENDENT BANK CORP/MI	2013	William Bradford Kessel, CPA	Michael M. Magee, Jr.	0	3.33	3.33	0.00	5
80	JPMORGAN CHASE & CO	1994	Walter V. Shipley	John F. McGillicuddy	0	8.17	0.00	8.17	4
81	JPMORGAN CHASE & CO	2005	James Dimon	William B. Harrison, Jr.	0	5.33	0.00	5.33	13
82	KEYCORP	1995	Robert W. Gillespie	Victor J. Riley, Jr.	0	9.00	0.00	9.00	5
83	KEYCORP	2001	Henry L. Meyer, III	Robert W. Gillespie	0	2.92	1.92	1.00	9
84	KEYCORP	2011	Beth E. Mooney	Henry L. Meyer, III	0	2.75	0.00	2.75	7
85	M & T BANK CORP	2007	Robert G. Wilmers	Robert E. Sadler, Jr.	0	22.17	22.17	0.00	10
86	MAGNA GROUP INC	1994	G. Thomas Andes	William S. Badgley	0	0.00	0.00	0.00	3
87	MARSHALL & ILSLEY CORP	2002	Dennis J. Kuester	James B. Wigdale	0	0.25	0.25	0.00	4
88	MARSHALL & ILSLEY CORP	2007	Mark F. Furlong	Dennis J. Kuester	0	0.00	0.00	0.00	4
89	MELLON FINANCIAL CORP	1999	Martin G. McGuinn	W. Keith Smith	0	0.83	0.83	0.00	6
90	MERCANTILE BANKSHARES CORP	2001	Edward J. Kelly, III	H. Furlong Baldwin	1	0.00	0.00	0.00	5
91	MORGAN (J P) & CO	1995	Douglas A. Warner III	Dennis Weatherstone	0	0.00	0.00	0.00	4
92	MUFG AMERICAS HOLDINGS CORP	2001	Norimichi Kanari	Takahiro Moriguchi	0	0.00	0.00	0.00	3
93	MUFG AMERICAS HOLDINGS CORP	2007	Masaaki Tanaka	Takashi Morimura	0	0.00	0.00	0.00	2
94	NATIONAL CITY CORP	1995	David A. Daberko	Edward B. Brandon	0	0.00	0.00	0.00	12

B.2 (continued)

95	NATIONAL PENN BANCSHARES INC	2007	Glenn E. Moyer	Wayne R. Weidner	0	3.17	3.17	0.00	2
96	NATIONAL PENN BANCSHARES INC	2010	Scott V. Fainor	Glenn E. Moyer	0	6.08	0.00	6.08	5
97	NORTHERN TRUST CORP	1995	William A. Osborn	David W. Fox	0	0.00	0.00	0.00	12
98	NORTHERN TRUST CORP	2008	Frederick H. Waddell	William A. Osborn	0	0.00	0.00	0.00	9
99	PEOPLE'S UNITED FINL INC	2010	John P. Barnes	Philip R. Sherringham	0	0.00	0.00	0.00	8
100	PNC FINANCIAL SVCS GROUP INC	2000	James E. Rohr	Thomas Henry O'Brien	0	2.00	0.00	2.00	12
101	PNC FINANCIAL SVCS GROUP INC	2013	William S. Demchak	James E. Rohr	0	0.00	0.00	0.00	5
102	PRIVATEBANCORP INC	2007	Larry D. Richman	Ralph B. Mandell	1	0.67	0.00	0.67	9
103	PROVIDENT BANKSHARES CORP	1998	Peter M. Martin	Carl W. Stearn	0	0.00	0.00	0.00	4
104	PROVIDENT BANKSHARES CORP	2003	Gary N. Geisel	Peter M. Martin	0	0.00	0.00	0.00	5
105	PROVIDENT FINANCIAL GRP INC	1998	Robert L. Hoverson	Allen L. Davis	0	0.00	0.00	0.00	5
106	PROVIDENT FINANCIAL SVCS INC	2009	Christopher P. Martin	Paul M. Pantozzi	0	1.50	0.00	1.50	9
107	PROVIDIAN FINANCIAL CORP	2001	Joseph W. Saunders	Shailesh J. Mehta	1	3.92	0.00	3.92	5
108	REGIONS FINANCIAL CORP	1998	Carl E. Jones, Jr.	James Stanley Mackin	0	3.00	3.00	0.00	7
109	REGIONS FINANCIAL CORP	2010	O. B. Grayson Hall, Jr.	C. Dowd Ritter	0	0.00	0.00	0.00	8
110	RIGGS NATIONAL CORP	2001	Robert L. Allbritton	Joe L. Allbritton	1	0.00	0.00	0.00	3
111	S & T BANCORP INC	2008	Todd D. Brice	James C. Miller	0	0.00	0.00	0.00	10
112	SIMMONS FIRST NATL CP -CL A	2014	George A. Makris, Jr.	James Thomas May	0	0.00	0.00	0.00	4
113	SOUTHSIDE BANCSHARES INC	2012	Charles E. Dawson	Bill G. Hartley	0	0.00	0.00	0.00	4
114	STATE STREET CORP	2000	David A. Spina	Marshall N. Carter	0	0.00	0.00	0.00	4
115	STATE STREET CORP	2004	Ronald E. Logue	David A. Spina	0	0.00	0.00	0.00	5
116	STATE STREET CORP	2010	Joseph L. Hooley	Ronald E. Logue	0	12.00	0.00	12.00	8
117	STERLING BANCORP	2011	Jack L. Kopnisky	George L. Strayton	1	4.92	0.00	4.92	7
118	STERLING BANCSHARES INC/TX	2002	J. Downey Bridgwater	George Martinez	0	6.00	6.00	0.00	9

B.2 (continued)

119	STERLING FINANCIAL CORP/WA	2009	J. Gregory Seibly	Harold B. Gilkey	0	0.00	0.00	0.00	4
120	SUNTRUST BANKS INC	1998	L. Phillip Humann	James B. Williams	0	5.50	5.50	0.00	8
121	SUNTRUST BANKS INC	2007	James M. Wells, III	L. Phillip Humann	0	0.58	0.58	0.00	3
122	SUNTRUST BANKS INC	2011	William Henry Rogers, Jr.	James M. Wells, III	0	0.00	0.00	0.00	7
123	SUSQUEHANNA BANCSHARES INC	2001	William John Reuter	Robert S. Bolinger	0	0.00	0.00	0.00	14
124	SVB FINANCIAL GROUP	2001	Kenneth Parmalee Wilcox, Ph.D.	John C. Dean	0	11.25	0.00	11.25	9
125	SVB FINANCIAL GROUP	2011	Gregory W. Becker	Kenneth Parmalee Wilcox, Ph.D.	0	0.00	0.00	0.00	7
126	SYNOVUS FINANCIAL CORP	2005	Richard E. Anthony	James H. Blanchard	0	8.00	0.00	8.00	4
127	SYNOVUS FINANCIAL CORP	2010	Kessel D. Stelling, Jr.	Richard E. Anthony	0	13.17	3.17	10.00	8
128	TAYLOR CAPITAL GROUP INC	2010	Mark A. Hoppe	Bruce W. Taylor	0	4.83	2.17	2.67	4
129	TCF FINANCIAL CORP	2006	Lynn A. Nagorske	William Allen Cooper	0	0.00	0.00	0.00	2
130	TCF FINANCIAL CORP	2008	William A. Cooper	Lynn A. Nagorske	0	20.00	20.00	0.00	7
131	TEXAS CAPITAL BANCSHARES INC	2008	George F. Jones, Jr.	Joseph M. Grant, Ph.D.	0	9.83	0.00	9.83	5
132	TEXAS CAPITAL BANCSHARES INC	2014	C. Keith Cargill	George F. Jones, Jr.	0	4.58	4.58	0.00	4
133	TOMPKINS FINANCIAL CORP	2007	Stephen S. Romaine	James J. Byrnes	0	3.00	0.00	3.00	11
134	TRUSTCO BANK CORP/NY	2004	Robert Joseph McCormick	Robert Thomas Cushing	0	0.00	0.00	0.00	14
135	TRUSTMARK CORP	2011	Gerard R. Host	Richard G. Hickson	0	0.00	0.00	0.00	7
136	U S BANCORP	2006	Richard K. Davis	Jerry A. Grundhofer	0	0.00	0.00	0.00	10
137	U S BANCORP-OLD	1994	Gerry B. Cameron	Roger L. Breezley	0	6.25	4.00	2.25	3
138	UNION PLANTERS CORP	2000	Jackson W. Moore	Benjamin W. Rawlins, Jr.	0	0.00	0.00	0.00	4
139	WACHOVIA CORP	2000	G. Kennedy Thompson	Edward E. Crutchfield	0	0.00	0.00	0.00	7
140	WACHOVIA CORP-OLD	1994	Leslie M. Baker, Jr.	John G. Medlin, Jr.	0	3.00	3.00	0.00	6
141	WASHINGTON FEDERAL INC	2000	Roy M. Whitehead	Guy C. Pinkerton	0	4.00	0.00	4.00	16
142	WELLS FARGO & CO	2007	John G. Stumpf	Richard M. Kovacevich	0	0.00	0.00	0.00	9

B.2 (continued)

143	WELLS FARGO & CO -OLD	1995	Paul Hazen	Carl E. Reichardt	0	0.00	0.00	0.00	3
144	WHITNEY HOLDING CORP	2008	John C. Hope, III	William L. Marks	0	3.17	0.00	3.17	2
145	WILMINGTON TRUST CORP	1996	Ted Thomas Cecala	Leonard W. Quill	0	0.00	0.00	0.00	13
146	WILSHIRE BANCORP INC	2008	Joanne Kim	Soo Bong Min	0	0.00	0.00	0.00	2
147	WILSHIRE BANCORP INC	2011	Jae Whan Yoo	Joanne Kim	1	5.42	0.00	5.42	5

Chapter 4 CEO Tournament and Winners' Reward in US BHCs

4.1 Introduction

The promotion and incentives of internal managers and the selection of CEOs have been important topics for both academics and practitioners. Recent studies have mainly discussed the importance of promotion-based tournament incentives and their influence on firm performance (Kale et al., 2009; Bebchuk et al., 2011; Burns et al., 2017) and policy (Kini and Williams, 2012), without paying much attention to tournament winners, the dynamics of their compensation surrounding the promotion, and whether the board has chosen the appropriate CEO.

The compensation outcome for the winning candidate is worth exploring because it can help understand whether the winners benefit from CEO tournaments. It is difficult to answer the question of whether the CEO compensation arrangement reflects competitive markets and efficient contracting due to measurement problems (Oyer and Schaefer, 2010). Furthermore, there is an argument that a winner's curses might arise—the winners might find themselves actually losing because the costs exceed the benefits (Chrisman et al., 2014).

The chapter addresses four issues. The first issue is, whether tournaments with certain features result in a better reward to the winner? The tournament theory's perspective suggests that a larger pay gap between the CEO and other executives induces greater efforts from managers to compete for the CEO position as well as higher compensation (Lazear and Rosen, 1981; Michael L. Bognanno, 2001; Kale et al., 2009). However, it is unknown whether these candidates are better rewarded after being promoted to the CEO position. To conduct the analysis I construct a unique hand-collected dataset that captures the information of 130 internal CEO succession events in US BHCs from 1993 to 2016.

The succession is defined as an internal succession if the new CEO is promoted from inside the bank. Banking firms are quite different from other industries and require employees with special expertise (Philippon and Reshef, 2009), thus selecting the right CEO is difficult for bank boards but also creates significant value. In addition, CEO compensation has raised growing regulatory attention after the recent financial crisis, because critiques of compensation practices at financial companies often attribute the crisis at least in part to incentive pay that purportedly encourages excessive risk taking (Kleymenova and Tuna, 2017). There is evidence that bank performance during the recent crisis is related to CEO incentives before the crisis (Fahlenbrach and Stulz, 2011).

The chapter adds value to the debate by examining the CEO tournament incentives. I focus on internal successions because the tournament framework primarily emphasizes the incentives for internals to compete for the CEO position and their effects on corporate performance and policies. In addition, the majority of new CEOs are promoted within a firm (Parrino, 1997; Huson et al., 2001; Agrawal et al., 2006; Cremers and Grinstein, 2009; Masulis and Zhang, 2014). Although there is a growing trend for external CEO replacements (Murphy and Zabojnik, 2007), internal CEO promotion still dominates in succession events. I find around two thirds of the bank successions are internal successions in my sample. This figure is similar to what is reported by existing studies of CEO promotions in non-financial firms[10].

I use "pay premium" as a proxy for tournament prize and examine whether it is affected by the tournament structure before the CEO appointment. Critical to the analysis of this chapter is the measurement of pay premium received by the internal tournament

[10] Cremers and Grinstein (2009) find that about 68% of new CEOs in public US corporations are former employees of their own firm ('insider CEOs'). Masulis and Zhang (2014) observe that approximately two thirds of S&P 1500 CEOs are hired from within the firm. In my CEO succession sample, internal succession accounts for 80% of all the CEO succession events.

winner. My primary pay premium measure is the change in total compensation before and after the promotion. The distribution of pay premium shows that tournament winners receive on average a pay rise after taking the helm. However, the level of the pay premium varies widely across the selected events. I proceed to examine what drives the cross-sectional variation in pay premium.

The tournament theory argues that employers set compensation policy based on rankings within an organization, and such policy serves as an incentive to encourage effective competition among employees. The large pay gap between the CEO and other executives provides motivations amongst contenders for the position (Lazear and Rosen, 1981; Michael L. Bognanno, 2001; Kale et al., 2009). The greater the pay gap, the more effort the CEO candidates will expend to win the tournament. The question is, do those candidates get a better reward after being promoted to the CEO position? If tournament theory holds, it should be expected that the steepness of the tournament structure[11] affects the size of the final prize.

While tournament steepness is one possible reason affecting the tournament winner's pay premium, there is a concern whether the "stickiness" of the top executive team pay structure is driving the payment outcome. Theories of wage rigidity suggest that employees' wages are "sticky", especially in the downward direction (Blinder and Choi, 1990). Employers are reluctant to cut pay 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 the wage rigidity assumption, firms are likely to maintain a similar level of CEO payment before and after CEO succession, That is,

[11] Steepness is the gradient of the difference between the CEO and the other executives. For instance, a CEO may be paid $2000, which is not a large payment, but if the other execs are only paid $1000, the CEO's pay is 2x the others (i.e., steep).

there would not be a big fluctuation of total compensation between the outgoing CEO and the new CEO. Actually, the correlation between the outgoing CEO's compensation and the new CEO's compensation in my sample is 0.713, which indicates that some degree of payment "stickiness" does exist. If there is big pay gap between the CEO and other executives before the succession, and the new CEO comes from one of the "other executives", it is very likely that he/she will get a higher pay premium after the appointment. Given the above concern, it is of great importance to empirically test whether there is any influence of tournament structure pre-succession on the actual pay premium, and if any, how much the influence is. Also, other possible factors should be considered, as the tournament structure may not be the only factor that drives the variation in pay premium.

I measure the tournament structure with CEO pay ratio, which is the ratio of the CEO's compensation to the mean (median) of the other highest paid executives (Burns et al., 2017); and CEO pay slice, which is the percentage the CEO claims of the total compensation to the top executive group (Bebchuk et al., 2011; Chen et al., 2013; Burns et al., 2017). With a multivariate analysis, I find each of the CEO tournament measures is positively related to the level of pay premium. Successors in banks with steeper tournament structures before promotion get a higher reward after winning the competition.

On top of the CEO tournament structure, I control for a list of executive and bank characteristics that possibly affect the level of the pay premium. The results suggest that candidates with an MBA education background get a more significant pay rise. Meanwhile, a successor's prior CEO experience is negatively related to the pay premium. In addition, larger banks, younger banks, and banks with worse financial performance pre-turnover tend to pay a higher reward to tournament winners.

The second issue the chapter addresses is, does the pay premium reflect CEO ability? The above analysis implies that pay premium is related to some specific CEO characteristics such as the educational background. While holding an MBA degree normally implies higher ability, there may be other managerial abilities that shareholders value but are not captured in the analysis. Existing studies suggest that changes in the value of the firm around the CEO departure (appointment) reflect the market's evaluation of the departing (appointed) CEO's marginal ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). The departure of a high-ability executive results in negative abnormal returns. By contrast, the appointment of a high-ability executive results in positive abnormal returns. Thus, the market reaction towards the CEO appointment is an indicator of managerial ability. I further control for the market reaction as an omitted variable, measured by cumulative abnormal return (CAR) surrounding the CEO appointment event. The empirical results indicate that high-ability CEOs gain larger rewards after the promotion. The pay premium is a joint effect of managers' greater efforts induced by the steeper tournament structure as well as higher managerial abilities that they input.

Although the analysis has found a positive relation between tournament steepness and the pay premium, it is unknown whether it is always the case: greater tournament incentives are rewarded more by the board. This may happen only under specific conditions. To understand this, I interact the indicator variable for tournament structure with CEO/bank characteristics. It is found that the impact of tournament structure on pay premium is stronger when shareholders believe the new CEO is capable of doing the job, or if the new CEO has more prior experience in a CEO position. The effect is also stronger for candidates that were less likely to be appointed (the "underdogs"). By contrast, tournament incentives are less effective if the CEO appointment is a planned

succession. The findings indicate that a larger pay differential between CEO and other executives does not guarantee a higher pay reward for CEO candidates post-appointment, but rather depends on certain circumstances.

The final issue the chapter addresses is whether the pay premium predicts improvement in bank performance post-appointment. The tournament theory suggests that competition will result in improved efforts and better alignment between efforts and organizational interests (Lazear and Rosen, 1981; Green and Stokey, 1983; Main et al., 1993; Henderson and Fredrickson, 2001), which in turn enhances firm performance. In contrast, social comparison theory (Crosby, 1976; Festinger, 1954) argues that large pay gaps are likely to reduce commitment to organizational goals, diminishing satisfaction and collaboration, and leading to lower firm performance (Cowherd and Levine, 1992; Martin and Murnighan, 1981; Siegel and Hambrick, 2005). I find that the pay premium is associated with the level of improvement in post-succession bank performance. New CEOs gaining a larger reward are also those who bring a greater improvement in bank performance. The effect is valid for both accounting performance and market-based performance. The results support the view of tournament theory that CEO candidates in a high tournament environment have greater impetus to be promoted (and receive an increased compensation). The higher level of effort pays off, leading to a better reward post promotion, and banks benefit from the greater effort in the form of an overall improvement in performance. This also implies that boards could identify CEO talent and select the appropriate CEO for the bank.

The chapter provides several contributions to the existing literature. First, the study contributes to the stream of research on tournament incentives by analysing how CEO tournament structure affects the reward of tournament winners. While existing studies document that tournament structure affects firm performance (Kale et al., 2009; Bebchuk

et al., 2011; Burns et al., 2017), corporate policy (Kini and Williams, 2012), and managerial turnover (Kale et al., 2014), there is no answer whether the feature of CEO tournament affects the remuneration outcome of tournament winners. My study adds to the debate on tournament structure and obtains evidence that the variation in pay premium is associated with the steepness of the tournament structure before CEO succession.

Second, the study extends the limited number of studies on CEO succession in banks. Although CEO succession has been studied for decades, most of the existing literature comes from management studies and is based on non-financial firms. The existing banking literature focuses on the antecedents of CEO turnover in banks. They find that the probability of departure depends on share price performance (Barro and Barro, 1990; Houston and James, 1995), and is affected by regulatory scrutiny (Webb, 2008; Palvia, 2011). Hayes et al. (2015) find the relation between CEO turnover and performance is affected by banking deregulation. By contrast, less attention is paid to the outcome of bank CEO succession, with the exception of Schaeck et al. (2011), who study the changes of bank performance following forced turnover. However, I am not aware of any study discussing the impact of succession events on newly appointed CEOs. To the best of my knowledge, this study is the first to examine tournament incentives of CEO successions in the banking industry.

Furthermore, the chapter contributes to the studies on internal succession. Previous studies have documented that inside succession is a key aspect of CEO succession, that internal candidates are important sources for future CEOs (Parrino, 1997; Cremers and Grinstein, 2009). However, existing studies mainly focus on the comparison of internal and external successions regarding new CEO compensation and firm performance (Lauterbach et al., 1999; Palomino and Peyrache, 2013; Brockman et al., 2016; Jongjaroenkamol and Laux, 2017). Studies that focus on internal successions are scarce.

Mobbs and Raheja (2012) compare successor-incentive promotions and tournament-incentive promotions among internal successions. They find that firms conducting two types of successions have different features and compensation contracts. My study takes a step further by investigating banks that conduct tournaments (tournament-incentive) among inside managers to succeed the CEO, and the features of their tournament structures.

Finally, the chapter contributes to the research of new CEO compensation design. Despite extensive research on the antecedents of executive compensation, studies tend to focus on the determinants of the incumbent (existing) CEO's compensation, while the initial compensation of new CEOs has been neglected. I only find limited evidence that relates new CEO compensation with firm risk (Chang et al., 2016; Chen et al., 2018), and a few studies examining the changes of compensation structure following CEO succession (Blackwell et al., 2007; Elsaid and Davidson, 2009; Elsaid et al., 2009). This study fills the gap by investigating the relation between the CEO tournament structure and the compensation premium of newly appointed CEOs, and its implication on subsequent bank performance. I find some new attributes affecting a CEO's initial compensation, such as the MBA degree and prior CEO experience, which are not evidenced by existing studies yet. In addition, it shows that the pay premium reflects a CEO's managerial ability, as perceived by shareholders. The finding is in line with existing studies on managerial ability and an (incumbent) CEO's compensation (Murphy and Zabojnik, 2004; Murphy and Zabojnik, 2007; Custódio et al., 2013), indicating that the heterogeneity of managerial ability explains new CEO contracts.

The remaining part of the chapter proceeds as follows. Section 2 summarizes the existing literature and develops hypotheses. Section 3 describes the data and variables. Section 4 discusses the empirical results. Section 5 gives conclusions.

4.2 Literature Review and Hypotheses Development

4.2.1 CEO Tournament Structure and the New CEO Compensation Contract

Internal succession is an important aspect of CEO succession management because it impacts a firm's ability to identify future CEOs and incentivizes internal managers (Mobbs and Raheja, 2012). The tournament theory proposes that firms pay individuals according to their rank in an organization (Lazear and Rosen, 1981; Green and Stokey, 1983). Under this compensation scheme, the CEO is the top position and thus the highest paid. The pay gap between the CEO and other senior executives creates incentives for non-CEO executives to compete with each other for the CEO position. CEO candidates have high expectations regarding their potential future compensation (i.e., being paid a similar level to the outgoing CEO upon promotion). When the pay differential between CEO and other executives is larger (the tournament structure is "steeper"), candidates competing for the prize have greater incentives to seek the position. The candidates in steeper tournament environments have higher expectations regarding their post-promotion pay. In banks with a steeper tournament structure, the expected increase in compensation after winning is greater than in banks where pay differentials are flatter. If this expectation is realized, a steeper tournament structure will be associated with a higher pay rise after the promotion. I call the pay rise a "pay premium". The following hypothesis is suggested:

Hypothesis 1: After controlling for other factors, the steepness of CEO tournament structure is positively related to the level of the tournament winner's pay premium upon promotion.

After the tournament winner is promoted as the new CEO, the question of how much he/she should be paid arises. Although the determinants of executive compensation have been discussed a lot (see Frydman and Saks (2010) for a summary), studies on the new

CEO initial compensation are quite limited. A CEO turnover is usually accompanied with changes in compensation, as the CEO succession event gives the board an opportunity to redesign CEO compensation contracts. Recent studies have started to look at what happens to CEO compensation following CEO succession. They find evidence that there are changes in the compensation structure following CEO succession (Blackwell et al., 2007; Elsaid and Davidson, 2009; Elsaid et al., 2009). In general, incoming CEOs receive a significantly greater percentage of equity compensation compared to outgoing CEOs. Several studies on initial CEO compensation have associated new CEO compensation with firm risk. Chang et al. (2016) find that new CEOs receive significantly more compensation when financial risk is higher, based on a sample of US firms. In contrast, Chen et al. (2018) find a negative relation between the total compensation of newly hired CEOs and financial distress risk in the UK. They explain the different result as follows: the two countries differ in the structure of credit markets, which leads to different ways of incentivising executives when firms have high financial distress risk. Chen (2015) examines the initial compensation of new CEOs hired in turnaround situations. They find that new CEOs hired in turnaround situations receive higher pay, and the pay premium will incentivize them to undertake retrenchment and restructuring turnaround initiatives.

The empirical results of studies on initial CEO compensation have confirmed the influence of particular firm and CEO attributes in determining the initial compensation of the newly appointed CEO. For example, Chang et al. (2016) show that new CEO compensation is affected by the CEO's age, whether he/she is the chairman of the board, firm performance and risk prior to the succession. The analysis of Chen (2015) suggests that the initial compensation of the new CEO is related to firm size and CEO prestige, with the latter referring to prestigious working credentials or outstanding educational background.

Academics have associated the executive compensation with managerial ability. An early study by Rose and Shepard (1994) proposed the question why CEOs of more diversified firms are paid more. They find that diversification raises the payment level because the CEO's job requires higher ability. Graham et al. (2011) examine the role of firm and manager fixed effects in explaining executive compensation. They document that the majority of the variation in executive pay can be explained by time-invariant firm and managerial effects. The substantial heterogeneities among firms and managers could result from differences in corporate culture and in managers' latent traits, such as innate ability, personality, risk aversion, etc., none of which can be easily observed or measured. Recent studies suggest 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" (valuable only within the organization) (Murphy and Zabojnik, 2004; Murphy and Zabojnik, 2007). This view is supported by Custódio et al. (2013)'s study that generalist CEOs receive a 19% pay premium relative to specialist CEOs, which represents nearly a million dollars per year.

Existing studies suggest that changes in firm value around the CEO departure (appointment) reflects the market's evaluation of the departing (appointed) CEO's marginal ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). The departure of a high-ability executive results in negative abnormal returns. By contrast, the appointment of a high-ability executive results in positive abnormal returns. Thus, the market reaction towards the CEO appointment is an indication of managerial ability that is valued by shareholders. While studies have documented that the level of CEO compensation is an indication of managerial ability, I posit that higher-ability candidates receive larger rewards upon promotion. In a tournament setting, the tournament reward can be considered as the joint effect of "effort" and "managerial ability" the individual input to win the

tournament. If the market can anticipate the value of the managerial ability, there would be a positive relation between the market reaction and level of pay premium. Thus I propose:

Hypothesis 2: After controlling for other factors, the market reaction to the appointment of a new CEO is positively related to the level of the tournament winner's pay premium upon promotion.

4.2.2 CEO Tournament Structure and Post-succession Firm Performance

The tournament theory's perspective suggests that the high-paying CEO position is seen as the prize of a succession tournament. The effort expended by agents will increase with the magnitude of the promotion prize (Lazear and Rosen, 1981; Prendergast, 1999; Michael L. Bognanno, 2001). Thus, large pay gaps between the CEO and other senior executives elicit greater effort from lower-level executives competing for the CEO position. Consequently, the payoff from this greater effort will create better firm performance and higher firm value.

A growing body of research demonstrates that the tournament structure is associated with firm performance. For example, Kale et al. (2009) document that pay differentials between the CEO and other VPs relate positively to firm performance. Kini and Williams (2012) find a significantly positive relation between pay gap and firm risk. Burns et al. (2017) conduct a cross-country study to examine the relation between tournament structure and firm value. They find that 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. By contrast, Bebchuk et al. (2011) find the CEO pay slice is associated with a lower Tobin's Q and lower accounting profitability. Taken together, however, there is no consensus as to whether greater tournament incentives are related to better firm performance.

While existing studies have examined the relation between tournament structure and general firm performance, no study has investigated the question under a CEO turnover setting. There is a lack of evidence on the performance effect after succession events, especially in a long-run perspective. From a tournament theory perspective, firms utilize a tournament and induce competition to select the new CEO. The competition to win the tournament becomes a catalyst for greater efforts and higher payoffs for firms (Lazear and Rosen, 1981; Green and Stokey, 1983; Kale et al., 2009). CEO candidates who expend greater efforts are more likely to get promoted and obtain a more significant pay rise. Meanwhile, firms benefit from the greater effort in the form of an improvement in performance. If the tournament theory holds, it is expected that tournament winners with a higher pay premium bring more significant improvements in firm performance post-appointment. The following hypothesis is suggested:

Hypothesis 3: After controlling for other factors, the tournament winner's pay premium is positively related to the improvement in long-run bank performance post-succession.

4.3 Data and Variables

4.3.1 Sample and Data

The analysis is based on internal CEO successions that occur from 1993 to 2016[12] in US BHCs. The sample selection process is similar with the first empirical chapter (chapter 3). I download firm-year observations from ExecuComp for firms with SIC codes between 6000 and 6300, and exclude firms with SIC code 6099, 6111, 6141, 6153, 6159, 6163, 6200, 6211, and 6282. In addition, I manually go through the list of firms with SIC code 6199 and exclude Renn Fund Inc. These firms are excluded from the sample because

[12] I choose year 2016 as the end of sample period because the compensation data is available up to 2017, and the primary analysis requires compensation information for one year post-CEO succession. Thus, CEO succession events after 2016 are not included.

they are not in the lending business. I only keep records for annual CEOs, and identify a new CEO appointment to take place when the name of annual CEO changes from the previous year within one bank. From this initial list, I manually verify the appointment information according to banks' annual report and proxy statements. Only the records with correct information are kept. I identify internal succession events by examining where the new CEO is appointed from. Following existing CEO turnover studies, a CEO is defined as an insider if he or she has been working in the company for more than one year (Parrino, 1997; Huson et al., 2001), and the succession is an internal succession.

I drop CEO succession events that happen after mergers and acquisitions, and the events where two co-CEOs are appointed at the same time. In addition, as the primary analysis involves CEO compensation one year after the succession, I only keep the observations where the CEO stays in the position for at least one full year. Finally, I only retain CEOs for which detailed background information can be collected.

From ExecuComp I have the compensation information of newly appointed CEOs. I then collect demographic information on the CEOs. I retrieve CEO age information from ExecuComp, and recover missing values from Bloomberg. Other information such as CEO origin, education background, industry experience, prior CEO experience is hand-collected from a variety of data sources including companies' annual reports (10-K report in SEC filings), proxy statements (DEF 14A report in SEC filings), S&P Capital IQ, Bloomberg, and web sources. By doing this I construct a unique dataset for the demographic and background information of CEOs. The accounting data for the banks is obtained from Compustat. The market data is collected from the Centre for Research in Securities Prices (CRSP) database. Information of board size and board independence is obtained from BoardEx and Institutional Shareholder Sevices (ISS). I retrieve data from Bloomberg and S&P Capital IQ to fill in some missing data. My final sample consists of

130 internal CEO succession events from 1993 to 2016. The first CEO succession event I record occurs in November 1993 and the last succession occurs in March 2016.

4.3.2 Variables Measurement

4.3.2.1 Pay Premium Measures

The analysis of this chapter starts by investigating whether new CEOs receive a pay rise after promotion, compared to their compensation before promotion. I call the pay rise as "pay premium" (**TDC1_change**). It is defined as the change in the natural log of total compensation (ExecuComp variable TDC1) from one year before the succession (t-1, where t is the year of CEO succession) to one year after the succession (t+1). I use a similar approach to Blank et al. (2017) to calculate the compensation change. I do not directly analyse the succession year (year t) for several reasons. First, the transition year compensation data may include partial year compensation for successors if they did not hold the post for the entire year. Second, when a successor CEO was an executive with the firm prior to the succession (e.g. COO, CFO, President), their compensation for year t, as reported in ExecuComp, includes both the compensation for part of the year for their job as CEO and for part of the year for their previous positions.

Total compensation includes salary, bonus, other annual, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total. Due to a major change in the definition of total compensation variable TDC1 in ExecuComp in 2006, I follow Walker (2011) and Focke et al. (2017) and adjust TDC1 from its pre-2006 format to the new format. That is, before 2006, ExecuComp's data item TDC1 was supposed to capture the total compensation given to the CEO in that year, but, in fact, it did not measure the ex ante value of performance shares. Therefore, I first subtract the value of long-term incentive plans (ExecuComp variable LTIP), which measures the ex post value of performance shares from TDC1.

Then, I 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, I use TDC1 as provided in ExecuComp.

An alternative measure of 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 the bank CEOs in the specific year. By using an industry-adjusted measure, I eliminate any effect that is driven by the outside environment.

4.3.2.2 CEO Tournament Structure Measures

The CEO tournament structure in my analysis measures the pay differential between CEO and the rest of top management team[13]. The amount of the pay differential implies the steepness of tournament structure. Following existing tournament incentive studies, I apply two measures of CEO tournament structure. The first measure is CEO pay ratio, defined as the ratio of the CEO's compensation to the mean (median) of the other highest paid executives (Burns et al., 2017). **CEO Pay Ratio (with mean)** is the ratio of CEO's total compensation (ExecuComp item TDC1) to the mean of the other highest paid executives. **CEO Pay Ratio (with median)** is the ratio of CEO's total compensation to the median of the other highest paid executives. I use the ratio instead of the monetary gap between CEO and other executives because the ratio is independent of the level of pay or bank size[14]. My second CEO tournament measure is CEO pay slice, defined as the

[13] I consider all the executives that are recorded in ExecuComp as top executives.

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

percentage the CEO claims of the total compensation to the top executive group (Bebchuk et al., 2011; Chen et al., 2013). **CEO Pay Slice (with top5)** is the fraction of CEO's total compensation (ExecuComp item TDC1) to the sum of top 5 executives. For robustness, I also construct **CEO Pay Slice (with top4)**, the fraction of CEO's total compensation to the sum of top 4 executives.

4.3.2.3 CEO/Bank Characteristics Controls

Existing studies have found that new CEO compensation 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, I incorporate both CEO and bank characteristics variables in the pay premium model. Several CEO attributes are included: CEO age (**CEO Age**), CEO-chairman duality (**Chairman**), whether the CEO was COO of the bank before promotion (**COO**), the education background (**MBA Degree** and **AF Degree**), tenure (**Tenure**), financial industry experience (**Industry Experience**), and prior CEO experience (**CEO_years**). **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is a dummy that equals one if the CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is defined as the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position.

To account for bank-specific factors that influence the level of pay premium, I control for several firm-level characteristics prior to the succession, including bank size, bank age, pre-turnover bank performance and risk, equity capital, board size and board independence. **Bank Size** is measured as the logarithm of total assets. **Bank Age** is measured as the logarithm of total number of years the bank has been in Compustat. I use **ROA** (industry-adjusted ratio of return on total assets) to indicate bank performance pre-turnover. Existing study suggests that firm risk affects the level of new CEO compensation (Chang et al., 2016), so I control for banks' earnings volatility (**VOL**), an indicator of firm risk, defined as the standard deviation of industry-adjusted ROA over the three years before the CEO succession event (years t-3 through t-1). **Equity Capital** is the fraction of equity book value to total assets, which is also called the equity ratio.

I also include board features as corporate governance controls. **Board Size** is measured as the logarithm of total number of directors sitting on board. **Board Independence** is measured as the ratio of independent directors to the total directors on the board. All bank characteristics and board feature variables are taken one-year lag, thus the values in t-1 are applied. All variables are winsorized at the 2.5% and 97.5% levels.

4.3.2.4 The Market Reaction as a Proxy for CEO Ability

As discussed in previous studies, the changes in the value of the firm around the CEO appointment reflects the market's evaluation of the new CEO's marginal ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). I use **Market Reaction** towards the CEO appointment as a proxy for managerial ability, measured by the cumulative abnormal return (**CAR**) surrounding the CEO appointment event. Specifically, I estimate the following market model:

$$R_{it}=a_i + \beta_i R_{mt} + \varepsilon_{it} = -300, \ldots, -46 \quad (1)$$

where R_{it} is the daily stock return for bank i at day t and R_{mt} is the equally weighted CRSP index return for day t. I estimate the model parameters using 255 daily return observations starting from 300 to 46 days before the executive announcement date. I specify that there is no other executive appointment made during this estimation period. CAR is calculated for event windows from day -2 to day +2, day -3 to day +3 respectively. I construct abnormal returns as the sum of the prediction errors of the market model. For robustness, I apply a different estimation model (market-adjusted model) and obtain the cumulative market-adjusted abnormal returns (**CMAR**) as an alternative measure of market reaction.

4.3.2.5 Other Controls

A common concern with cross-sectional compensation regressions is that it is difficult to control for unobserved heterogeneity. To mitigate this concern, I follow Chang et al. (2016)'s approach and include the logarithm of the prior CEO's total compensation from the prior fiscal year (**TDC1_priorCEO**). This variable is a powerful control for various firm-, industry-, and time-specific characteristics (i.e., unobserved heterogeneity) that affect both the new and prior CEO's compensation.

The succession type affects subsequent firm performance (Shen and Cannella, 2002b) and strategic changes (Barron et al., 2011). Thus I suspect that the feature of CEO succession is associated with the new CEO's compensation level as well. I classify internal successions and compare banks with exogenous turnovers to banks with other types of succession. Following Eisfeldt and Kuhnen (2013)'s approach, CEO successions are classified as exogenous turnovers (**Exogenous**) if they were announced at least 6 months before the succession, or caused by a well-specified health problem. Other events are

defined as non-exogenous turnovers[15]. Exogenous turnovers are usually planned retirements, while non-exogenous turnovers are normally non-planned turnovers.

A growing body of research has examined the influence of managerial risk incentives on corporate policies (Rajgopal and Shevlin, 2002; Coles et al., 2006; Hayes et al., 2012; Bakke et al., 2016) and performance (Shen and Zhang, 2013; Coles et al., 2019). To investigate whether managerial risk incentives affect the new CEO's compensation contracts and long-run bank performance in my research framework, I control for both CEO delta and vega in my analysis as additional tests. Delta is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price. Vega is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns. I obtain the data from Coles et al. (2006)[16]. The calculation of delta and vega follows Guay (1999) and Core and Guay (2002), which use the Black and Scholes (1973) option valuation model as modified by Merton (1973).

[Insert Table 4-1 here]

Table 4-1 presents a distribution of internal CEO successions over sample years, including the total number of internal succession events in each year, and the number of exogenous and non-exogenous turnovers respectively. There are 130 CEO appointments between 1993 and 2016, among the events 46 (35%) are exogenous turnovers and 84 (65%) are non-exogenous turnovers.

[15] I hand collect the data whether the succession is a planned retirement or non-planned turnover. I search the news around a CEO turnover through Lexis-Nexis and webpages for the causes of turnover and succession methods.

[16] Because Coles et al. (2006)'s data ranges from 1992 to 2014, there is a small number of missing data after merging with my sample.

As my sample banks are located in different states, the local economic condition might directly affect the executive compensation level. Thus I control for the economic condition of each state as measured by **Coincident Index**. The Federal Reserve Bank of Philadelphia produces a monthly coincident index for each of the 50 states. The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are 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). I match this index with a bank's jurisdictional area based on the location of each firm's headquarters. Finally, as my sample crosses the recent financial crisis, I control for **Crisis**, a dummy that equals one for the period 2007–2009.

4.3.2.6 Measures for Changes in Bank Performance/Risk

I employ both an accounting-based and a market-based measure for bank performance. I measure the change in bank profitability with **ROA_change**, the difference of industry-adjusted ROA before and after CEO succession. Profitability before succession is measured by industry-adjusted ROA in year t-1, and profitability after succession is calculated as the average of industry-adjusted ROA over the two years post-succession. The industry-adjusted ROA is calculated using the bank's ROA minus the mean ROA of all other banks in the specific year. The market-based performance measure is **TOBINQ_change**, defined as the difference of industry-adjusted Tobin's Q between year-1 and the average over years t+1 and t+2. By using an industry-adjusted performance measure, I could 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).

I examine the change in bank risk with three measures. The first measure is the change in earnings volatility pre- and post-CEO succession (**VOL_change**). Earnings volatility pre-succession is calculated as the standard deviation of industry-adjusted ROA over years t-3 through t-1, while earnings volatility post-succession is measured as the standard deviation of industry-adjusted ROA over years t through t+2. The second measure is the change in Tier 1 capital ratio (**CAPR1_**change), which is 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. The level of Tier 1 capital ratio represents a bank's leverage risk. The third measure is the change in Z-score (**ZSCORE_change**), as an indicator of bank stability. It is defined as the difference of bank Z-score between year t-1 and the average over years t+1 and t+2.

I multiply the changes in in bank performance/risk by 100 to indicate the percentages of change. Thus the results in the tables indicate how many percentages of change occur post-CEO succession.

Table 4-2 presents summary statistics for the variables used in the analysis. The CEO successors in my sample have an average of 0.46 log change in total compensation, and 0.3 industry-adjusted log change in total compensation. Equivalently, tournament winners on average get 1.584 times payment after promotion to the level before promotion. The figure becomes 1.35 after the industry adjustment. The statistics of tournament structure show that CEOs on average make 2.434 (2.67) times the mean (median) of other top executives before succession. And 34.6% (38.5%) of the top 5 (4) executive pay goes to the CEO. The figure is similar to Bebchuk et al. (2011) and Burns et al. (2017). 34.6% of the new CEOs are also the chairman of the board. 48.5% of them were COO of the bank prior to the promotion. Regarding the education background, 36.9% of the CEOs hold an MBA degree and 30% have an Accounting or Finance related degree. The new CEOs

have an average of 14.154 years of work experience in the focal bank, 23.315 years of work experience in the financial industry, and 1.933 years of prior CEO experience. The average CEO age of the sample is about 54 years old. And an average bank holds 9.3% equity capital. The banks in my sample have an average of 0.083% decrease in ROA, and 0.235% decrease in Tobin's Q from one year pre-succession to the average of two years post-succession. Table A 4-1 in the Additional Table section (section 4.6.1) provides variable definitions and the data source. Table A 4-2 reports the original value of several variables such as CEO age, tenure, years of prior CEO experience, years of industry experience, bank age, and board size.

[Insert Table 4-2 here]

4.4 Empirical Results

4.4.1 Pay Premium Distribution

An internal succession is viewed as a tournament where candidates compete for the CEO position. The first step of my analysis investigates whether the winners of tournament are rewarded by banks. Figure 4-1 shows the comparison of tournament winners' total compensation before and after the promotion. More concisely, the average compensation of tournament winners before promotion is 2682 thousand dollars, and the average compensation after promotion is 4486 thousand dollars. It suggests that tournament winners on average get a pay rise after being promoted to the CEO position. The average compensation after promotion is about 1.6 times of the figure before promotion.

[Insert Figure 4-1 here]

Figure 4-2 shows the distribution of pay premium measured by **TDC1_change**, defined as the change in the natural log of total compensation from year t-1 to year t+1.

I find that 82.31% of tournament winners have a positive pay premium. This reconfirms that tournament winners overall get a pay rise after promotion. Although most tournament winners get a pay premium, the distribution shows that the level of the pay premium varies across the selected events. The minimum and maximum value of **TDC1_change** is -1.023 and 1.587 respectively (based on the results in Table 2). Equivalently, the ratio of compensation post-promotion to the compensation pre-promotion ranges from 0.36 to 4.889.

[Insert Figure 4-2 here]

Figure 4-3 shows the distribution of pay premium 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 the bank CEOs in the specific year. I find that 74.62% of tournament winners have a positive industry-adjusted pay premium. The minimum and maximum value of **TDC1_change (ind-adj)** is -1.002 and 1.422 respectively (based on the results in Table 2). Equivalently, the ratio of compensation post promotion to the compensation before promotion ranges from 0.367 to 4.145.

[Insert Figure 4-3 here]

The results from Figure 4-1 to Figure 4-3 suggest that tournament winners overall get a pay premium after the promotion. However, the level of the pay premium varies a lot. I noticed that around 18% of CEOs (23 out of 130) have a reduction in total compensation after taking on the CEO role. After examining the details of their compensation package, I found that most of them get an increases of salary compensation after the appointment—only one CEO has a decrease in salary. By contrast, many of them have a decrease in incentive payments such as bonus, restricted stock and stock option compensation. Among the 23 CEOs with a reduction in total compensation, 9 of them

have a decrease in bonus, 10 have a decrease in restricted stock awards, and 12 have a reduction in option awards.

There can be various reasons behind the figures. One reason might be, some companies choose to give less incentive compensation right after the appointment. Instead, they increase the incentive payment gradually in later years after the appointment in order to motivate the new CEO to work hard. Take SVB Financial Group as an example. The bank appointed Kenneth Parmalee Wilcox as the new CEO in 2001. Wilcox was COO of the bank before the appointment and he has a reduction in total compensation after the promotion. The reduction of total compensation is mainly due to a decrease in bonus and restricted stock awards from year t-1 to t+1. Wilcox got no bonus and stock awards in 2001 and very little bonus and stock awards in 2002. However, the number increased gradually afterwards. The data shows that both the bonus and stock awards have exceeded the pre-appointment level from 2003 and maintain a high level afterwards. Another example is from Amsouth Bancorporation. The bank promoted C. Dowd Ritter to the CEO position in 1996. However, Ritter has a decrease in total compensation after winning the tournament. Although both the salary and bonus compensation have increased, there is a reduction in restricted stock awards and option awards. After reading the data, I find that Ritter received no stock or option awards in 1997 and 1998, but starts get awards from 1999. And the level of stock and option awards have exceeded the pre-appointment level significantly after 1999.

4.4.2 CEO Tournament Structure and the Reward of Tournament Winners

In this section I examine what drives the variation in pay premium among tournament winners. Specifically, I investigate whether tournaments with certain features result in a better reward to the winner. To be more specific, I test whether the steepness of

tournament structure is related to the level of pay premium. The measure for CEO tournament structure is **CEO Pay Ratio (with mean)**, that is, the ratio of CEO pay to the mean of the other top executives (Burns et al., 2017). Table 4-3 presents the results in a multivariate framework. The dependent variable in regressions (1)–(4) is **TDC1_change**, the indicator for pay premium. To begin with, regression (1) controls for a list of CEO attributes, succession type, and key bank characteristics that may also affect the new CEO's compensation. Regarding CEO attributes, I control for the new CEO's age, whether he/she is chairman of the board, whether he/she was in the COO position before promotion, the CEO's education background, tenure, industry experience, prior CEO experience, and the compensation level of the outgoing CEO. For bank characteristics I control for bank size, bank age, and pre-turnover performance. I also control for the succession type—whether the succession is an exogenous turnover or non-exogenous turnover (Eisfeldt and Kuhnen, 2013).

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

[Insert Table 4-3 here]

I find the tournament structure indicator **CEO Pay Ratio (with mean)** is positive and significant in all specifications, which suggest that tournament steepness is positively related to pay premium. Specifically, an increase of one standard deviation in **CEO Pay Ratio (with mean)** leads to an increase in pay premium by 0.175 and significant at the

5% threshold using the coefficient obtained from regression (1). The increase in pay premium ranges from 0.131 to 0.175 using the coefficients from regressions (1) to (5), and they are statistically significant at the 10% level or stronger. The results indicate that tournament winners get a higher reward when the bank has a steeper tournament structure. This can be explained as larger pay differentials between CEO and other executives giving candidates stronger incentives to get promoted and higher expectations for the post-promotion compensation, and this expectation is realized after promotion.

The regression results show a positive relation between the CEO's MBA education background and pay premium. CEOs with an MBA degree receive about 24% to 25% higher pay premium than those without the degree. Existing studies find that executives' educational background is an important determinant of pay (Chen et al., 2011; Falato et al., 2011), and there is evidence that banks led by CEOs with an MBA degree achieve a higher level of bank profitability than banks headed by non-MBA CEOs (King et al., 2016). The MBA education is increasingly treated as an indicator of managers' general managerial skills and is related to the level of executive compensation (Murphy and Zabojnik, 2007; Datta and Iskandar-Datta, 2014). While Datta and Iskandar-Datta (2014) document that "strategic" CFOs with an MBA degree (the generalist) consistently command a compensation premium, my analysis shows that CEOs with an MBA education background also get a higher reward after taking the helm.

In addition, it shows that the successor's prior CEO experience is negatively related to pay premium, with the coefficient statistically significant at 5% level or stronger across all the specifications. Specifically, an increase of one log year's prior CEO experience results in a decrease in pay premium by around 13% to 14% using the outcome in regressions (1)–(5). The prior CEO experience characterizes the professional profile of the newly appointed CEO. The results indicate that executives with more experience in a

prior CEO position and relevant skills require less rewarding after the promotion. The negative relation between prior CEO experience and pay premium can be explained with the "Employment Risk" theory. Literature on employment risk suggests that employment risk is a factor that affects executives' behaviour through its effects on future income and lowered reputation (Chakraborty et al., 2007; Kempf et al., 2009; Martin et al., 2013; De Cesari et al., 2016). To put it simple, employment risk is the threats to employment. It is untradeable and cannot easily be hedged in the financial markets. The employment risk affects a CEO's management behaviour and compensation. For example, there is evidence that CEOs faced with high employment risk take less risk in order to preserve current wealth (Chakraborty et al., 2007; Martin et al., 2013). From the perspective of employment theory, CEOs with longer years of prior experience are faced with less employment risk—they are less concerned to lose his/her job, hence require less rewards. On the contrary, CEOs with less prior experience are faced with higher employment risk—they have a higher chance to lose their job, and find it more difficult to find a new job if they lose their current job. Hence less experienced CEOs would require more rewards in compensation to compensate for the risk.

I find some evidence that the successor's tenure is positively related to the level of pay premium, that is, new CEOs with longer work experience in the bank receive a more significant pay rise. However, results are statistically significant only in specifications (1), (2) and (4). There is no evidence that pay premium is associated with other CEO attributes such as age, CEO-chairman duality, COO experience, Accounting or Finance related degree, and industry experience. I do find that pay premium is negatively related to the prior CEO's total compensation in the prior fiscal year. The relation is statistically significant in specifications (1) to (4).

Moving onto the analysis of bank characteristics, it shows that the pay premium is negatively related to bank age and positively related to bank size. It suggests that larger banks and younger banks tend to pay a higher reward to tournament winners. While Smith Jr and Watts (1992) document that larger firms and firms with greater growth opportunities require higher-quality managers, my findings indicate that managers in turn get a higher pay premium in those firms. In addition, the pay premium is negatively associated with pre-turnover bank performance measured by industry-adjusted ROA. This indicates that well-performed banks are more likely to give a higher pay premium to tournament winners. The result is consistent with existing studies stating that the best performing companies pay their CEOs relatively less (Executive Remuneration Research Centre, 2017; Francis, 2017). This can be explained as better performing firms normally have more bargaining power in setting the CEO compensation contract. CEOs in better performed firms may view this as a benefit for future career development, thus accept less rewards as a trade-off. By contrast, banks with non-satisfactory financial performance tend to give the CEO a higher pay premium as an incentive to create better performance.

I do not find the level of pay premium is explained by other bank characteristics. The results report a negative relation between crisis and the pay premium, suggesting that new CEOs get a lower pay rise if the event happens during the crisis period. The smaller compensation package may be caused by the deterioration of financial condition during the crisis.

In conclusion, across all specifications the pay premium is positively related to tournament steepness. Tournament winners receive a higher reward when the bank has a steeper tournament structure before succession. Thus hypothesis 1 is supported. The results support the perspective of tournament theory that greater pay differentials create incentives for managers to compete for the CEO position and a higher payment after

promotion. The higher payment expectation is realized in my analysis. It is also found that the pay premium is associated with some specific CEO and bank characteristics. Successors with an MBA education degree receive a more significant pay rise after the promotion. Successors with more prior CEO experience get a lower pay rise. The results also suggest that larger banks, younger banks, and banks with worse financial performance pre-turnover tend to pay a higher reward to tournament winners.

4.4.3 Alternative Measures of CEO Tournament Structure

In this section I employ alternative measures of CEO tournament structure. The results are reported in Table 4-4. First, I examine **CEO Pay Ratio (with median)**, that is, the ratio of the CEO's total compensation to the median of the other highest paid executives (Burns et al., 2017). The result in column (1) suggests a positive relation between **CEO Pay Ratio (with median)** and **TDC1_change** significant at the 10% level. The result in column (2) shows that **CEO Pay Ratio (with median)** is positively related to the industry-adjusted compensation change as well, although the coefficient is not significant.

Second, I measure tournament structure with CEO pay slice, the percentage the CEO claims of the total compensation to the top executive group (Bebchuk et al., 2011; Chen et al., 2013). I take the total compensation of top 5 executives and top 4 executives respectively. Columns (3) and (4) report results from regressions examining the relation between **CEO Pay Slice (with top5)** and two measures of pay premium, where the total compensation of top 5 executives is taken. Columns (5) and (6) report the results of comparable regressions using **CEO Pay Slice (with top4)** as the tournament measure. I find both CEO pay slice variables are positively associated with pay premium across the four specifications, with the coefficient statistically significant at the 5% level or stronger. That is, banks with steeper tournament structures give a better reward to the new CEO.

In summary, the results in Table 4-4 are consistent with Table 4-3, showing that the steepness of tournament structure is positively related to tournament winners' pay premium post-promotion.

[Insert Table 4-4 here]

4.4.4 Does the Pay Premium Reflect CEO Ability?

The above analysis has implied that pay premium is related to some specific CEO characteristics such as the MBA education background and prior CEO experience. While holding an MBA degree implies general ability (Murphy and Zabojnik, 2007; Datta and Iskandar-Datta, 2014), there might be other managerial abilities that are valued by shareholders but not captured in the analysis. Existing studies suggest that changes in the value of the firm around the CEO departure (appointment) reflect the market's evaluation of the departing (appointed) CEO's marginal ability (Hayes and Schaefer, 1999; Demerjian et al., 2012). They find 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, I use the market reaction towards the CEO appointment as an indicator of managerial ability. The question is, does the managerial ability perceived by the market lead to a higher pay premium? If the market could anticipate the value of managerial ability, there would be a positive relation between the market reaction and pay premium.

I test whether the pay premium reflects a new CEO's managerial ability by regressing pay premium measures on the measures of market reaction, with tournament structure and other CEO/bank characteristics as controls. In doing so, it can be determined whether tournament winners' reward is explained by their managerial ability on top of the tournament structure and other factors discussed earlier. The empirical results are presented in Table 4-5. In Panel A the measure of market reaction is the cumulative

abnormal return (CAR) surrounding the CEO appointment event. I first calculate **Market Reaction** as the cumulative abnormal return (CAR) across day -2 and day +2. The dependent variable in regressions (1) and (2) is pay premium (**TDC1_change** and **TDC1_change (ind-adj)** respectively). I find the CAR is positively associated (at the 5% level) with pay premium. In fact, a one standard deviation increase in CAR results in an increase of pay premium by approximately 0.094 using the coefficient obtained from regression (1), and 0.097 with the coefficient in regression (2). The results confirm my speculation, showing that high-ability CEOs get a larger reward after promotion. Meanwhile, the coefficients of the CEO tournament measure remain positive and statistically significant. That is, a steeper tournament structure is positively related to pay premium after accounting for the impact of managerial ability. I find that, similar to results in section 4.4.2, the pay premium is positively associated with the new CEO's MBA degree, while negatively associated with prior CEO experience and the payment 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 get a lower pay premium during the financial crisis. For conciseness, I do not report the results of these variables. In regressions (3) and (4) the market reaction is calculated as the cumulative abnormal return (CAR) across day -3 and day +3. I obtain similar results across different event windows.

[Insert Table 4-5 here]

For robustness, I use an alternative estimation model for market reaction: the market-adjusted model, and obtain the cumulated market-adjusted abnormal return (CMAR). The market-adjusted model uses abnormal returns defined in excess of CRSP Value-weighted market return (assumes market beta of 1). I conduct comparable regressions in Panel B

using CMAR as the market reaction measure. The results are robust to the change of market reaction measures.

Overall, the results in this section indicate that tournament winners' pay premium reflects a CEO's managerial ability. High-ability CEOs receive a more significant pay rise than low-ability CEOs. Hypothesis 2 is supported. While the tournament structure has been found to impact pay premium in earlier discussions, results in this section show that this larger reward is also a reflection of managerial ability. On the one hand, a steeper tournament structure is a catalyst for CEO candidates to put into more effort. On the other hand, candidates utilize their managerial ability in winning the competition. Hence the final prize of the tournament (pay premium) is a joint effect of greater effort induced by tournament incentives and the candidate's managerial ability.

4.4.5 Does a Steeper Tournament Always Lead to a Higher Reward?

Thus far, the analysis has shown a positive relation between tournament steepness and pay premium. However, it is unknown whether it is always the case that a higher CEO tournament is rewarded more by the board. It is possible that the effect is conditional on other factors. For example, the relation between the tournament steepness and pay premium may be heightened or weakened by specific CEO/bank characteristics. To empirically test whether this occurs, I interact the indicator variable for tournament structure (**CEO Pay Ratio (with mean)**) with CEO/bank characteristics variables. I find that a steeper tournament structure results in higher pay premium only under certain conditions. Table 4-6 reports the results.

[Insert Table 4-6 here]

The analysis in the previous section has shown that CEOs with higher managerial ability get higher pay premium. The question is, does it interact with the tournament structure in affecting the size of tournament prize? To empirically test whether CEO

managerial ability moderates the relation between tournament structure and pay premium, I examine the effect of tournament structure on winners' pay premium after controlling for the interaction between CEO tournament structure and market reaction (CAR). Panel A of Table 4-6 reports the results. It shows that tournament steepness is positively related to the pay premium, although the coefficient is not statistically significant. The interaction between tournament structure and market reaction is positive and significant at the 5% level. The results suggest that a higher tournament structure results in a better reward when shareholders believe the successor is a capable CEO. In other words, high managerial ability strengthens the positive relation between tournament steepness and tournament winners' pay premium. To better illustrate this, I create quartiles of market reaction and examine the joint coefficient of CEO tournament structure when market reaction takes different values. Taking regression (1) as an example, when market reaction takes the value of 25th percentile, the joint coefficient of CEO tournament measure is 0.059 but is not significant. While market reaction takes the value of 75th percentile, the joint coefficient is 0.107 and is significant at the 5% level. That is, if the market believes the new CEO to be of high managerial ability, a smaller tournament would be as effective as a larger tournament when the CEO is not valued by shareholders. I obtain similar results with regression (2).

The results in section 4.4.2 and 4.4.3 (Table 4-3 and Table 4-4) suggest that prior CEO experience of the new CEO is negatively related to the pay premium post-appointment, as is explained by the "employment risk" theory (Chakraborty et al., 2007; Martin et al., 2013). CEOs with more former CEO experience are faced with less employment risk, hence require less rewards. If this is the case, a steep tournament structure would possibly provide less incentive for candidates with more prior CEO experience in winning the competition than candidates who are less experienced, because more experienced CEOs

are more confident in the job market. I test whether the impact of tournament structure on the pay premium depends on the winner's prior CEO experience (**CEO_years**) by controlling for the interaction between tournament structure and prior CEO experience. Panel B of Table 4-6 presents the results. It shows that the interaction term is positive and significant, which suggests that a steeper tournament structure leads to a better reward when the successor possesses more experience as a former CEO. This might because the past experience in a CEO position provides relevant skills that are important in managing the bank. To be more specific, when **CEO_years** takes the value of 25th percentile, the joint coefficient of CEO tournament measure in regression (1) is 0.088 but is not significant. While **CEO_years** takes the value of 75th percentile, the joint coefficient becomes 0.182 and is significant at the 1% level. The results for regression (2) are consistent with regression (1).

The pre-promotion status of the tournament winner may also affect the CEO tournament process. It is generally assumed that COO is the second-in-command at the firm. In fact, many firms identify an heir apparent in the COO position in advance of the actual succession event and use this position to groom the next CEO (Vancil, 1987). A CEO and a COO in general are partners and they work closely in their positions. It is likely that the CEO will pass the leadership baton to the COO when succession occurs (Ocasio, 1999; Zhang and Rajagopalan, 2003). On the other hand, a COO can be power contenders to the CEO especially under conditions of low firm performance. In either case (an heir apparent or a contender), a COO, as a co-leader who is only one step from the top post, is the person who is most likely to be promoted to the CEO position. As the COO already possessed a top position and was highly paid, and they were more likely to win the competition, the pay gaps between CEO and non-CEO executives would provide less incentives for them. Compared with the COO, other lower position

executives have less chance to win the CEO tournament. I call them the "underdogs"[17]. A steep tournament structure is likely to create more incentives for an underdog in winning the game. If this is the case, the impact of tournament structure on pay premium would be strengthened for non-COO contenders.

I test this conjecture by examining the relation between tournament structure and pay premium after controlling for the interaction between tournament structure and a dummy variable whether the new CEO was in the COO position before appointment. Panel C of Table 4-6 reports the results. It shows that tournament steepness is positively related to pay premium and is statistically significant at the 1% level. The interaction between tournament steepness and the COO indicator is negative and significant. This indicates that a higher tournament structure results in a better reward in general. However, the effect becomes weaker when the successor was COO of the bank before promotion. The results support my speculation that a steep tournament structure will create less incentives for COOs but more incentives for "underdogs". In fact, when the new CEO was in the COO position before promotion, the joint coefficient of CEO tournament measure in regression (1) is 0.077 but is not significant. That is, the incentives provided by a steep tournament structure becomes less effective, although the overall effect is still positive. By contrast, when the candidate was an "underdog", the joint coefficient is 0.215 and is significant at the 1% level. The results hold for regression (2).

In addition, the relation between tournament structure and pay premium may also depend on the succession context. While the succession type affects subsequent firm performance (Shen and Cannella, 2002b) and strategic changes (Barron et al., 2011), they may also influence the CEO tournament process. If a succession is well planned, there is

[17] An underdog is a person or group in a competition who is popularly expected to lose.

less incentives given by the pay gaps pre-turnover. On the contrary, a steep tournament structure would create more incentives for executives to compete for the CEO position if the succession is not planned.

I empirically test the impact of succession context by adding an interaction between tournament structure and exogenous turnover (**Exogenous**) (Eisfeldt and Kuhnen, 2013). Panel D of Table 4-6 shows whether the tournament effect is affected by whether the succession is an exogenous turnover (planned retirement) or non-exogenous (non-planned turnover). It shows that tournament steepness is positively related to pay premium and is statistically significant at the 1% level. The interaction between tournament structure and exogenous turnover is negative and significant. This indicates that the impact of tournament structure on pay premium is diminished if the succession is a planned retirement. Specifically, when the succession is a planned turnover, the joint coefficient of CEO tournament measure in regression (1) is still positive but not statistically significant. When the succession is a non-planned turnover, the joint coefficient is 0.237 and is significant at the 1% level. I obtain similar results with regression (2). The results support my conjecture that a planned retirement will diminish the effect of a steep tournament structure.

To summarize the results in this section, I find that it is not always the case that a steeper tournament structure results in a better reward. The effect is stronger if the shareholders believe the new CEO is capable of doing the job, if the new CEO has more experience in a prior CEO position, or if the CEO was an "underdog" before promotion. In addition, the effect is weaker when the succession is a planned succession.

4.4.6 Pay Premium and the Change in Long-run Bank Performance

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

winner's pay premium and the long-run bank performance as well as risk-taking behaviour. I look at the change in bank performance/risk from the year pre-succession to the average performance/risk over two years after the CEO appointment, which is relatively a long-term measure. The analysis in previous sections has documented that tournament incentives are positively associated with the CEO's pay rise after promotion. A steeper tournament structure results in a larger reward for the individual, in dependent of the CEO's managerial ability and other CEO/bank characteristics. However, do tournament incentives benefit the bank as well? The competition to win the tournament is the catalyst in tournament theory for greater efforts and more payoffs for firms (Lazear and Rosen, 1981; Green and Stokey, 1983; Main et al., 1993; Henderson and Fredrickson, 2001). If the tournament theory holds, I would expect greater tournament incentives associated with an improvement in bank performance.

To answer this question, I examine the relation between pay premium and the change in bank performance. As the analysis looks at bank the change in bank performance in two years post-succession, I only keep the events where the CEO stays in the position for at least two years. I start the analysis with a univariate test comparing the change in bank performance between CEOs with low and high pay premium. CEOs that obtain a pay premium below the median level of the sample are classified as low pay premium CEOs. CEOs that obtain a pay premium above the median level are labelled high pay premium CEOs. The pay premium is measured with **TDC1_change** and **TDC1_change (ind-adj)** respectively. Panel A of Table 4-7 reports results of the change in bank accounting performance (**ROA_change**). The results suggest that banks with high premium CEOs have a significant larger change in profitability than banks with low premium CEOs. The results are consistent across two pay premium measures. Panel B reports results of the change in market-based performance (**TOBINQ_change**). It shows that banks where

the new CEO gets a higher pay premium have better market performance than their counterparts.

[Insert Table 4-7 here]

I then conduct a multivariate test by running OLS regressions where the dependent variable is the change in bank performance and the independent variables are two pay premium measures. I control for CEO attributes and bank characteristics that were used in prior analysis. The regression results are reported in table 4-8. Columns (1) and (2) present the relation between pay premium and the change in bank's accounting performance. It shows that pay premium is positively and significantly (at the 10% level or stronger) related to the change in bank profitability. A one standard deviation increase in pay premium is associated with an increase in **ROA_change** by 0.133% using the coefficient obtained from regression (1) and 0.137 using the coefficient obtained from regression (2). Columns (3) and (4) show the results from regressions examining the relation between pay premium and the change in a bank's market performance. It suggests that pay premium is positively and significantly (at the 5% level) related to the change in Tobin's Q as well. Overall, the analysis in this section documents that new CEOs who gain a larger reward are also those who bring a greater improvement in bank performance. The effect holds for both accounting-based and market-based performance measures. The findings in this section support the view of tournament theory that tournament incentives finally result in better firm performance. Hence hypothesis 3 is supported.

[Insert Table 4-8 here]

4.4.6.1 Alternative Explanations

Till now the analysis has shown that a steeper tournament structure brings both a higher pay premium and a greater improvement in future bank performance. However, the positive performance consequence does not rule out the possibility that the

performance improvement is motivated by bad choices of the newly appointed CEO. For instance, the new CEO might engage in aggressive risk-taking to boost profitability. To verify this speculation, this section investigates whether pay premium is linked with changes in bank risk. I examine the bank risk from three perspectives. The first risk measure is the change in earnings volatility (**VOL_change**). The second measure is the change in Tier 1 capital ratio (**CAPR1_change**), an indicator of bank's leverage risk. And the third measure is the change in banks' Z-score (**ZSCORE_change**) which represents bank stability. I replicate the specifications in the performance analysis by replacing the dependent variable as the change in bank risk. The results are reported in Table 4-9. There is no relation found between pay premium and the change in any risk measure. It indicates that the improvement of bank profitability is not due to the new CEO's risk-taking behaviour.

[Insert Table 4-9 here]

Summarizing the results in this section, it is evidenced that tournament winners' pay premium is positively related to the bank's long-term performance and is not related to bank risk. It suggests that a better reward for tournament winners predicts a better subsequent bank performance. From a practical perspective, it also indicates that board is able to identify CEO talent and select appropriate CEOs that create value for the bank.

4.4.7 Additional Tests: Managerial Risk, Executive Compensation, and Bank Performance

The use of equity-based compensation, in the form of stock and options, has grown rapidly since the 1990s (Murphy, 1999). The driving force of this change has been the growing desire to align the interests of executives with those of shareholders to mitigate the agency problem (Jensen and Meckling, 1976). One effect of this trend is a substantial increase in the sensitivity of CEO wealth to stock price (delta). Higher delta motivates

managers to work harder because they share gains and losses with shareholders. At the same time, managers are exposed to more risk (Coles et al., 2006). It is possible that managers will forgo risky positive net present value (NPV) projects (Amihud and Lev, 1981; Smith et al., 1985). On the other hand, the increase in option grants and holdings is associated with an increase in the sensitivity of CEO wealth to stock return volatility (vega). The convex payoff of stock options can potentially reduce aversion to risky policies that arise from high delta (Coles et al., 2006; Bakke et al., 2016).

There is empirical evidence that managerial risk incentives (delta and vega) are associated with corporate policies. Existing studies find a positive relation between managerial risk incentives and corporate risk taking actions (Rajgopal and Shevlin, 2002; Coles et al., 2006; Hayes et al., 2012; Bakke et al., 2016). For example, Coles et al. (2006) find that higher vega implements more investment in R&D, less investment in PPE, and higher leverage. There is also evidence that managerial risk incentives are related to firm performance. However, there is no consensus made yet. A recent study by Coles et al. (2019) shows that larger CEO delta fixed effects are associated with higher Tobin's Q and ROA. By contrast, Shen and Zhang (2013) obtain evidence that CEO risk incentives are associated with lower abnormal stock returns and lower operating performance following an increase in R&D investments.

To investigate the role of equity-based compensation in the new CEO's compensation contracts, and whether it affects the long-run bank performance in my research framework, I control for both CEO delta and vega in my analysis. Results are reported in section 4.6.1 Additional Tables.

Table A 4-3 and Table A 4-4 show that the pay premium of tournament winners is positively related to the CEO tournament steepness after controlling for the managerial risk incentives: CEO delta and vega,. However, neither delta nor vega is related to the pay

premium. Table A 4-5 suggests that the pay premium is a reflection of managerial ability, as proxied by the market reaction surrounding CEO appointment announcement, after controlling for tournament structure and managerial risk incentives. Table A 4-6 reports the results examining the long-run bank performance post-CEO succession. It shows that the pay premium is an indication of future performance improvement after CEO succession. The results are consistent with my previous analysis. In addition, there is a positive relation between CEO delta and the change in ROA. The coefficients are significant at the 5% level. This suggests that higher sensitivity of managerial wealth to stock price is associated with better long-run bank accounting performance, which is consistent with Coles et al. (2019)'s findings.

4.5 Conclusions

The study of this empirical chapter examines the relation between CEO tournament structure and the pay premium of tournament winners with a sample of internal CEO succession events in US BHCs. I find that there is overall an increase in winner's total compensation after being promoted to the CEO position. However, the level of pay premium varies among successors.

The study proceeds by investigating the driving forces of the variation in pay premiums. With a multivariate analysis, I find that the steepness of tournament structure is positively associated with the reward size. Candidates who has won the competition in a steeper tournament environment obtain a higher pay rise upon promotion, which support the tournament theory's view that pay gaps between CEO and other senior executives create incentives for managers to input more effort in competing for the CEO position. The effort pays off with the winning of tournament and a larger pay rise. Using the market reaction as a proxy for CEO ability, my results suggest that pay premium

reflects the CEO's managerial ability as well. CEOs with higher managerial ability get a higher pay premium after the appointment.

Although a steeper tournament structure is associated with a higher reward upon promotion, I find the effectiveness of the tournament structure varies under different conditions. The results suggest that the impact of tournament structure on pay premium is heightened or weakened in the presence of some factors. For example, I find the effect gets stronger if shareholders believe the new CEO is someone capable, if the new CEO has more experience in a prior CEO position, and if the new CEO was an "underdog" candidate. By contrast, tournament incentives are less effective if the succession is a planned succession.

The last part of the analysis looks at whether a higher pay premium predicts a better long-run bank performance. With both univariate and multivariate tests, I find that CEOs gaining a higher pay premium are associated with a greater improvement in bank performance post-succession. The effect exists in both accounting performance and market-based performance. The results support the perspective of the tournament theory that tournament incentives elicit greater managerial effort for the CEO competition. This eventually results in better bank performance. In addition, the analysis rules out the possibility that the performance improvement is motivated by the new CEO's bad choices such as aggressive risk-taking. Using three different risk measures, I do not find the pay premium is associated with any measure of bank risk.

Taken together, the findings in this chapter suggest that a higher pay premium is a joint effect of the managers' greater efforts induced by a steeper tournament structure as well as higher managerial abilities that they input in winning the competition. In addition, the better reward is an indication of greater improvement in long-run bank performance.

This suggests that boards are able to identify CEO ability and select appropriate CEOs for their banks.

4.6 Figures and Tables

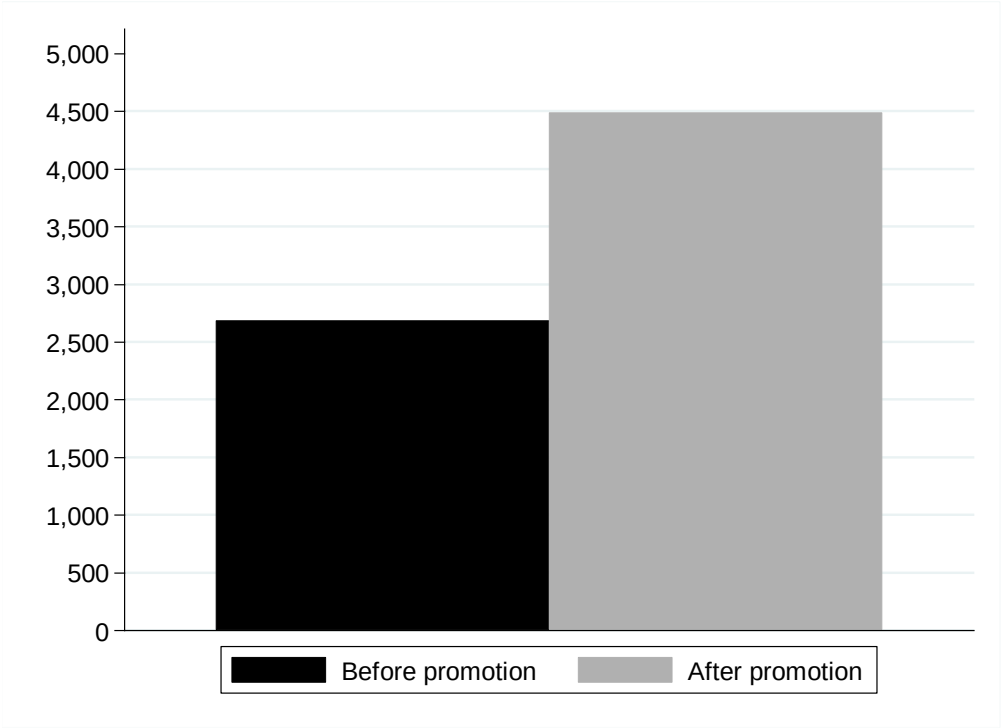

Figure 4-1: Average Compensation of Tournament Winners Before and After Promotion

Note: The figure presents the average total compensation of tournament winners before and after being promoted to the CEO position. The level of compensation components is in thousands of USD.

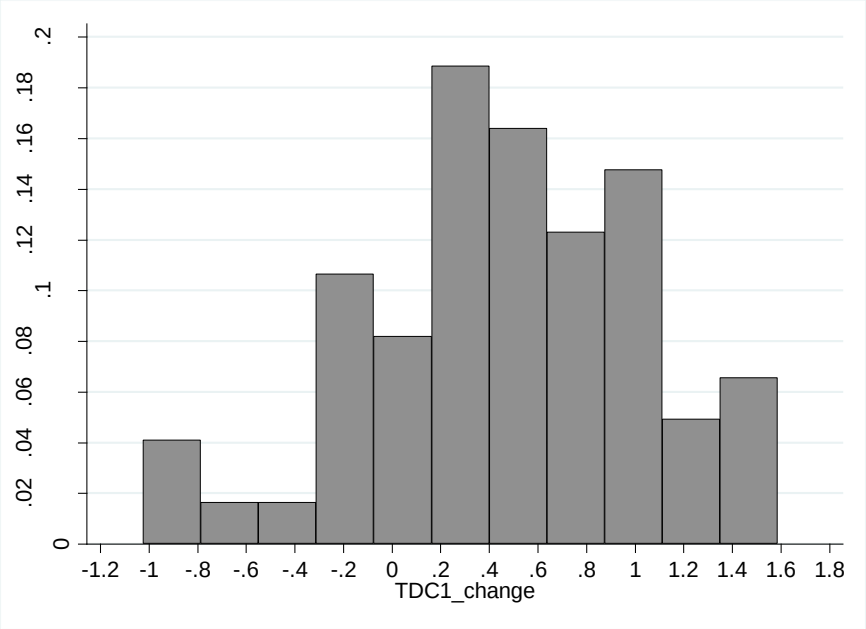

Figure 4-2: Distribution of Winners' Pay Premium Measured by TDC1_change

Note: The figure presents the distribution of tournament winners' pay premium measured by TDC1_change. TDC1_change is the change in logarithm of total compensation from year t-1 to t+1.

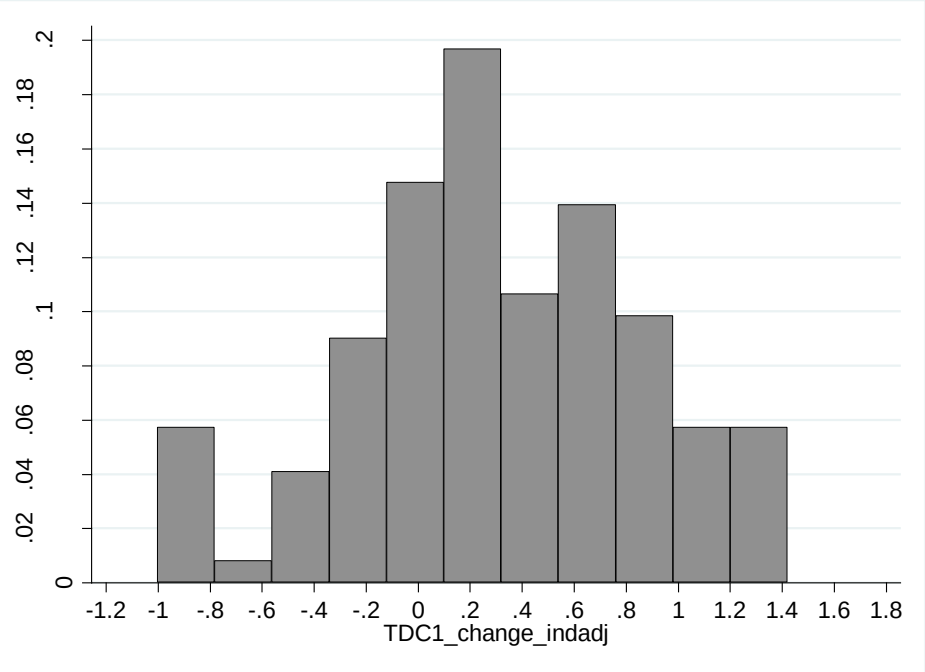

Figure 4-3: Distribution of Winners' Pay Premium Measured by TDC1_change (ind-adj)

Note: The figure presents the distribution of tournament winners' pay premium measured by TDC1_change (ind-adj). TDC1_change (ind-adj) is 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.

Table 4-1: Distribution of Internal CEO Successions

The table presents the annual details of internal CEO successions from 1993 to 2016. A CEO succession is defined as an exogenous turnover if the CEO departure was announced at least 6 months before the succession, or caused by a well-specified health problem. Other internal successions are defined as non-exogenous turnovers (Eisfeldt and Kuhnen, 2013).

Year	Total	Exogenous	Non-exogenous
1993	2	2	0
1994	6	3	3
1995	9	3	6
1996	4	3	1
1997	4	4	0
1998	6	3	3
1999	1	1	0
2000	9	5	4
2001	7	2	5
2002	6	2	4
2003	4	2	2
2004	6	1	5
2005	5	2	3
2006	6	2	4
2007	11	0	11
2008	8	2	6
2009	5	1	4
2010	9	1	8
2011	7	2	5
2012	4	0	4
2013	5	2	3
2014	2	1	1
2015	2	1	1
2016	2	1	1
Total	130	46	84

Table 4-2: Descriptive Statistics

This table shows the descriptive statistics for all the variables employed in the analysis. It presents the number of observations, mean, median, standard deviation, minimum, and maximum for each variables. All variables are winsorized at the 2.5% and 97.5% levels. Variable definitions are provided in Table A 4-1 in the Appendix.

Variable	N	Mean	Median	SD	Min	Max
Pay Premium Measures:						
TDC1_change	122	0.460	0.456	0.593	-1.023	1.587
TDC1_change (ind-adj)	122	0.300	0.286	0.554	-1.002	1.422
Tournament Structure Measures:						
CEO Pay Ratio (with mean)	130	2.434	2.111	1.574	0.563	9.160
CEO Pay Ratio (with median)	130	2.670	2.313	1.724	0.569	9.530
CEO Pay Slice (with top5)	122	0.346	0.3437	0.113	0.121	0.656
CEO Pay Slice (with top4)	128	0.385	0.388	0.119	0.136	0.713
CEO Characteristics Controls:						
CEO Age	130	53.823	53.500	5.250	44.000	64.000
Chairman	130	0.346	0.000	0.478	0.000	1.000
COO	130	0.485	0.000	0.502	0.000	1.000
MBA Degree	130	0.369	0.000	0.484	0.000	1.000
AF Degree	130	0.300	0.000	0.460	0.000	1.000
Tenure	130	14.154	11.000	10.613	1.000	37.000
Industry Experience	130	23.315	24.000	8.702	6.000	38.000
CEO_years	129	1.933	0.000	3.541	0.000	13.167
Bank Characteristics Controls:						
Bank Age	130	26.392	26.000	11.956	7.000	48.000
Bank Size	130	10.001	9.837	1.541	7.613	13.908
ROA	130	0.000	0.001	0.008	-0.035	0.014
VOL	130	0.004	0.002	0.005	0.000	0.023
Equity Capital	130	0.093	0.089	0.025	0.057	0.171
Corporate Governance Controls:						
Board Size	130	14.192	14.000	4.041	7.000	24.000
Board Independence	130	0.784	0.806	0.120	0.500	0.947
CEO Ability Measure:						
CAR (-2, +2)	128	0.001	0.001	0.055	-0.385	0.163
Other Controls:						
Delta	120	251.570	83.912	503.958	0.190	3957.887
Vega	123	99.779	19.564	200.658	0.000	1196.554
TDC1_priorCEO	129	7.852	7.798	1.075	5.889	9.991
Exogenous	130	0.423	0.000	0.496	0.000	1.000
Crisis	130	0.185	0.000	0.389	0.000	1.000
Coincident Index	128	138.155	137.540	18.993	108.110	194.230
Performance/Risk Measures:						
ROA_change	126	-0.083	0.027	0.721	-2.316	1.352
TOBINQ_change	126	-0.235	-0.131	4.062	-8.066	8.033
VOL_change	126	0.056	0.002	0.500	-1.453	1.401
CAPR1_change	120	22.306	18.219	168.903	-337.205	457.358

Table 4-2 (continued)

ZSCORE_change	118	-0.122	-0.159	1.310	-3.341	2.419

Table 4-3: CEO Tournament Structure and Winners' Pay Premium

The table reports results from regressions examining whether the pay premium of tournament winners is related to the CEO tournament structure prior to the promotion. The dependent variable in regressions (1)-(4) is **TDC1_change**, defined as the change in logarithm of total compensation from year t-1 to t+1. The dependent variable in regression (5) is **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 the bank CEOs in the specific year. The **CEO Tournament** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of CEO's total compensation to the mean of the other highest paid executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) TDC1_change	(2) TDC1_change	(3) TDC1_change	(4) TDC1_change	(5) TDC1_change (ind-adj)
Tournament Structure	0.117**	0.117**	0.113**	0.109**	0.087*
	(0.045)	(0.048)	(0.052)	(0.052)	(0.052)
CEO Age	-0.212	-0.342	-0.264	-0.228	-0.118
	(0.485)	(0.502)	(0.480)	(0.484)	(0.467)
Chairman	0.139	0.151	0.101	0.053	-0.017
	(0.111)	(0.112)	(0.110)	(0.115)	(0.111)
COO	-0.117	-0.080	-0.076	-0.080	-0.066
	(0.105)	(0.107)	(0.103)	(0.102)	(0.102)
MBA Degree	0.242**	0.254**	0.245**	0.247**	0.231**
	(0.111)	(0.112)	(0.108)	(0.109)	(0.107)
AF Degree	-0.080	-0.078	-0.086	-0.095	-0.103
	(0.110)	(0.113)	(0.109)	(0.107)	(0.111)
Tenure	0.149**	0.144**	0.102	0.117*	0.069
	(0.069)	(0.071)	(0.069)	(0.067)	(0.065)
Industry Experience	0.025	0.058	0.086	0.091	0.073
	(0.119)	(0.117)	(0.111)	(0.111)	(0.118)
CEO_years	-0.134**	-0.137**	-0.137***	-0.143***	-0.126**
	(0.055)	(0.056)	(0.052)	(0.053)	(0.054)
TDC1_priorCEO	-0.287**	-0.301**	-0.283**	-0.281**	-0.225
	(0.115)	(0.130)	(0.133)	(0.131)	(0.136)
Exogenous	0.040	0.040	0.000	-0.002	-0.001
	(0.112)	(0.116)	(0.114)	(0.114)	(0.113)
Bank Age	-0.231**	-0.230**	-0.190*	-0.191*	-0.138
	(0.105)	(0.104)	(0.101)	(0.101)	(0.103)
Bank Size	0.247***	0.257***	0.244***	0.243***	0.204**
	(0.077)	(0.088)	(0.092)	(0.089)	(0.093)
ROA	-31.569***	-38.220***	-37.019***	-35.772***	-32.454***
	(7.695)	(10.033)	(9.681)	(10.058)	(10.149)
VOL		-14.011	-17.676	-13.282	-17.980
		(13.098)	(12.634)	(13.311)	(13.410)
Equity Capital		2.656	2.620	2.858	2.209
		(2.210)	(2.027)	(2.103)	(2.189)
Board Size		-0.078	-0.087	-0.082	-0.029
		(0.193)	(0.196)	(0.197)	(0.196)
Board Independence		-0.238	-0.123	-0.089	-0.154
		(0.386)	(0.383)	(0.385)	(0.386)
Crisis			-0.345***	-0.287**	-0.107
			(0.127)	(0.137)	(0.131)
Coincident Index				-0.003	-0.001
				(0.003)	(0.003)
Observations	121	121	121	119	119
R-squared	0.352	0.367	0.409	0.402	0.303
Adj. R-squared	0.267	0.256	0.298	0.280	0.161

Table 4-4: CEO Tournament Structure and Winners' Pay Premium – Alternative Tournament Structure Measures

The table reports results from regressions examining whether the pay premium of tournament winners is related to the CEO tournament structure prior to the promotion, with alternative measures of tournament structure. The dependent variable in regressions (1), (3) and (5) is **TDC1_change**, defined as the change in logarithm of total compensation from year t-1 to t+1. The dependent variable in regressions (2), (4) and (6) is **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 the bank CEOs in the specific year. The **Tournament Structure** measure in regressions (1) and (2) is **CEO Pay Ratio (with median)**, the ratio of the CEO's total compensation to the median of the other highest paid executives. The **CEO tournament** measure in regressions (3) and (4) is **CEO Pay Slice (with top5)**, the fraction of CEO's total compensation to the sum of top 5 executives. The **Tournament Structure** measure in regressions (5) and (6) is **CEO Pay Slice (with top4)**, the fraction of CEO's total compensation to the sum of top 4 executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	CEO Pay Ratio (with median)		CEO Pay Slice (with top5)		CEO Pay Slice (with top4)	
	(1) TDC1_change	(2) TDC1_change (ind-adj)	(3) TDC1_change	(4) TDC1_change (ind-adj)	(5) TDC1_change	(6) TDC1_change (ind-adj)
Tournament Structure Measure	0.084*	0.064	1.871**	1.553**	1.750***	1.456**
	(0.050)	(0.049)	(0.751)	(0.740)	(0.651)	(0.646)
CEO Age	-0.304	-0.182	-0.150	0.020	-0.000	0.002
	(0.491)	(0.471)	(0.506)	(0.488)	(0.113)	(0.111)
Chairman	0.048	-0.023	0.072	0.005	-0.123	0.010
	(0.115)	(0.111)	(0.118)	(0.116)	(0.488)	(0.472)
COO	-0.082	-0.066	-0.106	-0.095	0.064	-0.006
	(0.103)	(0.102)	(0.111)	(0.109)	(0.114)	(0.111)
MBA Degree	0.253**	0.235**	0.254**	0.247**	-0.121	-0.104
	(0.109)	(0.108)	(0.110)	(0.109)	(0.107)	(0.106)
AF Degree	-0.104	-0.110	-0.094	-0.084	0.233**	0.226**
	(0.108)	(0.111)	(0.114)	(0.118)	(0.107)	(0.106)
Tenure	0.115*	0.067	0.109	0.056	-0.109	-0.106
	(0.067)	(0.065)	(0.072)	(0.069)	(0.111)	(0.114)
Industry Experience	0.108	0.086	0.099	0.078	0.129*	0.077
	(0.107)	(0.115)	(0.119)	(0.124)	(0.068)	(0.065)
CEO_years	-0.145***	-0.129**	-0.145**	-0.124**	0.053	0.038
	(0.054)	(0.054)	(0.057)	(0.057)	(0.116)	(0.120)
TDC1_priorCEO	-0.258**	-0.205	-0.320**	-0.264**	-0.129**	-0.114**
	(0.125)	(0.130)	(0.125)	(0.130)	(0.054)	(0.054)

Table 4-4 (continued)

Exogenous	-0.018	-0.014	-0.014	-0.010	-0.316**	-0.259**
	(0.113)	(0.112)	(0.114)	(0.113)	(0.121)	(0.127)
Bank Age	-0.198*	-0.143	-0.216*	-0.166	-0.218*	-0.155
	(0.103)	(0.104)	(0.115)	(0.116)	(0.110)	(0.111)
Bank Size	0.235***	0.196**	0.273***	0.231**	0.272***	0.230**
	(0.086)	(0.089)	(0.090)	(0.093)	(0.087)	(0.091)
ROA	-36.953***	-33.443***	-37.815***	-34.193***	-36.545***	-33.037***
	(10.096)	(10.090)	(10.322)	(10.321)	(9.981)	(10.060)
VOL	-14.542	-19.065	-11.418	-16.595	-10.598	-16.137
	(13.397)	(13.301)	(14.925)	(14.865)	(13.841)	(13.977)
Equity Capital	2.819	2.169	2.457	1.600	2.187	1.571
	(2.120)	(2.206)	(2.252)	(2.313)	(2.152)	(2.243)
Board Size	-0.075	-0.024	-0.066	-0.005	-0.093	-0.038
	(0.199)	(0.197)	(0.206)	(0.206)	(0.197)	(0.197)
Board Independence	-0.097	-0.160	-0.222	-0.289	-0.162	-0.216
	(0.383)	(0.384)	(0.422)	(0.428)	(0.394)	(0.399)
Crisis	-0.290**	-0.109	-0.294**	-0.112	-0.267*	-0.093
	(0.141)	(0.135)	(0.143)	(0.137)	(0.135)	(0.130)
Coincident Index	-0.003	-0.001	-0.004	-0.001	-0.004	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Observations	119	119	112	112	117	117
R-squared	0.393	0.294	0.421	0.328	0.417	0.320
Adj. R-squared	0.269	0.150	0.294	0.180	0.295	0.179

Table 4-5: CEO Tournament Structure, Market Reaction, and Winners' Pay Premium

The table reports results from regressions examining whether the pay premium is affected by the market reaction surrounding CEO appointment announcement. Panel A reports results where **Market Reaction** is measured with the cumulative abnormal return (**CAR**) surrounding CEO appointment announcement. Panel B reports results where **Market Reaction** is measured with the cumulative market-adjusted return (**CMAR**) surrounding CEO appointment announcement. Regressions (1) and (2) report the results with event window (-2, +2). Regressions (3) and (4) report the results with event window (-3, +3). The **Tournament Structure** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of 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, Coincident Index. Variable definitions can be found in Table A 4-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	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	1.729**	1.785**	1.397**	1.417**
	(0.730)	(0.706)	(0.634)	(0.617)
Tournament Structure	0.131**	0.110**	0.134***	0.113**
	(0.050)	(0.049)	(0.051)	(0.049)
Controls	Yes	Yes	Yes	Yes
Observations	117	117	117	117
R-squared	0.429	0.339	0.425	0.334
Adj. R-squared	0.303	0.193	0.298	0.186
Panel B: Market reaction measured with CMAR				
Market Reaction	1.379**	1.477**	1.267**	1.310**
	(0.618)	(0.608)	(0.541)	(0.526)
Tournament Structure	0.131**	0.110**	0.135***	0.113**
	(0.051)	(0.049)	(0.051)	(0.049)
Controls	Yes	Yes	Yes	Yes
Observations	117	117	117	117
R-squared	0.424	0.334	0.427	0.337
Adj. R-squared	0.296	0.187	0.301	0.191

Table 4-6: CEO Tournament Structure and Winners' Pay Premium – Controlling for the Interaction Between Tournament Structure and CEO/bank characteristics

The table reports results from regressions examining whether the pay premium is affected by the CEO tournament structure after controlling for the interaction between tournament structure and CEO/bank characteristics. The **Tournament Structure** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of the CEO's total compensation to the mean of the other highest paid executives. Panel A reports results controlling for the interaction between tournament structure and **Market Reaction,** measured with the cumulative abnormal return (CAR) for event window (-2, +2). Panel B reports results controlling for the interaction between tournament structure and prior CEO experience (**CEO_years**), defined as the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position.. Panel C reports results controlling for the interaction between tournament structure and **COO**, a dummy that equals one if the CEO was COO of the bank before promotion. Panel D reports results controlling for the interaction between tournament structure and **Exogenous,** a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. 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, Coincident Index. Variable definitions can be found in Table A 4-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) TDC1_change	(2) TDC1_change (ind-adj)
Panel A: Interaction with market reaction		
Tournament Structure	0.080	0.063
	(0.057)	(0.055)
Market Reaction	-1.625	-1.292
	(1.781)	(1.746)
Tournament Structure * Market Reaction	1.334**	1.224**
	(0.642)	(0.616)
Controls	Yes	Yes
Observations	117	117
R-squared	0.449	0.358
Adj. R-squared	0.320	0.208
Low market reaction	0.059	0.043
	(0.066)	(0.063)
High market reaction	0.107**	0.088*
	(0.048)	(0.047)
Panel B: Interaction with prior CEO experience		
CEO Tournament	0.088	0.075
	(0.056)	(0.054)
CEO_years	-0.279***	-0.237***
	(0.088)	(0.087)
Tournament Structure * CEO_years	0.068**	0.056*
	(0.034)	(0.033)
Controls	Yes	Yes
Observations	117	117
R-squared	0.443	0.350
Adj. R-squared	0.313	0.198
Short prior CEO experience	0.088	0.075
	(0.056)	(0.054)
Long prior CEO experience	0.182***	0.152***
	(0.044)	(0.045)
Panel C: Interaction with COO		
CEO Tournament	0.215***	0.178***
	(0.049)	(0.048)
COO	0.235	0.198
	(0.197)	(0.193)
Tournament Structure * COO	-0.138*	-0.112*
	(0.070)	(0.066)
Controls	Yes	Yes
Observations	117	117
R-squared	0.448	0.353
Adj. R-squared	0.318	0.202
COO	0.077	0.066
	(0.062)	(0.059)
Non-COO	0.215***	0.178***
	(0.049)	(0.048)

Table 4-6 (continued)

Panel D: Interaction with succession type		
Tournament Structure	0.237***	0.211***
	(0.052)	(0.052)
Exogenous	0.374*	0.351*
	(0.196)	(0.193)
Tournament Structure * Exogenous	-0.185**	-0.176**
	(0.072)	(0.069)
Controls	Yes	Yes
Observations	117	117
R-squared	0.463	0.374
Adj. R-squared	0.337	0.228
Exogenous	0.052	0.035
	(0.062)	(0.059)
Non-exogenous	0.237***	0.211***
	(0.052)	(0.052)

Table 4-7: Tournament Winners' Pay Premium and Changes in Bank Performance - Univariate Test

The table reports the results of univariate tests comparing the change in bank performance between CEOs with low and high pay premium. **Pay Premium** is measured with **TDC1_change** and **TDC1_change (ind-adj)** respectively. Panel A reports results of the change in accounting performance (**ROA_change**), measured as the difference of industry-adjusted ROA between year-1 and the average over years t+1 and t+2. Panel B reports results of the change in market-based performance (**TOBIN_change**), measured as the difference of industry-adjusted Tobin's Q between year-1 and the average over years t+1 and t+2. CEOs that obtain a pay premium below the median level of the sample are defined as low pay premium CEOs. CEOs that obtain a pay premium above the median level of the sample are defined as high pay premium CEOs. P-values are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

Panel A: Changes in accounting performance

	Low Pay Premium CEOs		High Pay Premium CEOs		Difference	
Pay Premium: TDC1_change						
	Mean	Median	Mean	Median	Mean	Median
ROA_change	-0.235**	-0.051	0.083	0.095**	0.318**	0.146*
P-value	(0.038)	(0.590)	(0.294)	(0.033)	(0.021)	(0.093)
Pay Premium: TDC1_change (ind-adj)						
ROA_change	-0.251**	-0.065	0.100	0.099**	0.351***	0.164**
P-value	(0.020)	(0.419)	(0.240)	(0.016)	(0.010)	(0.028)

Panel B: Changes in market-based performance

	Low Pay Premium CEOs		High Pay Premium CEOs		Difference	
Pay Premium: TDC1_change						
	Mean	Median	Mean	Median	Mean	Median
TOBINQ_change	-1.443	-1.394	0.308	0.255	1.751**	1.649**
P-value	(0.294)	(0.185)	(0.539)	(1.000)	(0.018)	(0.023)
Pay Premium: TDC1_change (ind-adj)						
TOBINQ_change	-1.773***	-1.541*	0.616	0.417	2.389***	1.958**
P-value	(0.002)	(0.063)	(0.202)	(0.609)	(0.010)	(0.028)

Table 4-8: Tournament Winners' Pay Premium and Changes in Bank Performance - Multivariate Test

The table reports the results of multivariate tests examining whether tournament winners' pay premium is 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 of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. Regressions (3) and (4) report 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 years t+1 and t+2. The **Tournament Structure** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of the CEO's total compensation to the mean of the other highest paid executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) ROA_change	(2) ROA_change	(3) TOBINQ_change	(4) TOBINQ_change
TDC1_change	0.243*		1.604**	
	(0.129)		(0.733)	
TDC1_change (ind-adj)		0.264**		1.551**
		(0.121)		(0.736)
Tournament Structure	-0.043	-0.038	-0.668**	-0.630*
	(0.049)	(0.047)	(0.335)	(0.327)
CEO Age	0.282	0.269	1.363	1.222
	(0.676)	(0.670)	(3.929)	(3.944)
Chairman	0.019	0.033	-0.333	-0.236
	(0.139)	(0.136)	(0.896)	(0.889)
COO	0.120	0.119	0.616	0.585
	(0.131)	(0.131)	(0.764)	(0.771)
MBA Degree	-0.021	-0.020	-0.022	0.024
	(0.123)	(0.122)	(0.792)	(0.783)
AF Degree	-0.051	-0.045	0.161	0.163
	(0.143)	(0.141)	(0.736)	(0.741)
Tenure	-0.035	-0.026	-0.493	-0.413
	(0.104)	(0.104)	(0.467)	(0.462)
Industry Experience	-0.156	-0.153	-1.152	-1.131
	(0.159)	(0.157)	(0.878)	(0.861)
CEO_years	0.091	0.091	-0.439	-0.472
	(0.098)	(0.098)	(0.447)	(0.447)
TDC1_priorCEO	0.157	0.142	-0.499	-0.610
	(0.110)	(0.104)	(0.787)	(0.767)
Exogenous	0.095	0.098	0.694	0.687
	(0.119)	(0.119)	(0.897)	(0.891)
Bank Age	-0.022	-0.030	0.455	0.372
	(0.146)	(0.144)	(0.904)	(0.894)
Bank Size	-0.095	-0.088	0.143	0.216
	(0.070)	(0.066)	(0.535)	(0.521)
ROA	-46.703**	-46.397**	-159.218**	-164.862**
	(19.359)	(19.314)	(75.736)	(75.480)
VOL	-32.902	-31.104	-25.913	-18.353
	(19.881)	(19.810)	(99.861)	(99.406)
Equity Capital	-1.296	-1.243	-0.110	0.951
	(2.963)	(2.890)	(19.309)	(19.081)
Board Size	0.060	0.049	0.847	0.799
	(0.207)	(0.207)	(1.566)	(1.560)
Board Independence	-0.486	-0.476	-4.874	-4.850
	(0.454)	(0.456)	(2.975)	(2.981)
Crisis	-0.266	-0.313	-1.567	-1.892
	(0.262)	(0.266)	(1.205)	(1.193)
Coincident Index	0.002	0.001	-0.000	-0.005
	(0.003)	(0.003)	(0.022)	(0.023)

Table 4-8 (continued)

Observations	107	107	111	111
R-squared	0.370	0.376	0.372	0.370
Adj. R-squared	0.215	0.222	0.224	0.222

Table 4-9: Tournament Winners' Pay Premium and Changes in Bank Risk

The table reports results from regressions examining tournament winners' pay premium is related to the change in bank risk post-succession. The dependent variable in regressions (1) and (2) is **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. The dependent variable in regressions (3) and (4) is **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. The dependent variable in regressions (5) and (6) is **ZSCORE_change**, the difference of bank Z-score between year-1 and the average over years t+1 and t+2. The **Tournament Structure** measure is **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, Coincident Index. Variable definitions can be found in Table A 4-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	Earnings Volatility		Leverage Risk		Bank Solvency	
	(1)	(2)	(3)	(4)	(5)	(6)
	VOL_change	VOL_change	CAPR1_change	CAPR1_change	ZSCORE_change	ZSCORE_change
TDC1_change	-0.047		-9.786		-0.002	
	(0.068)		(31.080)		(0.248)	
TDC1_change (ind-adj)		-0.037		11.547		-0.028
		(0.068)		(30.811)		(0.237)
Tournament Structure	0.016	0.015	-12.174	-13.542	0.137	0.139
	(0.040)	(0.040)	(15.875)	(16.082)	(0.123)	(0.121)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	111	111	106	106	106	106
R-squared	0.598	0.598	0.211	0.211	0.257	0.257
Adj. R-squared	0.503	0.503	0.013	0.014	0.072	0.072

4.6.1 Additional Tables

Table A 4-1: Variable Definitions

The table gives definitions of all the variables employed in the analysis.

Variable	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
Tournament Structure Measures:		
CEO Pay Ratio (with mean)	The ratio of the CEO's total compensation to the mean of the other highest paid executives.	Execucomp
CEO Pay Ratio (with median)	The ratio of the CEO's total compensation to the median of the other highest paid executives.	Execucomp
CEO Pay Slice (with top5)	The fraction of CEO's total compensation to the sum of top 5 executives.	Execucomp
CEO Pay Slice (with top4)	The fraction of CEO's total compensation to the sum of top 4 executives.	Execucomp
CEO Characteristics Controls:		
CEO Age	The logarithm of the natural age of the new CEO when he/she is appointed.	Execucomp
Chairman	Dummy that equals one if the CEO is also the chairman of the board.	Hand-collected
COO	Dummy that equals one if the CEO was COO of the bank before the promotion	Hand-collected
MBA Degree	Dummy that equals one if the CEO has an MBA degree.	Hand-collected
AF Degree	Dummy that equals one if the CEO has an accounting or finance related degree.	Hand-collected
Tenure	The logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place.	Execucomp and hand-collected
Industry Experience	The logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms.	Hand-collected
CEO_years	The logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position.	Hand-collected
Bank Characteristics Controls:		
Bank Age	The logarithm of total number of years the bank has been in Compustat.	Compustat
Bank Size	The logarithm of 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

Table A 4-1(continued)

Equity Capital	The fraction of equity book value to total assets.	Compustat
Corporate Governance Controls:		
Board Size	The logarithm of total number of directors sitting on board.	BoardEx, ISS, annual report
Board Independence	The ratio of independent directors to the total 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:		
Delta	The dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price.	(Coles et al., 2006)
Vega	The dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns.	(Coles et al., 2006)
TDC1_priorCEO	The logarithm of the prior CEO's total compensation from the prior fiscal year	Execucomp
Exogenous	Dummy that equals one if the CEO succession is an exogenous turnover. CEO departures are classified as an 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 that equals one for the period 2007–2009.	Execucomp
Coincident Index	An indicator of the economic condition of each state. The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are 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 Measures:		
ROA_change	The difference of industry-adjusted ROA between year-1 and the average over years t+1 and t+2.	Compustat
TOBINQ_change	The difference of industry-adjusted Tobin's Q between year-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-score between year-1 and the average over years t+1 and t+2.	Compustat

Table A 4-2: Descriptive Statistics

The table gives summary of descriptive statistics (the original value) of the variables as a supplement of Table 4-2. It presents the number of observations, mean, median, standard deviation, minimum, and maximum for each variables. All variables are winsorized at the 2.5% and 97.5% levels. Variable definitions are provided in Table A 3-1 in the Appendix.

Variable	N	Mean	Median	SD	Min	Max
CEO Age	130	3.981	3.980	0.098	3.784	4.159
Tenure	130	2.420	2.485	0.836	0.693	3.638
Industry Experience	130	3.107	3.219	0.448	1.946	3.664
CEO_years	129	0.581	0.000	0.899	0.000	2.651
Bank Age	130	3.196	3.296	0.508	2.079	3.892
Board Size	130	2.611	2.639	0.295	1.946	3.178

Table A 4-3: CEO Tournament Structure and Winners' Pay Premium – Controlling for Managerial Risk Incentives

The table reports results from regressions examining whether the pay premium of tournament winners is related to the CEO tournament structure prior to the promotion. The dependent variable in regressions (1)-(4) is **TDC1_change**, defined as the change in logarithm of total compensation from year t-1 to t+1. The dependent variable in regression (5) is **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 the bank CEOs in the specific year. The **CEO Tournament** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of CEO's total compensation to the mean of the other highest paid executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **Delta** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price. **Vega** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

VARIABLES	(1) TDC1_change	(2) TDC1_change	(3) TDC1_change	(4) TDC1_change	(5) TDC1_change (ind-adj)
Tournament Structure	0.130***	0.127**	0.124**	0.120**	0.101*
	(0.049)	(0.053)	(0.055)	(0.056)	(0.055)
CEO Age	0.061	-0.108	-0.055	-0.047	0.012
	(0.484)	(0.508)	(0.497)	(0.507)	(0.487)
Chairman	0.211*	0.224*	0.169	0.129	0.058
	(0.121)	(0.120)	(0.122)	(0.127)	(0.125)
COO	-0.162	-0.115	-0.109	-0.108	-0.096
	(0.109)	(0.111)	(0.108)	(0.110)	(0.108)
MBA Degree	0.199*	0.211*	0.201*	0.201*	0.196*
	(0.119)	(0.119)	(0.117)	(0.119)	(0.117)
AF Degree	-0.004	-0.001	-0.015	-0.030	-0.049
	(0.117)	(0.120)	(0.117)	(0.117)	(0.122)
Tenure	0.227***	0.236***	0.189**	0.198**	0.147*
	(0.079)	(0.076)	(0.078)	(0.077)	(0.075)
Industry Experience	-0.010	0.018	0.051	0.055	0.042
	(0.127)	(0.121)	(0.116)	(0.117)	(0.126)
CEO_years	-0.118**	-0.119**	-0.124**	-0.128**	-0.118**
	(0.056)	(0.057)	(0.055)	(0.056)	(0.058)
Delta	-0.134	-0.159	-0.128	-0.128	-0.094
	(0.132)	(0.128)	(0.104)	(0.105)	(0.096)
Vega	0.555	0.474	0.421	0.431	0.501
	(0.380)	(0.379)	(0.349)	(0.351)	(0.351)
TDC1_priorCEO	-0.319***	-0.333**	-0.317**	-0.316**	-0.271*
	(0.118)	(0.136)	(0.140)	(0.138)	(0.141)
Exogenous	0.025	0.032	0.001	-0.010	-0.019
	(0.125)	(0.130)	(0.127)	(0.131)	(0.130)
Bank Age	-0.225**	-0.232**	-0.189*	-0.191*	-0.138
	(0.104)	(0.103)	(0.105)	(0.105)	(0.112)
Bank Size	0.229***	0.252***	0.240**	0.238**	0.194**
	(0.076)	(0.089)	(0.094)	(0.093)	(0.096)
ROA	-34.336***	-42.651***	-40.915***	-39.514***	-36.450***
	(8.135)	(10.341)	(10.134)	(10.626)	(10.746)
VOL		-15.485	-18.044	-13.901	-18.225
		(13.535)	(13.281)	(13.989)	(14.457)
Equity Capital		3.539	3.411*	3.456	2.662
		(2.194)	(2.034)	(2.108)	(2.214)
Board Size		-0.111	-0.116	-0.114	-0.064
		(0.216)	(0.219)	(0.221)	(0.221)
Board Independence		-0.381	-0.253	-0.232	-0.264
		(0.395)	(0.397)	(0.399)	(0.412)
Crisis			-0.284**	-0.239*	-0.062
			(0.128)	(0.138)	(0.135)
Coincident Index				-0.002	-0.000
				(0.003)	(0.003)

Table A 4-3 (continued)

Observations	112	112	112	110	110
R-squared	0.374	0.399	0.427	0.413	0.313
Adj. R-squared	0.268	0.267	0.294	0.265	0.140

Table A 4-4: CEO Tournament Structure and Winners' Pay Premium – Controlling for Managerial Risk Incentives; Alternative Tournament Structure Measures

The table reports results from regressions examining whether the pay premium of tournament winners is related to the CEO tournament structure prior to the promotion, with alternative measures of tournament structure. The dependent variable in regressions (1), (3) and (5) is **TDC1_change**, defined as the change in logarithm of total compensation from year t-1 to t+1. The dependent variable in regressions (2), (4) and (6) is **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 the bank CEOs in the specific year. The **Tournament Structure** measure in regressions (1) and (2) is **CEO Pay Ratio (with median)**, the ratio of the CEO's total compensation to the median of the other highest paid executives. The **CEO tournament** measure in regressions (3) and (4) is **CEO Pay Slice (with top5)**, the fraction of CEO's total compensation to the sum of top 5 executives. The **Tournament Structure** measure in regressions (5) and (6) is **CEO Pay Slice (with top4)**, the fraction of CEO's total compensation to the sum of top 4 executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **Delta** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price. **Vega** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	CEO Pay Ratio (with median)		CEO Pay Slice (with top5)		CEO Pay Slice (with top4)	
	(1)	(2)	(3)	(4)	(5)	(6)
	TDC1_change	TDC1_change (ind-adj)	TDC1_change	TDC1_change (ind-adj)	TDC1_change	TDC1_change (ind-adj)
Tournament Structure Measure	0.092*	0.076	2.027**	1.746**	1.888**	1.622**
	(0.055)	(0.053)	(0.836)	(0.818)	(0.722)	(0.716)
CEO Age	-0.131	-0.060	0.066	0.177	0.084	0.166
	(0.518)	(0.494)	(0.538)	(0.518)	(0.515)	(0.498)
Chairman	0.119	0.048	0.145	0.081	0.133	0.064
	(0.127)	(0.125)	(0.130)	(0.130)	(0.124)	(0.123)
COO	-0.109	-0.096	-0.143	-0.137	-0.157	-0.143
	(0.111)	(0.110)	(0.122)	(0.119)	(0.116)	(0.114)
MBA Degree	0.208*	0.201*	0.212*	0.217*	0.190	0.194*
	(0.120)	(0.118)	(0.121)	(0.119)	(0.117)	(0.115)
AF Degree	-0.042	-0.060	-0.023	-0.023	-0.039	-0.046
	(0.119)	(0.122)	(0.126)	(0.130)	(0.120)	(0.125)
Tenure	0.195**	0.144*	0.179**	0.124	0.198**	0.144*
	(0.077)	(0.075)	(0.083)	(0.081)	(0.079)	(0.077)
Industry Experience	0.076	0.060	0.064	0.050	0.019	0.008
	(0.113)	(0.124)	(0.128)	(0.135)	(0.125)	(0.130)
CEO_years	-0.130**	-0.121**	-0.132**	-0.120*	-0.117*	-0.109*
	(0.058)	(0.059)	(0.064)	(0.064)	(0.059)	(0.060)

Table A 4-4 (continued)

Delta	-0.135	-0.099	-0.090	-0.062	-0.099	-0.067
	(0.100)	(0.092)	(0.111)	(0.102)	(0.109)	(0.099)
Vega	0.395	0.467	0.400	0.482	0.397	0.473
	(0.355)	(0.353)	(0.359)	(0.362)	(0.349)	(0.351)
TDC1_priorCEO	-0.291**	-0.248*	-0.349***	-0.303**	-0.343***	-0.297**
	(0.135)	(0.138)	(0.129)	(0.132)	(0.125)	(0.129)
Exogenous	-0.021	-0.029	-0.014	-0.023	-0.002	-0.010
	(0.131)	(0.129)	(0.133)	(0.130)	(0.130)	(0.128)
Bank Age	-0.200*	-0.145	-0.228*	-0.180	-0.221*	-0.160
	(0.107)	(0.112)	(0.122)	(0.127)	(0.115)	(0.121)
Bank Size	0.233**	0.189**	0.263***	0.216**	0.264***	0.216**
	(0.091)	(0.094)	(0.092)	(0.095)	(0.090)	(0.093)
ROA	-40.833***	-37.587***	-41.544***	-38.440***	-39.940***	-36.880***
	(10.673)	(10.699)	(11.186)	(11.207)	(10.714)	(10.813)
VOL	-15.940	-20.003	-12.973	-18.069	-11.767	-17.087
	(13.904)	(14.211)	(15.452)	(15.580)	(14.475)	(14.873)
Equity Capital	3.426	2.631	2.853	1.837	2.634	1.862
	(2.123)	(2.230)	(2.291)	(2.358)	(2.185)	(2.293)
Board Size	-0.115	-0.066	-0.055	0.003	-0.093	-0.043
	(0.225)	(0.223)	(0.238)	(0.240)	(0.225)	(0.226)
Board Independence	-0.262	-0.291	-0.313	-0.364	-0.256	-0.281
	(0.400)	(0.412)	(0.440)	(0.461)	(0.404)	(0.424)
Crisis	-0.243*	-0.066	-0.249*	-0.072	-0.230	-0.058
	(0.143)	(0.139)	(0.148)	(0.145)	(0.139)	(0.136)
Coincident Index	-0.003	-0.000	-0.003	-0.000	-0.003	-0.000
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
Observations	110	110	103	103	108	108
R-squared	0.402	0.302	0.428	0.336	0.425	0.328
Adj. R-squared	0.251	0.126	0.271	0.153	0.276	0.154

Table A 4-5: CEO Tournament Structure, Market Reaction, and Winners' Pay Premium – Controlling for Managerial Risk Incentives

The table reports results from regressions examining whether the pay premium is affected by the market reaction surrounding CEO appointment announcement. Panel A reports results where **Market Reaction** is measured with the cumulative abnormal return (**CAR**) surrounding CEO appointment announcement. Panel B reports results where **Market Reaction** is measured with the cumulative market-adjusted return (**CMAR**) surrounding CEO appointment announcement. Regressions (1) and (2) report the results with event window (-2, +2). Regressions (3) and (4) report the results with event window (-3, +3). The **Tournament Structure** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of CEO's total compensation to the mean of the other highest paid executives. **Delta** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price. **Vega** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns. 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, Coincident Index. Variable definitions can be found in Table A 4-1. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	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	1.936***	2.017***	1.570**	1.611**
	(0.715)	(0.702)	(0.628)	(0.622)
Tournament Structure	0.144***	0.126**	0.147***	0.130**
	(0.054)	(0.052)	(0.055)	(0.053)
Delta	-0.108	-0.073	-0.119	-0.085
	(0.112)	(0.104)	(0.111)	(0.103)
Vega	0.408	0.467	0.414	0.473
	(0.346)	(0.340)	(0.354)	(0.349)
Controls	Yes	Yes	Yes	Yes
Observations	108	108	108	108
R-squared	0.447	0.359	0.443	0.353
Adj. R-squared	0.296	0.183	0.290	0.175
Panel B: Market reaction measured with CMAR				
Market Reaction	1.461**	1.567**	1.246**	1.314**
	(0.608)	(0.607)	(0.537)	(0.533)
Tournament Structure	0.144**	0.126**	0.147***	0.129**
	(0.055)	(0.053)	(0.055)	(0.053)
Delta	-0.119	-0.085	-0.128	-0.095
	(0.108)	(0.099)	(0.104)	(0.095)
Vega	0.430	0.491	0.440	0.500
	(0.346)	(0.340)	(0.349)	(0.343)
Controls	Yes	Yes	Yes	Yes
Observations	108	108	108	108
R-squared	0.440	0.351	0.440	0.350
Adj. R-squared	0.286	0.173	0.287	0.172

Table A 4-6: Tournament Winners' Pay Premium and Changes in Bank Performance – Controlling for Managerial Risk Incentives

The table reports the results of multivariate tests examining whether tournament winners' pay premium is 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 of industry-adjusted ROA between year t-1 and the average over years t+1 and t+2. Regressions (3) and (4) report 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 years t+1 and t+2. The **Tournament Structure** measure is **CEO Pay Ratio (with mean)**, defined as the ratio of the CEO's total compensation to the mean of the other highest paid executives. **CEO Age** is the logarithm of the natural age of the new CEO when he/she is appointed. **Chairman** is dummy that equals one if the new CEO is also the chairman of the board. **COO** is a dummy that equals one if the CEO was COO of the bank before promotion. **MBA Degree** is a dummy that equals one if the CEO has an MBA degree. **AF Degree** is a dummy that equals one if the CEO has an accounting or finance related degree. **Tenure** is the logarithm of total number of years the CEO has worked in the focal bank where the CEO succession takes place. **Industry Experience** is the logarithm of total number of years the CEO has worked in financial firms such as banks, insurance companies and accounting firms. **CEO_years** is the logarithm of total number of years the successor worked as the top CEO of a company/bank group, CEO of a subsidiary, or CEO of a market division prior to the current position. **Delta** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 1% change in stock price. **Vega** is the dollar change (in thousands) in the value of the CEO's stock and option portfolio for a 0.01 change in standard deviation of returns. **TDC1_priorCEO** is the logarithm of total compensation of the prior CEO in year t-1. **Exogenous** is a dummy that equals one if the CEO succession is an exogenous turnover following Eisfeldt and Kuhnen (2013)'s definition. **Bank Age** is the logarithm of total number of years the bank has been in Compustat. **Bank Size** is the logarithm of total assets. **ROA** is industry-adjusted ratio of return on total assets. **VOL** is the standard deviation of industry-adjusted ROA over years t-3 through t-1. **Equity Capital** is the fraction of equity book value to total assets. **Board Size** is the logarithm of total number of directors sitting on the board. **Board Independence** is the ratio of independent directors to the total directors on the board. **Crisis** is a dummy that equals one for the period 2007–2009. **Coincident Index** is a proxy for the economic condition of each state. Robust standard errors are shown in parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels.

	(1) ROA_change	(2) ROA_change	(3) TOBINQ_change	(4) TOBINQ_change
TDC1_change	0.268**		2.195***	
	(0.125)		(0.758)	
TDC1_change (ind-adj)		0.276**		2.098***
		(0.124)		(0.769)
Tournament Structure	-0.009	-0.004	-0.768**	-0.720**
	(0.059)	(0.058)	(0.355)	(0.344)
CEO Age	0.091	0.088	0.645	0.557
	(0.718)	(0.710)	(4.210)	(4.250)
Chairman	0.001	0.014	-0.724	-0.587
	(0.142)	(0.140)	(0.962)	(0.952)
COO	0.076	0.075	0.884	0.844
	(0.138)	(0.138)	(0.806)	(0.816)
MBA Degree	0.046	0.049	0.471	0.514
	(0.127)	(0.127)	(0.870)	(0.863)
AF Degree	-0.051	-0.046	-0.136	-0.111
	(0.153)	(0.150)	(0.781)	(0.785)
Tenure	-0.052	-0.041	-0.973	-0.852
	(0.115)	(0.115)	(0.611)	(0.587)
Industry Experience	-0.171	-0.167	-1.222	-1.197
	(0.170)	(0.168)	(0.989)	(0.962)
CEO_years	0.050	0.049	-0.453	-0.492
	(0.102)	(0.101)	(0.499)	(0.499)
Delta	0.333**	0.326**	0.496	0.419
	(0.126)	(0.124)	(0.633)	(0.618)
Vega	0.142	0.123	-2.424	-2.516
	(0.562)	(0.571)	(2.451)	(2.469)
TDC1_priorCEO	0.126	0.110	-0.199	-0.338
	(0.111)	(0.107)	(0.777)	(0.763)
Exogenous	0.075	0.080	0.898	0.904
	(0.130)	(0.131)	(0.904)	(0.903)
Bank Age	-0.058	-0.067	0.306	0.193
	(0.149)	(0.147)	(0.965)	(0.956)
Bank Size	-0.138**	-0.127**	0.168	0.279
	(0.064)	(0.062)	(0.579)	(0.570)
ROA	-45.499**	-45.573**	-125.210	-133.892
	(20.824)	(20.862)	(83.218)	(83.113)
VOL	-29.042	-27.377	-34.316	-25.377
	(21.147)	(20.933)	(107.953)	(106.689)
Equity Capital	-2.087	-1.960	-7.080	-5.243
	(2.996)	(2.906)	(19.639)	(19.206)
Board Size	0.206	0.197	1.362	1.303
	(0.226)	(0.226)	(1.689)	(1.683)
Board Independence	-0.376	-0.375	-3.772	-3.821
	(0.584)	(0.583)	(3.384)	(3.396)

Table A 4-6 (continued)

Crisis	-0.321	-0.373	-1.535	-1.967
	(0.266)	(0.268)	(1.283)	(1.303)
Coincident Index	0.002	0.001	-0.002	-0.008
	(0.003)	(0.003)	(0.023)	(0.023)
Observations	99	99	102	102
R-squared	0.430	0.434	0.412	0.409
Adj. R-squared	0.256	0.260	0.239	0.235

Chapter 5 Conclusions

Selecting the right CEO could give banks a significant competitive advantage as well as contribute to the growth of the economy. Given the sheer size of large commercial banks, decisions made by a CEO can create or destroy wealth on a vast scale. This explains why highly publicized CEO turnover at large banks has captured much attention from both academic researchers and the business media. Although CEO succession has been studied for decades, much of the existing literature comes from management studies and is based on non-financial firms. This thesis contributes to the general debate on bank CEO successions and is aimed to provide further insights into the CEO selection in the banking sector. Specifically, based on CEO succession events in US BHCs, this thesis has covered several questions regarding the changes in bank performance post-CEO turnover, and the tournament winners' reward in internal succession events.

Recent years have seen an important new trend in CEO successions that companies are increasingly hiring executives with experience as former CEOs to the CEO position. This happens not only to non-financial firms but also for the banking industry. The first empirical analysis (chapter 3) of the thesis examines whether and how successors' prior CEO experience affects the change in bank profitability post-turnover. Based on where the experience is obtained, prior CEO experience is distinguished between the experience obtained inside the bank and experience outside the bank. By doing this the study examines whether two types of CEO experience affect bank performance differently. In addition, the study investigates the channels of bank profitability improvement.

The second empirical analysis (chapter 4) of the thesis investigates the compensation outcome of newly appointed CEOs in internal successions. The internal CEO succession

process can be viewed as a tournament where several candidates compete for a CEO position. The question is, whether the tournament winners get a pay rise post-succession? And whether tournament with certain features result in a better reward to the winner? The tournament theory argues that employers set compensation policy based on rankings within an organization, and such policy serves as an incentive to encourage effective competition among employees. The large pay gap between the CEO and other executives provides motivations amongst contenders for the position. The greater the pay gap, the more effort the CEO candidates will expend to win the tournament. Specifically, the study examines whether a steeper tournament structure is associated with a larger pay premium, and whether the better reward is an indication of future improvement in bank performance.

5.1 Summary of Findings

5.1.1 Prior CEO Experience and Changes in Bank Profitability Post-CEO Succession

The analysis of the first empirical chapter (chapter 3) is conducted with CEO succession events in US BHCs between 1993 and 2015. A unique hand-collected dataset is constructed which captures the information of 147 CEO succession events.

The analysis in chapter 3 has five key findings. First, the study finds evidence that prior CEO experience is positively related to the change in bank's accounting performance—longer years of prior CEO experience is associated with a higher level of profitability improvement. This suggests that the experience and skills gained from former CEO positions improve long-term bank performance.

The second key finding from the chapter comes from the analysis of different types of prior CEO experience. Based on the context where the experience is obtained, prior

CEO experience is distinguished between prior CEO experience gained inside the bank where the appointment occurs, and the experience gained outside the bank. The study finds that the performance effect is driven by CEO experience obtained outside the bank. This indicates that successors with prior CEO experience in a different organization bring better skill sets and enhance bank profitability. In addition, compared with the previous analysis where prior CEO experience is examined in general, the economic impact of outside CEO experience on performance change is higher. This suggests that generally assuming that all types of prior CEO experience are important is likely to mask the contribution of outside CEO experience.

The third key finding is regarding the long-term performance effect. Although the effect has been investigated in post two years of CEO succession: the profitability change from year t-1 to the average over years t+1 and t+2, it is unknown whether the effect continues in a longer period. To answer this question, the study replicates the analysis in the earlier discussion and examine whether the change in bank profitability is affected by two types of prior CEO experience in a longer post-succession period. The study finds a continuous performance effect in up to 5 years after the turnover event. This suggests that the new CEO's prior CEO experience improves long-term bank performance.

The fourth key finding of the analysis is that the effect of prior CEO experience on bank profitability is affected by the succession context. It is concerned that the succession context is driving the performance outcome. Two tests are conducted to address the above concern. The first test is to control for the badly-performing banks. I find outside CEO experience is positively related to the profitability change after controlling for badly performed banks. The second test is to include an interaction term between outside CEO experience and "bad" banks. The results suggest that outside CEO experience helps to improve performance only in banks that were performing poorly before CEO turnover.

Finally, the fifth key finding of the analysis is regarding the channels of bank profitability improvement. The results suggest that outside CEO experience is negatively associated with the change in banks' cost-income ratio. It indicates that successors with prior CEO experience outside the bank are more likely to cut down operating expenses, thus bring an improvement in bank profitability. Specifically, I find the cost reduction is related to the decrease in loan loss provision (LLP). By further looking into the change in discretionary LLP, the study shows that the improvement in bank profitability is an outcome of the new CEO's earnings manipulation by understating operating expenses.

5.1.2 CEO Tournament and Winners' Reward in US BHCs

The analysis of the second empirical chapter (chapter 4) is conducted with internal CEO succession events in US BHCs between 1993 and 2016. A hand-built dataset is constructed with information of 130 internal CEO succession events.

The analysis in chapter 4 has five key findings. The first finding is that tournament winners receive on average a positive pay premium after taking the helm. By comparing new CEOs' total compensation prior and post promotion, it shows that tournament winners on average get 1.584 times higher compensation after promotion. However, the distribution of pay premium shows that the level of the pay premium varies across selected events.

The second key finding of the chapter is regarding the relation between pay premium and the CEO tournament structure. With a multivariate analysis, the study finds that the steepness of the tournament structure is positively associated with the reward size. Candidates winning the competition in a steeper tournament environment obtain a higher pay rise upon promotion, which supports the tournament theory's view that pay gaps between CEO and other senior executives induce efforts in competing for the CEO

position. Larger pay gaps create greater efforts and lead to a larger pay rise after promotion.

The third key finding of the chapter comes from the analysis of CEOs' managerial ability. On top of the CEO characteristics that have been examined, I use market reaction as a proxy for CEO ability and examine whether the pay premium reflects CEO ability. The empirical results suggest that high-ability CEOs get a larger reward after promotion. Meanwhile, the influence of CEO tournament structure on pay premium still holds on top of managerial ability and other CEO/bank characteristics. The winning of the tournament is a joint effect of the candidate's greater effort and higher managerial ability.

The fourth key finding of the chapter is, although a steeper tournament structure reflects higher reward upon promotion, the effectiveness of the tournament structure varies under different conditions. The results suggest that the impact of the tournament structure on pay premium is heightened or weakened in the presence of some factors. For example, the study finds the effect is stronger if shareholders believe the new CEO is a capable manager, if the new CEO has more experience in a prior CEO position, or if the new CEO was an "underdog" candidate. Tournament incentives are less effective if the succession is a planned succession.

Finally, the study suggests that a higher reward is an indication of improvement in bank performance post-appointment. With both univariate and multivariate analysis, I find that CEOs gaining a higher pay premium create greater improvement in both accounting and market-based performance. The results support the perspective of tournament theory that tournament incentives elicit managerial efforts in winning the competition. This eventually results in better bank performance. In addition, the study rules out the possibility that the performance improvement is motivated by new the

CEO's bad choices such as aggressive risk-taking. Using three different risk measures, I do not find pay premium is associated with any measure of bank risk.

5.2 Policy Implications

In summary, the research presented in the thesis contributes to the literature on bank CEO succession by examining two aspects: the influence of new CEO's prior CEO experience on changes in bank profitability, and the relation between CEO tournament structure and winners' reward.

The empirical investigations of the thesis provide several policy implications for large commercial banks. First of all, the findings of the first empirical investigation have highlighted the value of prior CEO experience and the relevant skills obtained in former CEO positions. The analysis fits in the current policy debate on what skills bank CEOs should possess to manage the banks. After the recent financial crisis, bank regulators have issued guidelines regarding bank executives. For instance, US bank examiners state that appointing a new CEO with adequate skills is one of the most important decisions for bank boards (Federal Reserve, 2017; Office of the Comptroller of the Currency, 2016). In 2017, the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) jointly issued guidelines on the assessment of the suitability of members of the management body. The guidelines require European bank executives to have appropriate skills and experience to ensure bank stability (ESMA and EBA, 2017). However, it remains ambiguous on what specific skills bank executives should possess. The empirical results of my analysis have suggested that the experience and skills gained in former CEO positions improve bank profitability post-CEO succession, especially when the experience is obtained outside the bank. This implies that prior CEO experience, particularly the outside CEO experience, is a key criterion that bank boards should look for when selecting a new CEO.

Furthermore, the results of the first empirical investigation suggest that newly appointed CEOs tend to boost bank profitability through earnings manipulation. This is due to a stronger desire for new CEOs to build a good reputation in their early years of tenure. Also, cutting down operating expenses is a faster way to enhance profitability. The findings suggest that regulators/policy makers should be aware of this problem in monitoring new bank CEOs.

Finally, the findings of the second empirical investigation suggest that CEO tournament structure plays an important role in internal CEO successions and the new CEO's compensation contract. A steeper tournament structure provides greater incentives for managers in competing for the position. This induces greater managerial efforts and eventually leads to an improvement in bank profitability. The results indicate that boards can use high tournament incentives (e.g., a large pay gap between CEO and other executives) to motivate executives and create a win-win situation: a better reward for tournament winners and an improvement in bank profitability post-CEO succession.

5.3 Limitations and Directions for Future Research

My study has several limitations. First of all, the empirical investigation of the first empirical chapter focuses on one specific CEO characteristics: the prior CEO experience of the newly appointed CEO. It adds to the debate of CEO characteristics and support the view that CEOs' individual characteristics have great influence on bank performance post-CEO succession. Due to the difficulty of hand collecting data, I am not able to explore a wider variety of CEO characteristics. Future analysis could extend the research dimension by investigating other CEO characteristics and their impact on firm performance under a CEO turnover setting.

A main constraint of the second empirical investigation is regarding the measurement of pay premium. The pay premium I analysed in this chapter is defined as the change in tournament winners' total compensation. However, changes might happen in the level of each compensation components such as salary compensation, bonus, stock grants, etc. In addition, there may be changes in the new CEO's compensation structure. Future research can look into whether the CEO tournament structure is associated with changes in each compensation components or changes in compensation structure post-succession.

Finally, the empirical investigations presented in the thesis is conducted with a sample of US BHCs. Another remaining concern is whether the results apply to other types of banks. For example, although the study has obtained evidence regarding the impact of prior CEO experience on bank profitability improvement in US BHCs, it is unknown whether it is the same case for small banks or unlisted banks, as the context is different. The experience and skills needed in managing smaller banks or private banks may be different from managing large public banks. Moreover, as my sample is restricted to US banks, it is unknown whether the findings in this thesis apply to banks in other countries. Future analysis can be conducted with samples of other bank types or banks in other countries.

References

Adams, R.B., Almeida, H. and Ferreira, D. 2005. Powerful CEOs and their impact on corporate performance. *Review of financial studies.* **18**(4), pp.1403-1432.

Adams, R.B. and Mehran, H. 2003. Is corporate governance different for bank holding companies? (March 2003). *Available at SSRN: https://ssrn.com/abstract=387561*.

Agrawal, A., Knoeber, C.R. and Tsoulouhas, T. 2006. Are outsiders handicapped in CEO successions? *Journal of Corporate Finance.* **12**(3), pp.619-644.

Ali, A. and Zhang, W. 2015. CEO tenure and earnings management. *Journal of Accounting and Economics.* **59**(1), pp.60-79.

Amihud, Y. and Lev, B. 1981. Risk reduction as a managerial motive for conglomerate mergers. *The bell journal of economics.* pp.605-617.

Ang, J., Lauterbach, B. and Vu, J. 2003. Efficient labor and capital markets: Evidence from CEO appointments. *Financial Management.* pp.27-52.

Bailey, E.E. and Helfat, C.E. 2003. External management succession, human capital, and firm performance: An integrative analysis. *Managerial and decision economics.* **24**(4), pp.347-369.

Bakke, T.-E., Mahmudi, H., Fernando, C.S. and Salas, J.M. 2016. The causal effect of option pay on corporate risk management. *Journal of Financial Economics.* **120**(3), pp.623-643.

Barker III, V.L., Patterson Jr, P.W. and Mueller, G.C. 2001. Organizational causes and strategic consequences of the extent of top management team replacement during turnaround attempts. *Journal of Management Studies.* **38**(2), pp.235-270.

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

Barron, J.M., Chulkov, D.V. and Waddell, G.R. 2011. Top management team turnover, CEO succession type, and strategic change. *Journal of Business Research.* **64**(8), pp.904-910.

Beatty, A. and Liao, S. 2014. Financial accounting in the banking industry: A review of the empirical literature. *Journal of Accounting and Economics.* **58**(2-3), pp.339-383.

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

Bebchuk, L.A., Cremers, K.J.M. and Peyer, U.C. 2011. The CEO pay slice. *Journal of Financial Economics*. **102**(1), pp.199-221.

Bebchuk, L.A. and Fried, J.M. 2003. Executive compensation as an agency problem. *Journal of economic perspectives*. **17**(3), pp.71-92.

Becker, G.S. 1964. Human capital theory. *Columbia, New York*. **1964**.

Bennedsen, M., Perez-Gonzalez, F. and Wolfenzon, D. 2006. Do CEOs Matter?

Berger, A.N. and Bouwman, C.H.S. 2013. How does capital affect bank performance during financial crises? *Journal of Financial Economics*. **109**(1), pp.146-176.

Berns, K.V. and Klarner, P. 2017. A review of the CEO succession literature and a future research program. *Academy of Management Perspectives*. **31**(2), pp.83-108.

Bertrand, M. 2009. CEOs. *Annu. Rev. Econ.* **1**(1), pp.121-150.

Bertrand, M. and Mullainathan, S. 2001. Are CEOs Rewarded for Luck? The Ones Without Principals Are. *The Quarterly Journal of Economics*. **116**(3), pp.901-932.

Bertrand, M. and Schoar, A. 2003. Managing with Style: The Effect of Managers on Firm Policies. *The Quarterly Journal of Economics*. **118**(4), pp.1169-1208.

Bewley, T.F. 1998. Why not cut pay? *European Economic Review*. **42**(3), pp.459-490.

Black, F. and Scholes, M. 1973. The Pricing of Options and Corporate Liabilities. **81**(3), pp.637-654.

Blackwell, D.W., Dudney, D.M. and Farrell, K.A. 2007. Changes in CEO compensation structure and the impact on firm performance following CEO turnover. *Review of Quantitative Finance and Accounting*. **29**(3), pp.315-338.

Blank, D., Hadley, B., Minnick, K. and Rivolta, M.L. 2017. Worth the Fight? The Role of Internal Competition on New CEOs' Compensation.

Blinder, A.S. and Choi, D.H. 1990. A Shred of Evidence on Theories of Wage Stickiness*. *The Quarterly Journal of Economics*. **105**(4), pp.1003-1015.

Boeker, W. 1992. Power and managerial dismissal: Scapegoating at the top. *Administrative Science Quarterly*. pp.400-421.

Boeker, W. 1997. Strategic change: The influence of managerial characteristics and organizational growth. *Academy of management journal*. **40**(1), pp.152-170.

Boeker, W. and Goodstein, J. 1993. Performance and successor choice: The moderating effects of governance and ownership. *Academy of Management Journal*. **36**(1), pp.172-186.

Boeker, W.J.A.o.M.j. 1989. Strategic change: The effects of founding and history. **32**(3), pp.489-515.

Borokhovich, K.A., Parrino, R. and Trapani, T. 1996. Outside Directors and CEO Selection. *Journal of Financial and Quantitative Analysis.* **31**(03), pp.337-355.

Brady, G.F., Fulmer, R.M. and Helmich, D.L.J.S.M.J. 1982. Planning executive succession: The effect of recruitment source and organizational problems on anticipated tenure. **3**(3), pp.269-275.

Brady, G.F. and Helmich, D.L. 1984. *Executive succession: Toward excellence in corporate leadership.* Prentice Hall.

Bragaw, N.A. and Misangyi, V.F. 2017. The Value of CEO Mobility: Contextual Factors That Shape the Impact of Prior CEO Experience on Market Performance and CEO Compensation. *Human Resource Management.* **56**(2), pp.243-265.

Brockman, P., Lee, H.S. and Salas, J.M. 2016. Determinants of CEO compensation: Generalist–specialist versus insider–outsider attributes. *Journal of Corporate Finance.* **39**, pp.53-77.

Burns, N., Minnick, K. and Starks, L. 2017. CEO Tournaments: A Cross-Country Analysis of Causes, Cultural Influences, and Consequences. *Journal of Financial and Quantitative Analysis.* **52**(2), pp.519-551.

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

Cannella Jr, A.A. and Shen, W. 2001. So close and yet so far: Promotion versus exit for CEO heirs apparent. *Academy of Management journal.* **44**(2), pp.252-270.

Chakraborty, A., Sheikh, S. and Subramanian, N. 2007. Termination risk and managerial risk taking. *Journal of Corporate Finance.* **13**(1), pp.170-188.

Chang, W.-J., Hayes, R.M. and Hillegeist, S.A. 2016. Financial distress risk and new CEO compensation. *Management Science.* **62**(2), pp.479-501.

Charan, R. 2005. Ending the CEO succession crisis. *Harvard business review.* **83**(2), pp.72-81.

Chen, G. 2015. Initial compensation of new CEOs hired in turnaround situations. *Strategic Management Journal.* **36**(12), pp.1895-1917.

Chen, G. and Hambrick, D.C. 2012. CEO replacement in turnaround situations: Executive (mis) fit and its performance implications. *Organization Science.* **23**(1), pp.225-243.

Chen, G., Luo, S., Tang, Y. and Tong, J.Y. 2015. Passing probation: Earnings management by interim CEOs and its effect on their promotion prospects. *Academy of Management Journal.* **58**(5), pp.1389-1418.

Chen, J., De Cesari, A., Hill, P. and Ozkan, N. 2018. Initial compensation contracts for new executives and financial distress risk: An empirical investigation of UK firms. *Journal of Corporate Finance*. **48**, pp.292-313.

Chen, J., Ezzamel, M. and Cai, Z. 2011. Managerial power theory, tournament theory, and executive pay in China. *Journal of corporate finance*. **17**(4), pp.1176-1199.

Chen, Z., Huang, Y. and Wei, K.J. 2013. Executive pay disparity and the cost of equity capital. *Journal of Financial and Quantitative Analysis*. **48**(3), pp.849-885.

Chester, B. 1938. The functions of the executive. *Harvard University Presse, Cambridge*.

Chrisman, J.J., Memili, E. and Misra, K. 2014. Nonfamily managers, family firms, and the winner's curse: The influence of noneconomic goals and bounded rationality. *Entrepreneurship Theory and Practice*. **38**(5), pp.1-25.

Chung, C.-N. and Luo, X.R. 2013. Leadership succession and firm performance in an emerging economy: Successor origin, relational embeddedness, and legitimacy. *Strategic Management Journal*. **34**(3), pp.338-357.

Chung, K.H., Rogers, R.C., Lubatkin, M. and Owers, J.E. 1987. Do insiders make better CEOs than outsiders? *The Academy of Management Executive*. **1**(4), pp.325-331.

Cohen, L.J., Cornett, M.M., Marcus, A.J. and Tehranian, H. 2014. Bank earnings management and tail risk during the financial crisis. *Journal of Money, Credit and Banking*. **46**(1), pp.171-197.

Coles, J.L., Daniel, N.D. and Naveen, L. 2006. Managerial incentives and risk-taking. *Journal of Financial Economics*. **79**(2), pp.431-468.

Coles, J.L., Daniel, N.D. and Naveen, L. 2008. Boards: Does one size fit all? *Journal of financial economics*. **87**(2), pp.329-356.

Coles, J.L., Li, Z.F.J.I. and Performance. 2019. Managerial attributes, incentives, and performance (September 24, 2019). *Available at SSRN: https://ssrn.com/abstract=1680484*.

Collins, J.H., Shackelford, D.A. and Wahlen, J.M. 1995. Bank Differences in the Coordination of Regulatory Capital, Earnings, and Taxes. *Journal of Accounting Research*. **33**(2), pp.263-291.

Core, J. and Guay, W.J.J.o.A.r. 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. **40**(3), pp.613-630.

Core, J.E., Guay, W. and Larcker, D.F. 2008. The power of the pen and executive compensation. *Journal of financial economics*. **88**(1), pp.1-25.

Core, J.E., Holthausen, R.W. and Larcker, D.F. 1999. Corporate governance, chief executive officer compensation, and firm performance1. *Journal of financial economics*. **51**(3), pp.371-406.

Coughlan, A.T. and Schmidt, R.M. 1985. Executive compensation, management turnover, and firm performance: An empirical investigation. *Journal of Accounting and Economics*. **7**(1), pp.43-66.

Cowherd, D.M. and Levine, D.I. 1992. Product quality and pay equity between lower-level employees and top management: An investigation of distributive justice theory. *Administrative Science Quarterly*. pp.302-320.

Crawford, A.J., Ezzell, J.R. and Miles, J.A. 1995. Bank CEO pay-performance relations and the effects of deregulation. *Journal of Business*. pp.231-256.

Cremers, K.M. and Grinstein, Y. 2013. Does the market for CEO talent explain controversial CEO pay practices? *Review of Finance*. pp.1-40.

Cremers, M. and Grinstein, Y. 2009. The market for CEO talent: Implications for CEO compensation. *Unpublished working paper. Yale University*.

Crosby, F. 1976. A model of egoistical relative deprivation. *Psychological review*. **83**(2), p85.

Crossland, C., Zyung, J., Hiller, N.J. and Hambrick, D.C. 2014. CEO career variety: Effects on firm-level strategic and social novelty. *Academy of Management Journal*. **57**(3), pp.652-674.

Custódio, C., Ferreira, M.A. and Matos, P. 2013. Generalists versus specialists: Lifetime work experience and chief executive officer pay. *Journal of Financial Economics*. **108**(2), pp.471-492.

Custódio, C. and Metzger, D. 2013. How do CEOs matter? The effect of industry expertise on acquisition returns. *Review of Financial Studies*. **26**(8), pp.2008-2047.

Custódio, C. and Metzger, D. 2014. Financial expert CEOs: CEO′s work experience and firm′s financial policies. *Journal of Financial Economics*. **114**(1), pp.125-154.

Dahya, J. and McConnell, J.J. 2007. Board composition, corporate performance, and the Cadbury committee recommendation. *Journal of Financial and Quantitative Analysis*. **42**(3), pp.535-564.

Dalton, D.R. and Kesner, I.F. 1983. Inside/outside succession and organizational size: The pragmatics of executive replacement. *Academy of Management journal*. **26**(4), pp.736-742.

Datta, D.K., Rajagopalan, N. and Zhang, Y. 2003. New CEO openness to change and strategic persistence: The moderating role of industry characteristics. *British Journal of Management*. **14**(2), pp.101-114.

Datta, D.K. and Rajagopalan, N.J.S.M.J. 1998. Industry structure and CEO characteristics: An empirical study of succession events. **19**(9), pp.833-852.

Datta, S. and Iskandar-Datta, M. 2014. Upper-echelon executive human capital and compensation: Generalist vs specialist skills. *Strategic Management Journal*. **35**(12), pp.1853-1866.

Davidson III, W.N., Jiraporn, P., Kim, Y.S. and Nemec, C. 2004. Earnings management following duality-creating successions: Ethnostatistics, impression management, and agency theory. *Academy of management journal.* **47**(2), pp.267-275.

Davidson III, W.N., Nemec, C., Worrell, D.L. and Lin, J. 2002. Industrial origin of CEOs in outside succession: Board preference and stockholder reaction. *Journal of Management and Governance.* **6**(4), pp.295-321.

Davidson, W.N., Worrell, D.L. and Cheng, L. 1990. Key Executive Succession and Stockholder Wealth: The Influence of Successorys Origin, Position, and Age. *Journal of management.* **16**(3), pp.647-664.

De Cesari, A., Gonenc, H. and Ozkan, N. 2016. The effects of corporate acquisitions on CEO compensation and CEO turnover of family firms. *Journal of Corporate Finance.* **38**, pp.294-317.

Dechow, P., Ge, W. and Schrand, C. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of accounting and economics.* **50**(2-3), pp.344-401.

Delong, G. and Deyoung, R. 2007. Learning by Observing: Information Spillovers in the Execution and Valuation of Commercial Bank M&As. *The Journal of Finance.* **62**(1), pp.181-216.

Demerjian, P., Lev, B. and McVay, S. 2012. Quantifying managerial ability: A new measure and validity tests. *Management science.* **58**(7), pp.1229-1248.

Demirguc-Kunt, A., Detragiache, E. and Merrouche, O. 2013. Bank capital: Lessons from the financial crisis. *Journal of Money, Credit and Banking.* **45**(6), pp.1147-1164.

Dittmar, A. and Duchin, R. 2016. Looking in the Rearview Mirror: The Effect of Managers' Professional Experience on Corporate Financial Policy. *Review of Financial Studies.* **29**(3), pp.565-602.

Dulewicz, V. and Herbert, P. 2004. Does the composition and practice of boards of directors bear any relationship to the performance of their companies? *Corporate Governance: An International Review.* **12**(3), pp.263-280.

Eisfeldt, A.L. and Kuhnen, C.M. 2013. CEO turnover in a competitive assignment framework. *Journal of Financial Economics.* **109**(2), pp.351-372.

Elsaid, E. 2014. Examining The Effect Of Change In CEO Gender, Functional And Educational Background On Firm Performance And Risk. *Journal of Applied Business Research.* **30**(6), p1605.

Elsaid, E. and Davidson, W.N. 2009. What happens to CEO compensation following turnover and succession? *The Quarterly Review of Economics and Finance.* **49**(2), pp.424-447.

Elsaid, E., Davidson, W.N. and Benson, B.W. 2009. CEO compensation structure following succession: Evidence of optimal incentives with career concerns. *The Quarterly Review of Economics and Finance.* **49**(4), pp.1389-1409.

Elsaid, E. and Ursel, N.D. 2011. CEO succession, gender and risk taking. *Gender in Management: An International Journal.* **26**(7), pp.499-512.

Elsaid, E. and Ursel, N.D. 2012. Age, CEO succession, and risk taking. *Accounting and Finance Research.* **1**(2), pp77.

Elsaid, E., Wang, X. and III, W.N.D. 2011. Does experience matter- CEO successions by former CEOs. *Managerial Finance.* **37**(10), pp.915-939.

ESMA and EBA. 2017. Joint ESMA and EBA Guidelines on the assessment of the suitability of members of the management body and key function holders.

Executive Remuneration Research Centre, V.B.S. 2017. *The best performing companies pay their CEOs relatively less.* [Online]. [Accessed 13 September 2018]. Available from: https://www.vlerick.com/en/research-and-faculty/knowledge-items/knowledge/the-best-performing-companies-pay-their-ceo-s-relatively-less

Fahlenbrach, R. and Stulz, R.M. 2011. Bank CEO incentives and the credit crisis. *Journal of Financial Economics.* **99**(1), pp.11-26.

Falato, A., Li, D. and Milbourn, T. 2011. To each according to his ability? CEO pay and the market for CEOs. *Unpublished working paper, Washington University in St Louis.*

Fama, E.F. 1980. Agency problems and the theory of the firm. *Journal of political economy.* **88**(2), pp.288-307.

Federal Reserve. 2017. Proposed guidance on supervisory expectation for boards of directors. *Federal Register.* **82**(152), pp.37219-37227.

Festinger, L. 1954. A theory of social comparison processes. *Human relations.* **7**(2), pp.117-140.

Finkelstein, S., Hambrick, D.C. and Cannella, A.A. 2009. *Strategic leadership: Theory and research on executives, top management teams, and boards.* Oxford University Press, USA.

Focke, F., Maug, E. and Niessen-Ruenzi, A. 2017. The impact of firm prestige on executive compensation. *Journal of financial economics.* **123**(2), pp.313-336.

Fondas, N. and Wiersema, M. 1997. Changing of the guard: The influence of CEO socialization on strategic change. *Journal of Management Studies.* **34**(4), pp.561-584.

Francis, T. 2017. Companies That Perform Best Don't Pay CEOs the Most. *Wall Street Journal.* 5 October 2017.

Friedman, S.D. and Saul, K. 1991. A leader's wake: Organization member reactions to CEO succession. *Journal of Management.* **17**(3), pp.619-642.

Friedman, S.D. and Singh, H. 1989. CEO succession and stockholder reaction: The influence of organizational context and event content. *Academy of Management Journal.* **32**(4), pp.718-744.

Frydman, C. and Saks, R.E. 2010. Executive Compensation: A New View from a Long-Term Perspective, 1936–2005. *The Review of Financial Studies.* **23**(5), pp.2099-2138.

Gabaix, X. and Landier, A. 2008. Why has CEO Pay Increased So Much?*. *The Quarterly Journal of Economics.* **123**(1), pp.49-100.

Georgakakis, D. and Ruigrok, W. 2017. CEO succession origin and firm performance: A multilevel study. *Journal of Management Studies.* **54**(1), pp.58-87.

Giambatista, R.C., Rowe, W.G. and Riaz, S. 2005. Nothing succeeds like succession: A critical review of leader succession literature since 1994. *The Leadership Quarterly.* **16**(6), pp.963-991.

Gibbons, R. and Murphy, K.J. 1990. Relative Performance Evaluation for Chief Executive Officers. *Industrial and Labor Relations Review.* **43**(3), pp.30S-51S.

Gibbons, R. and Murphy, K.J. 1992. Optimal incentive contracts in the presence of career concerns: Theory and evidence. *Journal of political Economy.* **100**(3), pp.468-505.

Gomulya, D. and Boeker, W. 2014. How firms respond to financial restatement: CEO successors and external reactions. *Academy of Management Journal.* **57**(6), pp.1759-1785.

Graham, J.R., Li, S. and Qiu, J. 2011. Managerial attributes and executive compensation. *The Review of Financial Studies.* **25**(1), pp.144-186.

Green, J.R. and Stokey, N.L. 1983. A comparison of tournaments and contracts. *Journal of Political Economy.* **91**(3), pp.349-364.

Guay, W.R. 1999. The sensitivity of CEO wealth to equity risk: an analysis of the magnitude and determinants. *Journal of Financial Economics.* **53**(1), pp.43-71.

Guthrie Datta, J.P., Deepak K. 1997. Contextual influences on executive selection: Firm characteristics and CEO experience. *Journal of Management Studies.* **34**(4), pp.537-560.

Hambrick, D.C. and Mason, P.A. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of management review.* **9**(2), pp.193-206.

Hamori, M. and Koyuncu, B. 2015. Experience Matters? The Impact of Prior CEO Experience on Firm Performance. *Human Resource Management.* **54**(1), pp.23-44.

Harris, D. and Helfat, C. 1997. Specificity of CEO Human Capital and Compensation. *Strategic Management Journal.* **18**(11), pp.895-920.

Harrison, J.S. and Fiet, J.O. 1999. New CEOs pursue their own self-interests by sacrificing stakeholder value. *Journal of Business Ethics.* **19**(3), pp.301-308.

Haveman, H.A. and Khaire, M.V. 2004. Survival beyond succession? The contingent impact of founder succession on organizational failure. *Journal of business venturing*. **19**(3), pp.437-463.

Hayes, R.M., Lemmon, M. and Qiu, M. 2012. Stock options and managerial incentives for risk taking: Evidence from FAS 123R. *Journal of Financial Economics*. **105**(1), pp.174-190.

Hayes, R.M. and Schaefer, S. 1999. How much are differences in managerial ability worth? *Journal of Accounting and Economics*. **27**(2), pp.125-148.

Hayes, R.M., Tian, X.S. and Wang, X. 2015. Banking Industry Deregulation and CEO Incentives: Evidence from Bank CEO Turnover.

Helmich, D.L. and Brown, W.B. 1972. Successor type and organizational change in the corporate enterprise. *Administrative science quarterly*. pp.371-381.

Henderson, A.D. and Fredrickson, J.W. 2001. Top management team coordination needs and the CEO pay gap: A competitive test of economic and behavioral views. *Academy of Management Journal*. **44**(1), pp.96-117.

Hermalin, B.E. and Weisbach, M.S. 1998. Endogenously chosen boards of directors and their monitoring of the CEO. *American Economic Review*. pp.96-118.

Holmstrom, B. 1982. Moral Hazard in Teams. *The Bell Journal of Economics*. **13**(2), pp.324-340.

Holmström, B. 1999. Managerial incentive problems: A dynamic perspective. *The review of Economic studies*. **66**(1), pp.169-182.

Houston, J. and James, C. 1993. Management and organizational changes in banking: a comparison of regulatory intervention with private creditor actions in nonbank firms. *Carnegie-Rochester Conference Series on Public Policy*. **38**, pp.143-178.

Houston, J.F. and James, C. 1995. CEO compensation and bank risk Is compensation in banking structured to promote risk taking? *Journal of Monetary Economics*. **36**(2), pp.405-431.

Hubbard, R.G. and Palia, D. 1995. Executive pay and performance evidence from the US banking industry. *Journal of financial economics*. **39**(1), pp.105-130.

Huson, M.R., Malatesta, P.H. and Parrino, R. 2004. Managerial succession and firm performance. *Journal of Financial Economics*. **74**(2), pp.237-275.

Huson, M.R., Parrino, R. and Starks, L.T. 2001. Internal monitoring mechanisms and CEO turnover: A long-term perspective. *The Journal of Finance*. **56**(6), pp.2265-2297.

Jensen, M.C. and Meckling, W.H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*. **3**(4), pp.305-360.

Jenter, D. and Kanaan, F. 2015. CEO turnover and relative performance evaluation. *The Journal of Finance.* **70**(5), pp.2155-2184.

Jiang, L., Levine, R. and Lin, C. 2016. Competition and bank opacity. *The Review of Financial Studies.* **29**(7), pp.1911-1942.

Jongjaroenkamol, P. and Laux, V. 2017. Insider versus outsider CEOs, executive compensation, and accounting manipulation. *Journal of Accounting and Economics.* **63**(2–3), pp.253-261.

Kale, J.R., Reis, E. and Venkateswaran, A. 2009. Rank-Order Tournaments and Incentive Alignment: The Effect on Firm Performance. *The Journal of Finance.* **64**(3), pp.1479-1512.

Kale, J.R., Reis, E. and Venkateswaran, A. 2014. Pay inequalities and managerial turnover. *Journal of Empirical Finance.* **27**(Supplement C), pp.21-39.

Kanagaretnam, K., Krishnan, G.V. and Lobo, G.J. 2009. Is the market valuation of banks' loan loss provision conditional on auditor reputation? *Journal of Banking & Finance.* **33**(6), pp.1039-1047.

Kanagaretnam, K., Lobo, G.J. and Mathieu, R. 2003. Managerial Incentives for Income Smoothing Through Bank Loan Loss Provisions. *Review of Quantitative Finance and Accounting.* **20**(1), pp.63-80.

Kaplan, S.N., Klebanov, M.M. and Sorensen, M. 2012. Which CEO characteristics and abilities matter? *The Journal of Finance.* **67**(3), pp.973-1007.

Kaplan, S.N. and Rauh, J. 2009. Wall Street and Main Street: What Contributes to the Rise in the Highest Incomes? *The Review of Financial Studies.* **23**(3), pp.1004-1050.

Karaevli, A. 2007. Performance consequences of new CEO 'Outsiderness': Moderating effects of pre- and post-succession contexts. *Strategic Management Journal.* **28**(7), pp.681-706.

Karaevli, A. and Zajac, E.J. 2013. When do outsider CEOs generate strategic change? The enabling role of corporate stability. *Journal of Management Studies.* **50**(7), pp.1267-1294.

Karlsson, P.-O. and Neilson, G.L. 2009. CEO succession 2008: Stability in the storm. *Booz and Co Report.* **55**(Summer).

Kempf, A., Ruenzi, S. and Thiele, T. 2009. Employment risk, compensation incentives, and managerial risk taking: Evidence from the mutual fund industry. *Journal of Financial Economics.* **92**(1), pp.92-108.

Kesner, I.F. and Sebora, T.C. 1994. Executive succession: Past, present & future. *Journal of Management.* **20**(2), pp.327-372.

Khanna, N. and Poulsen, A.B. 1995. Managers of financially distressed firms: Villains or scapegoats? *The Journal of Finance.* **50**(3), pp.919-940.

Kim, E.H. and Lu, Y. 2017. Executive suite independence: Is it related to board independence? *Management Science.* **64**(3), pp.1015-1033.

King, T., Srivastav, A. and Williams, J. 2016. What's in an education? Implications of CEO education for bank performance. *Journal of Corporate Finance.* **37**, pp.287-308.

Kini, O. and Williams, R. 2012. Tournament incentives, firm risk, and corporate policies. *Journal of Financial Economics.* **103**(2), pp.350-376.

Kleymenova, A. and Tuna, A. 2017. Regulation of compensation.

Kotter, J.P. 1982. General managers are not generalists. *Organizational Dynamics.*

Koyuncu, B., Firfiray, S., Claes, B. and Hamori, M. 2010. CEOs with a functional background in operations: Reviewing their performance and prevalence in the top post. *Human Resource Management.* **49**(5), pp.869-882.

Kuang, Y.F., Qin, B. and Wielhouwer, J.L. 2014. CEO origin and accrual-based earnings management. *Accounting Horizons.* **28**(3), pp.605-626.

Kuhnen, C.M. and Zwiebel, J. 2008. Executive pay, hidden compensation and managerial entrenchment.

Landier, A., Sauvagnat, J., Sraer, D. and Thesmar, D. 2012. Bottom-Up Corporate Governance. *Review of Finance.* **17**(1), pp.161-201.

Lauenstein, M. 1980. Boards of Directors. *Journal of Business Strategy.* **1**(2), pp.66-68.

Lauterbach, B., Vu, J. and Weisberg, J. 1999. Internal vs. external successions and their effect on firm performance. *Human Relations.* **52**(12), pp.1485-1504.

Lazear, E.P. 2004. Balanced skills and entrepreneurship. *The American Economic Review.* **94**(2), pp.208-211.

Lazear, E.P. and Rosen, S. 1981. Rank-order tournaments as optimum labor contracts. *Journal of political Economy.* **89**(5), pp.841-864.

Leventis, S., Dimitropoulos, P.E. and Anandarajan, A.J.J.o.F.S.R. 2011. Loan Loss Provisions, Earnings Management and Capital Management under IFRS: The Case of EU Commercial Banks. **40**(1), pp.103-122.

Lucas Jr, R.E. 1978. On the size distribution of business firms. *The Bell Journal of Economics.* pp.508-523.

Ma, C.K. 1988. Loan loss reserves and income smoothing: the experience in the US banking industry. *Journal of Business Finance and Accounting.* **15**(4), pp.487-497.

Magnusson, P. and Boggs, D.J. 2006. International experience and CEO selection: An empirical study. *Journal of International Management.* **12**(1), pp.107-125.

Main, B.G., O'Reilly III, C.A. and Wade, J. 1993. Top executive pay: Tournament or teamwork? *Journal of Labor Economics.* **11**(4), pp.606-628.

Malmendier, U., Tate, G. and Yan, J. 2011. Overconfidence and early-life experiences: the effect of managerial traits on corporate financial policies. *The Journal of finance.* **66**(5), pp.1687-1733.

Martin, G.P., Gomez-Mejia, L.R. and Wiseman, R.M. 2013. Executive stock options as mixed gambles: Revisiting the behavioral agency model. *Academy of Management Journal.* **56**(2), pp.451-472.

Martin, J. and Murnighan, J. 1981. Relative deprivation: a theory of distributive injustice and organizational illegitmacy. *Social Psychology in Organizations: Advances in Theory and Research, JAI Press, Greenwich, CT.* pp.296-321.

Masulis, R.W. and Zhang, S. 2014. Compensation gaps among top corporate executives (October 31, 2014). *Available at SSRN: https://ssrn.com/abstract=2517182.*

Merton, R.C. 1973. Theory of rational option pricing. *Bell Journal of Economics and Management Science.* **4**, pp.141-183.

Michael L. Bognanno. 2001. Corporate Tournaments. *Journal of Labor Economics.* **19**(2), pp.290-315.

Miller, D. 1991. Stale in the saddle: CEO tenure and the match between organization and environment. *Management science.* **37**(1), pp.34-52.

Miller, D. and Chen, M.J. 1996. The simplicity of competitive repertoires: An empirical analysis. *Strategic Management Journal.* **17**, pp.419-439.

Mishra, D.R. 2014. The dark side of CEO ability: CEO general managerial skills and cost of equity capital. *Journal of Corporate Finance.* **29**, pp.390-409.

Mobbs, S. and Raheja, C.G. 2012. Internal managerial promotions: Insider incentives and CEO succession. *Journal of Corporate Finance.* **18**(5), pp.1337-1353.

Murphy, K.J. 1985. Corporate performance and managerial remuneration: An empirical analysis. *Journal of accounting and economics.* **7**(1-3), pp.11-42.

Murphy, K.J. and Zabojnik, J. 2004. CEO pay and appointments: A market-based explanation for recent trends. *American Economic Review.* **94**(2), pp.192-196.

Murphy, K.J. and Zabojnik, J. 2007. Managerial capital and the market for CEO (April 2007). *Available at SSRN: https://ssrn.com/abstract=984376.*

Murphy, K.J.J.H.o.l.e. 1999. Executive compensation. **3**, pp.2485-2563.

Nahapiet, J. and Ghoshal, S. 2000. Social capital, intellectual capital, and the organizational advantage. *Knowledge and social capital.* Elsevier, pp.119-157.

Naveen, L. 2006. Organizational complexity and succession planning. *Journal of Financial and Quantitative Analysis.* **41**(3), pp.661-683.

Nguyen, D.D.L., Hagendorff, J. and Eshraghi, A. 2015. Which executive characteristics create value in banking? Evidence from appointment announcements. *Corporate Governance: An International Review*. **23**(2), pp.112-128.

Ocasio, W. 1994. Political dynamics and the circulation of power: CEO succession in US industrial corporations, 1960-1990. *Administrative science quarterly*. pp.285-312.

Ocasio, W. 1999. Institutionalized Action and Corporate Governance: The Reliance on Rules of CEO Succession. **44**(2), pp.384-416.

Ocasio, W. and Kim, H. 1999. The circulation of corporate control: Selection of functional backgrounds of new CEOs in large US manufacturing firms, 1981–1992. *Administrative Science Quarterly*. **44**(3), pp.532-562.

Office of the Comptroller of the Currency. 2016. *OCC Comptroller's Handbook*.

Oyer, P. and Schaefer, S. 2010. *Personnel economics: hiring and incentives*. National Bureau of Economic Research.

Palomino, F. and Peyrache, E. 2013. Internal versus external CEO choice and the structure of compensation contracts. *Journal of Financial and Quantitative Analysis*. **48**(4), pp.1301-1331.

Palvia, A.A. 2011. Banks and managerial discipline: Does regulatory monitoring play a role? *The Quarterly Review of Economics and Finance*. **51**(1), pp.56-68.

Parrino, R. 1997. CEO turnover and outside succession A cross-sectional analysis. *Journal of Financial Economics*. **46**(2), pp.165-197.

Peterson, R.S., Smith, D.B., Martorana, P.V. and Owens, P.D. 2003. The impact of chief executive officer personality on top management team dynamics: One mechanism by which leadership affects organizational performance. *Journal of Applied Psychology*. **88**(5), pp.795-808.

Pfeffer, J. and Leblebici, H. 1973. Executive recruitment and the development of interfirm organizations. *Administrative Science Quarterly*. pp.449-461.

Philippon, T. and Reshef, A. 2009. *Wages and human capital in the US financial industry: 1909-2006*. National Bureau of Economic Research.

Prendergast, C. 1999. The provision of incentives in firms. *Journal of economic literature*. **37**(1), pp.7-63.

Quigley, T.J. and Hambrick, D.C. 2012. When the former CEO stays on as board chair: Effects on successor discretion, strategic change, and performance. *Strategic Management Journal*. **33**(7), pp.834-859.

Quińones, M.A., Ford, J.K. and Teachout, M.S. 1995. The relationship between work experience and job performance: A conceptual and meta-analytic review. *Personnel psychology*. **48**(4), pp.887-910.

Rajgopal, S. and Shevlin, T. 2002. Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics.* **33**(2), pp.145-171.

Reinganum, M.R. 1985. The effect of executive succession on stockholder wealth. *Administrative Science Quarterly.* pp.46-60.

Romanelli, E. and Tushman, M.L. 1994. Organizational transformation as punctuated equilibrium: An empirical test. *Academy of Management journal.* **37**(5), pp.1141-1166.

Rose, N.L. and Shepard, A. 1994. *Firm diversification and CEO compensation: Managerial ability or executive entrenchment?* National Bureau of Economic Research.

Rosen, S. 1981. The economics of superstars. *The American economic review.* **71**(5), pp.845-858.

Rosen, S. 1982. Authority, control, and the distribution of earnings. *The Bell Journal of Economics.* pp.311-323.

Rosen, S. 1990. *Contracts and the Market for Executives.* National Bureau of Economic Research.

Sakano, T. and Lewin, A.Y. 1999. Impact of CEO succession in Japanese companies: A coevolutionary perspective. *Organization Science.* **10**(5), pp.654-671.

Schaeck, K., Cihak, M., Maechler, A. and Stolz, S. 2011. Who Disciplines Bank Managers? *Review of Finance.* **16**(1), pp.197-243.

Shen, C.H.-h. and Zhang, H. 2013. CEO risk incentives and firm performance following R&D increases. *Journal of Banking & Finance.* **37**(4), pp.1176-1194.

Shen, W. and Cannella, A.A. 2002a. Power Dynamics within Top Management and Their Impacts on CEO Dismissal Followed by Inside Succession. *The Academy of Management Journal.* **45**(6), pp.1195-1206.

Shen, W. and Cannella, A.A. 2002b. Revisiting the Performance Consequences of CEO Succession: The Impacts of Successor Type, Postsuccession Senior Executive Turnover, and Departing CEO Tenure. *The Academy of Management Journal.* **45**(4), pp.717-733.

Shen, W. and Cannella, A.A. 2003. Will succession planning increase shareholder wealth? Evidence from investor reactions to relay CEO successions. *Strategic Management Journal.* **24**(2), pp.191-198.

Shen, W. and Cannella Jr, A.A. 2003. Will succession planning increase shareholder wealth? Evidence from investor reactions to relay CEO successions. *Strategic Management Journal.* **24**(2), pp.191-198.

Siegel, P.A. and Hambrick, D.C. 2005. Pay disparities within top management groups: Evidence of harmful effects on performance of high-technology firms. *Organization Science.* **16**(3), pp.259-274.

Simons, R. 1994. How new top managers use control systems as levers of strategic renewal. *Strategic management journal.* **15**(3), pp.169-189.

Smith, C.W., Stulz, R.M.J.J.o.f. and analysis, q. 1985. The determinants of firms' hedging policies. **20**(4), pp.391-405.

Smith Jr, C.W. and Watts, R.L. 1992. The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of financial Economics.* **32**(3), pp.263-292.

Srivastav, A., Keasey, K., Mollah, S. and Vallascas, F. 2017. CEO turnover in large banks: Does tail risk matter? *Journal of Accounting and Economics.* **64**(1), pp.37-55.

Tervio, M. 2008. The difference that CEOs make: An assignment model approach. *American Economic Review.* **98**(3), pp.642-668.

Tian, J., Haleblian, J. and Rajagopalan, N. 2011. The effects of board human and social capital on investor reactions to new CEO selection. *Strategic Management Journal.* **32**(7), pp.731-747.

Tushman, M.L. and Rosenkopf, L. 1996. Executive succession, strategic reorientation and performance growth: A longitudinal study in the US cement industry. *Management Science.* **42**(7), pp.939-953.

Vancil, R.F. 1987. *Passing the baton: Managing the process of CEO succession.* Harvard University Press.

Walker, D.I. 2011. Evolving executive equity compensation and the limits of optimal contracting. *Vand. L. Rev.* **64**, p609.

Warner, J.B., Watts, R.L. and Wruck, K.H. 1988. Stock prices and top management changes. *Journal of financial Economics.* **20**, pp.461-492.

Webb, E. 2008. Regulator Scrutiny and Bank CEO Incentives. *Journal of Financial Services Research.* **33**(1), pp.5-20.

Weisbach, M.S. 1988. Outside directors and CEO turnover. *Journal of financial Economics.* **20**, pp.431-460.

Wiersema, M.F. 1995. Executive succession as an antecedent to corporate restructuring. *Human Resource Management.* **34**(1), pp.185-202.

Wiersema, M.F. and Zhang, Y. 2011. CEO dismissal: The role of investment analysts. *Strategic Management Journal.* **32**(11), pp.1161-1182.

Worrell, D.L. and Davidson, W.N. 1987. The effect of CEO succession on stockholder wealth in large firms following the death of the predecessor. *Journal of Management.* **13**(3), pp.509-515.

Yang, F., Dolar, B. and Mo, L. 2014. CEO Compensation and Firm Performance: Did the 2007-2008 Financial Crisis Matter? *Journal of Accounting and Finance.* **14**(1), p137.

Zajac, E.J. 1990. CEO selection, succession, compensation and firm performance: A theoretical integration and empirical analysis. *Strategic Management Journal.* **11**(3), pp.217-230.

Zajac, E.J. and Westphal, J.D. 1996. Who shall succeed? How CEO/board preferences and power affect the choice of new CEOs. *Academy of Management Journal.* **39**(1), pp.64-90.

Zhang, Y. and Rajagopalan, N. 2004. When the known devil is better than an unknown god: An empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal.* **47**(4), pp.483-500.

Zhang, Y. and Rajagopalan, N.J.A.o.M.J. 2003. Explaining new CEO origin: Firm versus industry antecedents. **46**(3), pp.327-338.

Zhu, D.H. and Shen, W. 2016. Why do some outside successions fare better than others? The role of outside CEOs' prior experience with board diversity. *Strategic Management Journal.* **37**(13), pp.2695-2708.