Organizational Form, Ownership Structure, and Top Executive Turnover: Evidence from the Property-Casualty Insurance Industry

By

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Abstract

We investigate the role of organizational form and ownership structure in corporate governance by examining CEO turnover in the U.S. property-casualty insurance industry. The probability of non-routine turnover has a significant negative relationship

with firm performance, and outside succession dominates when non-routine turnover occurs. Turnover probabilities vary significantly by organizational form and ownership structure. The probability of non-routine CEO turnover is lower for mutuals than for closely held and publicly-traded non-family-owned stock firms. Family firms with family-member CEOs have the lowest turnover rate of any ownership type, and incoming successors in closely-held family firms mainly come from the controlling families.

Keywords: Organizational form; Ownership structure; CEO turnover; Family-owned firms; Mutuals

JEL codes: G22, G32, G34

I. Introduction

A firm's corporate governance mechanisms play an important role in disciplining poorly performing CEOs. Extant literature shows that stronger corporate governance mechanisms discipline management effectively by removing poorly performing CEOs and searching for the best candidate for the CEO position, increasing the likelihood of outside appointment. Therefore, CEO turnover and succession decisions provide a good setting to evaluate the quality of corporate governance mechanisms within a firm (Kang and Shivdasani, 1995; Volpin, 2002). Most previous studies examining the association between the quality of corporate governance mechanisms and CEO turnover and succession decisions focus only on publicly-traded stock companies (e.g., Weisbach, 1988; Denis, Denis, and Sarin, 1997; Borkhovich, Parrino, and Trapani, 1996). However, little is known about CEO turnover patterns and their association with performance within firms with organizational forms and ownership structures other than publicly-traded stocks.[1] Nagar, Petroni, and Wolfenzon (2009) indicate that among seven million corporate tax filers in the U.S., only about 8,000 are publicly-traded. Because of the significance of non-publicly-traded corporations in US economy, understanding the CEO turnover patterns within these firms would appear to be an important issue for investigation. This study intends to fill this research gap by examining the characteristics of CEO turnover and succession in the U.S. property-casualty (P-C) insurance industry, in which various organizational forms and ownership structures coexist and have their own specific features of corporate governance mechanisms.

The present paper focuses on how insurers' organizational forms and ownership structures affect the quality of corporate governance mechanisms, proxied by CEO turnover-performance sensitivity. The insurance industry provides a particularly rich environment for the analysis of organizational form because a variety of organizational forms co-exist in the industry, including stocks, mutuals, and reciprocals (Mayers and Smith, 1988). Moreover, stock insurance companies have a full spectrum of ownership structures depending on the liquidity of ownership and the presence of controlling shareholders. Stock insurers can be classified as publicly traded or closely held according to whether or not their shares are traded in the capital market. Both publicly-traded and closely-held stock companies can be further categorized as family-owned firms or non-family-owned firms, according to whether there is the presence of a controlling family within the firm. Further, stock insurers owned by non-insurance holding companies, such as General Electric, provide an additional interesting ownership structure to study the effect of corporate governance mechanisms on CEO turnover decisions.

This analysis is based on a large hand-collected data set, which covers 751 firms in the U.S. property-casualty insurance industry over the period 1993-2006. We conduct probit regression to study the impact of organizational forms and ownership structures on CEO turnover decisions. We also estimate bivariate probit models to capture the CEO succession choice: inside versus outside succession.

Our findings suggest that the likelihood of CEO turnover, especially non-

[1] Two studies that consider non-publicly-traded firms are discussed in the literature review section below (Coles, Lemmon, and Naveen, 2003; and He and Sommer, 2011).

routine turnover, is inversely related to firm performance in the insurance industry. The likelihood of outside succession is higher when non-routine turnover occurs. Most important, we find that the magnitude of this association varies significantly among the insurers' organizational forms and ownership structures. Compared to publicly-traded non-family-controlled stocks, mutuals and reciprocals have lower likelihoods of non-routine CEO turnover. The successors of mutual and reciprocal CEOs are mostly from inside the company, for both routine and non-routine turnover. We do not find a significant difference between publicly-traded stocks and closely-held stocks with regard to CEO turnover decisions, consistent with Coles, Lemmon, and Naveen (2003).

Finally, whether there is controlling family matters in the CEO turnover decision and succession choice. On the one hand, controlling families in stock insurance companies are entrenched. The probability of CEO turnover and its sensitivity to firm performance are the lowest for family-member CEOs in family-controlled firms, and the new CEOs are mostly from the controlling family even when non-routine turnover occurs. On the other hand, controlling families can be effective monitors of management when they do not hold the CEO position. Non-family-member CEOs of publicly-traded family firms have one of the highest likelihoods of turnover and the strongest sensitivity of CEO turnover to firm performance. This result suggests that monitoring from both capital market and controlling shareholder (holding family) plays an important role in improving the quality of a firm's corporate governance mechanisms.

The remainder of the paper is organized as follows: In section 2, we discuss the relevant literature. Section 3 develops the hypotheses based on prior literature. Section 4 describes the dataset and methodology. Section 5 provides the results and discussion, and section 6 concludes.

II. Literature Review

We first briefly review the literature about CEO turnover and succession choice in publicly-traded stock companies. We then consider the papers that also analyze non-traded firms.

A. Top Executive Turnover in Publicly-Traded Companies

Over the past three decades, a large body of literature reports evidence on different aspects of CEO turnover and succession in publicly-traded industrial firms.[2] The general consensus is established that the likelihood of CEO turnover, especially non-routine turnover, is negatively related to firm performance (Coughlan and Schmidt, 1985; Warner, Watts, and Wruck, 1988). The magnitude of this relation, however, depends on the quality of corporate governance within the firm. For example, Weisbach (1988) finds that the negative relationship between turnover and performance is stronger when the majority of the board consists of outside directors. His evidence is consistent with the argument of Fama and Jensen (1983a) that outside directors have incentives to enhance the value of their human capital by signaling to the managerial market that they are experts of decision control while inside directors are less willing to challenge the CEO to whom their careers are tied.

Other important determinants of performance-turnover sensitivity include managerial ownership, blockholder ownership, and the threat of takeover activity. Denis, Denis, and Sarin (1997) find that performance-turnover sensitivity is lower with higher management ownership but increases with the presence of an outside blockholder. They suggest that managers' ownership partially insulates them from the takeover market, which is associated the effectiveness of internal monitoring mechanism in disciplining poorly performing

[2] While many top executive turnover studies focus on publicly-traded industrial firms and generally exclude the highly regulated financial institutions, such as banks and insurance companies, others do not exclude financial institutions. For example, Warner, Watts, and Wruck (1988), Weisbach (1988), Denis and Denis (1995), Denis, Denis, and Sarin (1997), Borokhovich, Parrino, and Trapani (1996), and Parrino (1997) do not explicitly point out whether they exclude financial institutions from their sample. Fee and Hadlock (2004), Kang and Shivdasani (1995), and Volpin (2002) exclude banks, insurance companies and financial holding companies in their study. There is limited literature about top executive turnover which only focuses on financial institutions. One exception is Cannella, Fraser, and Lee (1995), who analyze the managerial labor market's ability to discriminate between good and bad managerial performance by using a sample of failed and surviving Texas banks.

CEOs.[3]

The quality of corporate governance not only affects the likelihood of CEO turnover and the turnover-performance sensitivity, but also the likelihood of a new CEO being chosen from outside the company, especially when the previous CEO is forced to resign. The likelihood of an outside replacement is found to be negatively related to prior firm performance (Warner, Watts, and Wruck, 1988; Gilson and Vetsuypens, 1993; Parino, 1997). Outside candidates are preferred in poorly performing firms because they are perceived as more likely to alter the firm's failed policies to the benefit of shareholders (Borokhovich, Parrino, and Trapani, 1996; Parrino, 1997). Borokhovich, Parrino, and Trapani (1996) find that the market views outside appointment more favorably than inside appointment following both routine and non-routine turnover.

B. Top Executive Turnover in Non-Public Companies

Although the extant literature mainly focuses on publicly-traded stock companies, two papers consider non-traded firms. Examining data on closely-held firms from the *Forbes* list of the top 500 private firms, Coles, Lemmon, and Naveen (2003) find no evidence that CEO turnover is more sensitive to changes in scaled profitability in closely-held firms than in publicly-traded firms. However, because they focus on only large closely-held firms, their results do not necessarily generalize to other non-traded corporations. He and Sommer (2011) examine the sensitivity of CEO turnover to firm performance between stocks and mutuals in the US P-C insurance industry. However, they do not make a distinction between publicly-traded stocks and closely-held stocks, which is an important factor in determining CEO turnover-performance sensitivities as shown in the present study. Neither do they address the role of controlling families in disciplining managers. Controlling families exist widely in both publicly-traded stocks and closely-held stocks and have been shown to be an important corporate governance mechanism (e.g., Anderson and Reeb, 2003; Li and Srinivasan, 2011). Thus, our paper is the first to consider the full range of ownership types and degree of family control for stock firms.

III. Organizational Forms and Ownership Structures in Insurance

Fama and Jensen (1983b) argue that the specific characteristics of the residual claims in each organizational form and ownership structure lead to efficient approaches to controlling agency costs between residual claimants and decision agents. According to Mayers and Smith (1988), there are three important functions within an insurer: the managerial function, the ownership/risk-bearing function, and the customer/policyholder function. The agency costs in an insurance organization arise mainly from the interest conflicts among these three functions. When the roles of owner and manager are separated, a potential incentive problem is created since managers do not bear the major wealth effect of their actions and generally have interests different from those of owners. The owner-policyholder agency problems are similar to those of shareholders and bondholders. The owners of the firm and/or their agents (managers) have incentives to pursue their own interests at the expense of policyholders after insurance policies are sold. Different organizational forms and ownership structures have comparative advantages in mitigating various incentive conflicts, as discussed in the following subsections.

A. Publicly-Traded and Closely-Held Stocks

Publicly-traded stocks have advantages in relatively risky lines of business because of their complete separation of the decision management and risk-bearing functions (Fama and Jensen, 1983a). However, this separation creates agency problems between managers and shareholders. To mitigate these agency costs, publicly held stocks rely on monitoring from the capital market (e.g., financial analysts and institutional investors), the takeover market, and boards of directors (Fama and Jensen, 1983a). Most empirical evidence indicates that the probability of CEO turnover is inversely related to the firm's stock price performance in publicly traded firms (Coughlan and Schmidt, 1985; Denis, Denis, and Sarin, 1997).

Although publicly-traded stocks have the most widely diffuse ownership and have

[3] Mikkelson and Partch (1997) find that the association between CEO turnover and firm performance is weaker during periods when there is less takeover activity. However, Huson, Parrino, and Starks (2001) report that changes in the intensity of the takeover market and the sensitivity of CEO turnover to firm performance are not associated.

been mostly widely studied in literature, the most popular firm structure in the U.S. is the closely-held stock firm (Nagar, Petroni, and Wolfenzon, 2011). When a stock insurance company is closely held, the monitoring of managers by the owners is direct and simple. Fama and Jensen (1983a) argue that the most effective way to control the costs raised by separating owner and manager in the closely-held stock company is restricting the ownership to managers. Ke, Petroni, and Safieddine (1999) posit that closely-held insurers should have more direct monitoring of management by owners. Nagar, Petroni, and Wolfenzon (2011) indicate that a key feature of closely-held firms is that shareholders are typically few in number, and they are also familiar and involved in management. Mayers and Smith (1994) find that the costs of controlling the owner–manager conflicts are greater in widely-held companies than in closely-held companies.

Even in the case where ownership is not restricted to managers, those with special relations with managers may own the closely-held corporation to control the agency problems efficiently, such as a controlling family. However, the lack of monitoring from the capital market and high information asymmetry between managers and (minority) shareholders might increase the entrenchment opportunity of incumbent managers. Therefore, whether the sensitivity of CEO turnover to firm performance is stronger in closely-held stock firms than in publicly-traded stocks remains an empirical question.

Finally, there are a few stock insurers ultimately owned by non-insurance holding companies, including general financial institutions and industrial firms. Control by a non-insurance parent firm might have some distorting effects on CEO turnover decisions. For example, there might be more turnovers due to the normal internal rotation of positions within subsidiaries of a holding company. Also, CEOs with good performance might be promoted to parent holding firms, leading to an exceptionally high CEO turnover rate. Therefore, the empirical analysis distinguishes this ownership type from firms whose ownership is exclusively within the insurance industry.[4]

B. Family Controlled Stocks

An important type of stock company in the insurance industry is the family firm, which can be either closely held or publicly traded. Although the previous literature mainly studies publicly-traded family stocks, the present paper also considers closely-held family stock firms. Because firm performance has substantial wealth effects on the controlling family, the controlling family is more likely to be an active shareholder monitoring managers compared to other types of large shareholders, such as institutional shareholders (Anderson and Reeb, 2003; Li and Srinivasan, 2011). The dominant ownership of the controlling family can effectively mitigate the owner-manager incentive conflicts, either by monitoring a non-family-member CEO or appointing a family member to the CEO position. Controlling families have the ability and incentive to monitor a non-family-member manager due to their block shareholdings and the linkage of firm performance and family wealth. The controlling family also has more incentives to invest in long-term human capital within the firm.

Appointing a family member to the CEO position can also effectively mitigate agency problems between owners and managers by combining ownership and management. However, a new agency problem between majority and minority shareholders is created. This problem may be even more severe in family firms since many effective corporate control mechanisms might not function well for family firms. For example, family firms have lower takeover possibility, which has been shown to be influential on the internal control process (Morck, Shleifer, and Vishny, 1988; Mikkelson and Partch, 1997). Therefore, no clear expectation can be given with regard to the sensitivity of CEO turnover to firm performance between family-controlled versus non-family-controlled stock firms.

C. Mutuals and Reciprocals

Mutuals are an important organizational form in insurance. For publicly-traded stock companies, the capital market, the takeover market, and expert boards are effective corporate governance mechanisms because of existence of traded

[4] Because the objective is to analyze decision making within the insurance industry, we do not go above the insurance company level in analyzing insurers owned by non-insurance holding companies. However, if non-insurance firms own insurance groups rather than individual insurers, we focus the analysis at the insurance group level, paralleling the level of analysis for purely insurance-owned groups.

shares (Fama and Jensen, 1983a; Agrawal and Knoeber, 1996). Traded shares also facilitate the effective monitoring of managers by stock analysts, institutional investors, and other large blockholders in the capital market. These control mechanisms are much weaker in mutuals.

The major benefit of the mutual organizational form is the control of the customer-owner interest conflicts by merging these two functions. However, some effective corporate control mechanisms for publicly-traded stock insurers are not available in mutuals because the ownership rights of mutuals are inalienable (Mayer and Smith, 1988). Without traded shares, it is not possible to form a capital market for mutuals, and their managers are not subject to monitoring by stock analysts, institutional investors, and blockholders. The inability to transfer ownership rights in mutuals also makes takeover activity for mutuals costly and ineffective. Because of the inalienability of ownerships rights in mutuals, it is not possible to align incentives of board members with those of owners by giving them ownership interests in the firm (Mayers and Smith, 2005). [5] The inalienability of ownership rights also prevents individual policyholders from concentrating ownership, while shareholders of stocks can do so by purchasing shares (Rasmusen, 1988). The wide diffusion of ownership also gives policyholders little ability to monitor managers in mutuals (Hansmann, 1985). [6] Finally, withdrawing ownership in a mutual does not constitute liquidation of a share of the insurer's equity capital.[7]

Although mutuals have a higher degree of owner-manager incentive conflicts than stocks, mutual insurers have adopted some specific features to control managerial incentive problems. These mechanisms include a higher degree of geographic concentration than stocks, operating in lines of business requiring less managerial discretion, and utilizing a higher fraction of outside directors (Lamm-Tennant and Starks, 1993; Mayers and Smith, 1988; Mayers, Shivdasani, Smith, 1997). Among these control mechanisms, only the use of a higher fraction of outside board members attempts to control the owner-manager conflict by influencing the quality of internal control systems. However, there is no direct evidence about how this potential remedy improves the corporate governance quality in mutual insurance companies. In this study, we contribute to the literature by explicitly comparing the effectiveness of corporate governance mechanisms in disciplining managers between mutuals and stocks while controlling other factors.

In reciprocals, another important organizational form in insurance, the subscribers exchange insurance contracts through an *attorney-in-fact* to share or spread their risk. [8] The daily affairs of the reciprocals are under the management of the attorney-in-fact. Similar to a mutual, the reciprocal merges the policyholder and ownership functions into the subscribers, who are the members of the reciprocal. Therefore, mutuals and reciprocals have similar owner-manager agency problems. Even though reciprocals in their original form differed from mutuals in some important respects, such as having withdrawable deposits, modern reciprocals are virtually indistinguishable from mutuals. For this reason and because our tests reveal that mutuals and reciprocals behave similarly with respect to CEO turnover, we combine the two organizational forms in the remainder of the study and refer to the joint category as "mutuals."[9]

[5] Although in practice, both managers and outside board members can be compensated for good firm performance in the form of bonus in mutuals, they cannot enjoy the possible significant wealth effects associated with the increase in the value of equity ownership as those in publicly-traded stocks.

[6] The limited policyholders' incentive to monitor managers is further exacerbated by the existence of guaranty funds, which reduce policyholders' losses from firm bankruptcy (Esty, 1997).

[7] Fama and Jensen (1983b) suggest that the policyholders can surrender an insurance policy, which is a form of partial takeover or liquidation that deprives managers of control of assets. However, the mutual P-C policyholder who surrenders a policy may receive a partial return of the premium for the current coverage period but receives no other compensation. Therefore, the threat of surrenders has little effect on managers of P-C insurers.

[8] The attorney-in-fact in a reciprocal is a company or organization that is given power of attorney to act for the members of the reciprocal in conducting the business of insurance.

[9] We use the term "mutual" because mutuals are more numerous than reciprocals (4,073 mutual

D. Organizational Form and Ownership Structure: Conclusions

According to the aforementioned discussion about organizational forms and ownership structures, insurers in the U.S. generally can be classified into two principal categories of organizational forms: stocks, on the one hand, and mutuals and reciprocals ("mutuals"), on the other hand.[10] We further categorize stock insurers into four types of ownership structures: publicly-traded family-owned firms, publicly-traded non-family-owned firms, closely-held family-owned firms, and closely-held non-family-owned firms. Finally, family-owned firms can be categorized depending upon whether the CEO is a family member or not. Figure 1 provides a branch diagram summarizing the types of insurers covered in this study. The control of owner-manager agency problems depends on the characteristics of the different ownership structures. Generally, each organizational form and ownership structure has specific features to discipline management; and no consensus has been reached with regard to their comparative effectiveness.

IV. Hypothesis Development

The inalienability of ownership right gives mutual owners much weaker mechanisms to control and monitor managers than owners of stocks. This suggests our first hypothesis:

> ***Hypothesis 1:*** *Mutuals have lower probability of CEO turnover and lower sensitivity of CEO turnover to firm performance than stocks.*

We also specifically compare the difference of corporate control mechanism on CEO turnover between mutual and publicly-traded non-family-owned stock insurers. In other words, non-family-owned publicly-traded firms may provide a better benchmark than all stocks to evaluate the effectiveness of corporate governance mechanism of mutuals. As mentioned above, the main corporate governance mechanisms in publicly-traded stock companies are internal monitoring from board of directors, external monitoring from the capital market, and the threat of take over for poorly performing firms. In mutuals, the main corporate governance mechanism is monitoring from the board of directors. However, we argue that board monitoring alone is less effective than capital market monitoring. Hence, we posit:

> ***Hypothesis 1-1****: Mutuals have lower probability of CEO turnover and lower sensitivity of CEO turnover to firm performance than publicly-traded non-family-owned stocks.*

Next, we compare the likelihood of CEO turnover of closely-held and publicly-traded stock companies to study how effectively their specific corporate governance mechanisms work in disciplining managers. The effectiveness of corporate governance mechanisms of closely-held stock firms stems mainly from monitoring by a relative small number of owners who are familiar with and involved in the management, while the capital market enhances the effectiveness of corporate governance mechanisms of publicly-traded stock firms. The sensitivity of CEO turnover to firm performance may be stronger in either closely-held or publicly-traded insurance companies since each type has its own specific advantage in terms of corporate governance. To avoid possible distortions from family control, we focus on the comparisons between closely-held non-family-owned stock insurers and publicly-traded non-family-owned stock insurers. We posit the following hypothesis based on the proposition that the capital market is more effective than a few more diligent and firm-familiar board members in disciplining managers.

> ***Hypothesis 2:*** *Closely-held non-family-owned stock insurers are less likely to remove the CEO when the firm is poorly performing than publicly-traded non-family-owned stocks.*

Third, we test the effect of family control in disciplining managers. We posit that the dominant factor determining turnover-performance sensitivity in family stock firms is whether a family member holds

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observations versus 390 reciprocal observations in our sample).

[10] Other organizational forms and ownership structures exist in the insurance industry, such as Lloyds and risk retention groups (RRGs). We do not include Lloyds due to their relatively small role in the P-C insurance industry (Lloyds account for less than 1% of total P-C premiums). We do not study RRGs because they are small (less than 1% of total premiums) and are an atypical organizational form operating under a special Federal law.

the CEO position. Poorly performing family-member CEOs have relatively high entrenchment opportunities and are more difficult to remove due to the family's large ownership stake (Morck, Shleifer and Vishny, 1988). Higher managerial ownership causes less effective external and internal managerial monitoring and thus weaker links between performance and managerial turnover (Ofek, 1993; Mikkelson and Partch, 1996; Dennis, Dennis, and Sarin, 1997; Volpin, 2002). [11] Thus, we expect family-member CEOs to have lower turnover probabilities and performance-turnover sensitivity than non-family-member CEOs of family stock firms and CEOs of non-family-owned stock firms. If there is turnover, family firms with a family-member CEO might more likely take the form of routine rather than non-routine turnover. This leads to the following hypothesis:

> ***Hypothesis 3:*** *Among common stock insurance companies, family-member CEOs of a family firm have the lowest likelihood of non-routine turnover and lowest turnover-performance sensitivity.*

If the CEO in a family controlled stock firm is not a family member, she is closely monitored by the controlling family besides the normal disciplining of the corporate monitoring mechanism. The controlling family generally serves as a more effective monitor than other blockholders. Therefore, we expect the sensitivity of CEO turnover to firm performance of a non-family-member CEO in a family firm to be higher than that of a CEO in a non-family-owned stock firm. [12] This leads to the following hypotheses:

> ***Hypothesis 4-1:*** *Compared to peers in non-family-controlled publicly-traded stock firms, a non-family CEO in a family-controlled publicly-traded stock firm is more likely to be removed.*

> ***Hypothesis 4-2:*** *Compared to peers in non-family-controlled closely-held stock firms, a non-family CEO in a family-controlled closely-held stock firm is more likely to be removed.*

An outside candidate is expected to be more likely to change a firm's policies than inside successors when a firm has been performing poorly. Outside candidates may be more capable than inside candidates because they are from a larger pool. Boards of poorly performing stocks have higher pressure from the capital market to choose more capable successor CEOs than boards of mutuals. Also, boards of stocks might have equity ownership in the firm which provides them incentives to search for the best candidate for the CEO position. Thus, we posit:

> ***Hypothesis 5:*** *The likelihood of outside replacement is lower for mutuals than for publicly-traded non-family-controlled stock insurers.*

Similarly, if we assume that capital market monitoring is more effective than monitoring from concentrated owners in choosing capable managers, we posit that:

> ***Hypothesis 6:*** *Closely-held stock non-family-controlled insurers are less likely to choose outside CEO successors than publicly-traded non-family-controlled stock insurers.*

Following a similar argument regarding the effect of family control in disciplining managers, we argue that family firms with a family-member CEO are more likely to choose CEO successors from family members. On the other hand, family firms with non-family CEOs are more likely to seek outside managers. Thus, we posit that:

> ***Hypothesis 7-1:*** *Compared to peers in non-family-controlled publicly-traded stock firms, the incoming CEO successor in a family-controlled publicly-traded stock firm is more likely to be an outsider if the outgoing CEO is not a family member.*

> ***Hypothesis 7-2:*** *Compared to peers in non-family-controlled publicly-traded stock firms, the incoming CEO successor in a family-*

[11] Volpin (2002) studies the determinants of CEO turnover for firms listed on Italian stock market. His results suggest that the probability of CEO turnover and its sensitivity to firm performance decrease significantly for CEOs who are from the controlling family of the firm than for other non-family-member CEOs.

[12] Li and Srinivasan (2011) find that non-family-member CEO turnover sensitivity to performance is higher than in other firms when the founder of a family firm serves on the board of the company.

controlled publicly-traded stock firm is less likely to be an outsider if the outgoing CEO is a family member.

Hypothesis 7-3: *Compared to peers in non-family-controlled closely-held stock firms, the incoming CEO successor in a family-controlled closely-held stock firm is more likely to be an outsider if the outgoing CEO is not a family member.*

Hypothesis 7-4: *Compared to peers in non-family-controlled closely-held stock firms, the incoming CEO successor in a family-controlled closely-held stock firm is less likely to be an outsider if the outgoing CEO is a family member.*

V. Sample and Methodology

A. Sample Selection

The sample for the study consists of U.S. licensed property-casualty (P-C) insurance companies. Our main data sources are *A.M. Best's Insurance Reports: Property/Casualty Edition* (*Best's Insurance Reports*), [13] the National Association of Insurance Commissioners (NAIC) annual statement database, and proxy statements of the publicly-traded insurers. The sample consists of U.S. P-C insurers who have CEO information in the "Management" section of *Best's Insurance Reports* from 1993 to 2006. CEO information for publicly-traded companies is cross-checked with executive biographies in the proxy statements. [14] Because both Kang and Shivdasani (1995) and Volpin (2002) indicate that foreign companies have corporate governance and accounting practices different from U.S. firms, 70 foreign-owned insurance companies are dropped from the sample.[15] We also exclude 110 companies that disappear from *Best's Insurance Reports* before 2006 due to the regulatory actions for reasons such as insolvency or liquidation that could distort the CEO turnover results.[16] Following Denis and Denis (1995), we eliminate 289 insurance companies that are merged or acquired during the sample period.[17]

Our primary sample includes all unaffiliated single insurers and groups of insurers under common ownership. Treating each insurance group as an independent decision making unit can minimize sample bias because the subsidiaries within a group share the same ownership and almost always have the same management (Ke, 2001; Beatty, Ke and Petroni, 2002).[18] If we treat these subsidiaries as individual decision making units, a single CEO turnover event for the group might be counted several times among its subsidiaries, biasing the analysis.[19] In the

[13] A.M. Best Company, various years, *Best's Insurance Reports: Property/Casualty Edition* (Oldwick, NJ).

[14] The source of proxy statements is *www.sec.gov*.

[15] The turnover rate of these foreign firms is 17.2% and most turnovers are non-routine turnover (12.1%). However, the extremely high percentage of turnover (non-routine) turnover rate might be due to the foreign firm characteristics rather than performance. For example, the Nissan Fire and Marine Insurance Company might have a corporate policy to replace CEO of its US subsidiary company every three years. Further, the performance of the subsidiary of a multinational company partly depends on its parent company's global strategy, and profit transfer internally might also distort subsidiary profit reported on financial statements.

[16] Generally speaking, the CEO naturally steps down in a liquidation event because the firm no longer exists. In some cases, CEOs remain in place after the firm is conserved or rehabilitated but the firm is actually under regulatory control. In most cases, we cannot find information after the firm is announced to be under regulatory action. Thus, firms involved in regulatory actions are not included in the analysis.

[17] There are 350 M&A events and 226 cases are associated with CEO turnover. CEOs of acquired firms have a very high turnover rate of 64.6%, as expected. Interestingly, 38.5% of replaced CEOs remain on the board of the merged firm, suggesting that the new entity still relies on these former CEOs' experience to some extent. Lehn and Zhao (2006) study the CEO turnover of acquiring firms and find a significant negative relationship between bidder returns and the likelihood of CEO turnover.

[18] Blackwell et al. (1994) argue that the holding-company board rather the boards of subsidiary banks plays a dominant role in deciding the retention or removal of subsidiary executives. They find evidence that it is quite common for one person to simultaneously hold several executive positions in different subsidiary banks.

[19] We do not treat stock-owned mutuals and mutual-owned stocks as independent observation units since they are subsidiaries of an insurance group and share the same

final sample, we have 751 firms and 8,755 firm-years. The sample firms represent 65% of total industry premiums in 2000 and comparable percentages for other years.

B. Variable Construction

To determine the factors that affect CEO turnover decisions, we construct five sets of variables: CEO turnover events, which serve as the dependent variables, organizational form and ownership structure dummy variables, firm performance measures, board characteristics (board size and independence proxies), and control variables (firm characteristics).

1. CEO Turnover Events

We define the top executive as CEO when she holds the title of CEO in the firm.[20] If an insurer has no individual listed as CEO, the executive who has the title of president is selected. If no individual is listed as either CEO or president, we define the chair of the board of directors as the top executive.[21] We identify CEO turnover events first according to the information reported in *Best's Insurance Reports* and company proxy statements. If the information about CEO turnover event is not revealed explicitly, we identify them by tracking the names of relevant officers in *Best's Insurance Reports* and the proxy statements through 1992-2006. If there is any change of CEO names between two consecutive years (t and $t+1$), we define a CEO turnover event in the t^{th} year. We delete turnover of interim CEOs who hold CEO positions less than one year. Following Kang and Shivdasani (1995) and He and Sommer (2011), we treat turnover events where the CEO does not remain in the company as a director or in another capacity for more than two years as non-routine turnover, and all others as routine turnover.[22]

To determine the source of a new CEO, we first check if *Best's Insurance Reports* and the proxy statements have this information. We treat the new CEO as an outsider if she is clearly indicated as an outside CEO in these sources. Otherwise, we check the information about when she starts to be with the company. Following Parrino (1997), we classify the new CEO who has been with the company for one year or less when appointed as an outsider. If this information is not available, we check whether she starts to appear in the company's management team for more than two years prior to the turnover event. If yes, we define her as the insider, otherwise, as an outsider. Similar to Denis and Denis (1995), we also define a CEO as an outsider if she is promoted from serving as an independent director.[23]

2. Organizational Form and Ownership Structure

We define the company's

management with the lead company in the group. Further, it is arguably the ultimate organizational form and ownership structure of the controlling parent which determines the corporate governance mechanism.

[20] In a limited number of association related closely-held stock firms and mutual insurance firms, the officer with CEO title is only responsible for the daily administration and the president of the company, usually the president of the association, is the decision maker. In this case, however, we still code the CEO as top executive to be consistent. Results do not change if we code the president as top executive in these firms.

[21] Usually, *Best's Insurance Reports* and proxy statements have the names of company officers with following titles: Chairman of the Board, President, CEO, Senior Vice President, Secretary, CFO, Vice President and Treasurer. All companies in our sample have at least one of the three titles: CEO, President, or Chairman of the Board.

[22] When we collected the management and board information from *Best's Insurance Reports*, we found that the management information and board information on an insurance company may not be updated at the same time. The update of board information may lag one year behind the management information. Thus, we define the turnover event that previous CEOs stay on the board for at least two years as routine turnover to avoid possible bias. We also search for the reason for CEO departure from the company's website and news articles on LexisNexis Database and the Internet. This helps us to further identify whether the CEO departs the company because of normal retirement, death, health issues, or comparable appointment elsewhere. Such events are classified as routine turnover. As in prior research, our approach does not perfectly classify routine and non-routine turnover.

[23] Results are not sensitive to this definition of outsider succession.

organizational form and ownership structure using the information provided by *A.M. Bests' Key Rating Guide*, *Best's Insurance Reports*, the NAIC database, and proxy statements for the publicly-traded companies. This enables us to identify stocks, mutuals, and reciprocals.[24] If these sources do not reveal the ultimate owner of a stock insurance company, we further check the company's website and news sources on the Internet. A closely-held stock firm is defined as a family firm if the information from the "Management" section of *Best's Insurance Reports* gives explicit detailed information about family ownership. A publicly-traded insurance company is classified as a family firm if more than 5% of the firm's shares are owned by the family, following Anderson and Reeb (2004). If the ultimate owner of an insurer is a firm from a non-insurance industry, we classify it as a "stock insurer owned by a non-insurance holding company" to control its effect on the CEO turnover decision.[25]

3. Performance

We use book return on assets (ROA) as the primary proxy for firm performance and conduct robustness checks using book return on equity (ROE).[26] Industry performance is also used to control for industry-wide shocks to performance and for the effects of the insurance underwriting cycle. Extant literature suggests that industry factors, which are out of the control of individual firm CEOs, are usually filtered from dismissal decisions by the board of directors, i.e., CEO compensation is driven by *relative performance evaluation* (Morck, Shleifer and Vishny, 1989; Barro and Barro, 1990). This argument suggests a positive relationship between turnover and industry-wide performance. That is, CEOs are *more likely* to be dismissed following bad years for their firm but *less likely* to be dismissed following bad years for the industry. Industry performance is proxied by median ROA. However, Jenter and Kanaan (2010) argue that the corporate boards cannot effectively filter exogenous shocks from CEO dismissal decisions and find an inverse relationship between turnover and industry performance. Arguably, performance might be more informative about CEO skill in soft markets associated with prolonged years of declining profitability and intense price competition in the insurance industry. Boards thus may act more quickly to remove underperforming CEOs during soft markets than in hard markets. Thus, the sign of the industry performance variable remains an empirical issue. We use one-year lagged values of the performance measures, as boards are believed to react relatively fast to poor performance in the CEO dismissal decision (Weisbach, 1988; Murphy and Zimmerman, 1993).[27]

[24] Some firms change organizational forms and ownership structures during the sample period, through mutulization, demutulization, or going public. There are 38 IPOs and 13 demutualizations during our sample period. Our definition of organizational forms and ownership types varies to reflect these changes. For example, if the company is demutualized and conducts an IPO to become a public stock company in 2000, it is coded as a mutual before 2000 and as a public stock insurer after 2000. The results remain unchanged if we drop these firms from our sample.

[25] In this category, besides stock insurers owned by industrial parents, we have 15 firms owned by non-insurance financial firms, e.g., American Express. Insurers owned by industrial firms are expected to behave similarly to those owned by financial firms with respect to effect of corporate governance on CEO turnover decisions.

[26] Book value performance measures are utilized because our sample includes many non-traded insurers. Our performance measures are after-tax, paralleling the prior literature. We report robustness checks where pre-tax ROA and ROE are used instead, giving similar results.

[27] We also use two year's lag of performance measures as predictor for turnover, and the results are similar.

4. Board Characteristics

Under-performing CEOs are more likely to be replaced and outside successions are more likely when the board is dominated by outsiders rather than insiders (Weisbach, 1988; Borokhovich, Parrino, and Trapani, 1996). To enhance the value of their human capital in the managerial market, outside board members have higher incentives to select the best candidate for the CEO position regardless of source, increasing the likelihood of outside appointments. Inside directors are less likely to support outside appointment decisions.[28]

Following Weisbach (1988) and Denis, Denis, and Sarin (1997), we create a *board independence* dummy variable. Firms in which outsiders make up no more than 40% of the directors are classified as insider-dominated firms, and firms in which at least 60% of the directors are outsiders are classified as outsider-dominated firms. For each firm-year in the sample, we identify the composition of the board of directors from *Best's Insurance Reports* for non-publicly–traded insurers and from proxy statements for publicly-traded firms.[29] Following the independence requirement of the New York Stock Exchange, we define the outside directors in the non-publicly-traded insurers as those who are not listed as executives in the company or in the same insurance group, are not retired CEOs, and do not have the same last name as any executive listed in the Management section of *Best's Insurance Reports*. If the director is from the controlling family, she is also classified as an inside director. We expect a positive relationship between board independence and CEO non-routine turnover and outside succession.

We also include another board characteristic variable – logarithm of board size. Larger boards are sometimes considered to be less effective monitors of managerial performance (Jensen, 1993). Yermack (1996) argues that CEO dismissal incentives are weaker as board size increases, because "coordination, communication, and decision-making problems increasingly hinder board performance . . ." (p. 194). Eisenberg, Sundgren, and Wells (1998) show that larger boards are associated with lower firm value. Therefore, we expect a negative relationship between board size and the likelihood of CEO turnover.

5. Control Variables

We include firm size, measured by the log of total assets, as the first control variable. On the one hand, larger firms tend to remove their top-level executives more frequently than do small firms because larger firms are more visible to the public and subject to closer regulatory scrutiny (Esty, 1997). Further, larger firms have greater managerial depth and are more complex organizations. Large-firm CEOs are more likely to be forcibly replaced by an insider than small-firm CEOs. The larger the firm, the more likely it is that a dissatisfied board would dismiss the CEO because it has readily available alternatives (Furtado and Rozeff, 1987).[30]

[28] There are several reasons that inside directors will tend to be against the outside appointment. First, inside directors are often leading candidates for the CEO position (Hermalin and Weisbach, 1988). Second, a new CEO from outside the firm is expected to alter the policies that were developed and implemented by the inside directors (Borokhovich, Parrino, and Trapni, 1996).

[29] For some publicly-traded firm year observations which proxy statements are unavailable, we take their board information from the proxy statement in the nearest available year. Weibasch (1988) indicates that this approximation is not too inaccurate since board composition remains stable over time.

[30] Warner, Watts, and Wruck (1988) find that larger firms have higher "normal" management turnover in their sample period. They argue that

On the other hand, larger firms are likely to be more bureaucratic and more difficult to reorganize. A competent CEO needs many years of training, and it may be difficult to find a replacement. Incumbent CEOs in larger firms normally have proven their ability in past years and thus have more power with boards. Denis, Denis, and Sarin (1997) find that top executive turnover is less likely in larger firms. Further, larger firms are less likely to receive takeover offers as well as to undergo a change in control (Mikkelson and Partch, 1989). Thus, CEOs in large firms may be more insulated from the outside takeover market and less likely to be removed. We do not have a prediction on the sign of the size variable although we slightly lean towards expecting a positive sign on routine turnover, a negative sign on non-routine turnover, and a negative relationship with outside succession.

Business complexity also might affect CEO turnover decisions. On the one hand, reduced business complexity may lower the probability of top executive turnover. It is less challenging for the incumbent CEO to manage a firm with simple business structures. There is less chance of making a mistake and giving the board a reason to replace the CEO. On the other hand, increased business complexity may raise the threshold of knowledge for the board to understand whether the executive performs well and lead to a negative relationship between business complexity and top executive turnover. Parrino (1997) finds that the cost of replacing CEO is an important consideration for CEO turnover decisions. The higher requirement of managing complicated business increases the difficulty for the board in finding a competent CEO candidate. Higher informational asymmetries between managers and the board also increase the board's difficulties in evaluating managers. Thus, the sign of the business complexity remains an empirical question.

We first proxy business complexity using the proportions of net premiums written in personal lines and long-tail commercial lines with short-tail commercial lines omitted to avoid singularity. Long-tail commercial lines are the most complex type of property-casualty insurance, and personal lines are the least complex. An insurer's business complexity is also positively correlated with business diversification. Insurers can diversify risk by writing across many different product lines and/or across different geographic areas. Therefore, Herfindahl indices for product mix and geographical diversification are included in the model as alternative proxies for complexity.[31] The lower the Herfindahl, the higher is the expected degree of business complexity.

Finally, Gilson (1989) finds that turnover is more likely for financially distressed firms. We control for financial distress using leverage (measured as the ratio of liabilities to total admitted assets). Leverage also proxies for firm risk and potential regulatory costs.

C. Methodology

We first estimate probit regressions using the likelihood of a CEO turnover in year *t* as the dependent variable.

$$Y_{it} = \alpha_1 + \beta_1' X_{it} + \varepsilon_{it} \quad (1)$$

where the dependent variable Y_{it} is the unobservable propensity for CEO

it might be due to the fact that the promotion and retirement policies in larger firms are designed to ensure shorter tenures in top management positions.

[31] Specifically, the variables are Herfindahl indices based on net premiums written for the NAIC lines of business and geographically for total net premiums written by state.

turnover. Y_{it} is set equal to one if there is a turnover in the firm-year, otherwise it is set equal to zero. X_{it} is the vector of explanatory variables; ε_{it} is a mean-zero random error term assumed to be normally distributed; α_1 is the intercept; and β_1' is the vector of coefficients. We then estimate multinomial probit turnover models in which the dependent variables reflect turnover outcomes - routine turnover and non-routine turnover (Parrino, 1997; Kaplan and Minton, 2006).[32]

Finally, we estimate the CEO succession type (inside or outside). It is plausible that the board will not fire an incumbent CEO unless they believe a new CEO can be found either from within or outside the firm. Succession decisions are also contingent on the occurrence of turnover. Thus, the board's decisions on whether and how to replace the incumbent CEO and their preference for outside succession are related. The results will be biased if we do not consider the two way relationship between the turnover decision and CEO succession choices. We follow Borokhovich, Parrino, and Trapani (1996) and Hillier, Linn, and McColgan (2005) in estimating a bivariate probit model to control the potential selectivity problem. The bivariate probit methodology accounts for the selectivity problem by using the full information maximum likelihood method to estimate simultaneously the coefficients for the two relations. I.e., we jointly estimate the turnover decision and the CEO succession choice. In this jointly estimated model, the dependent variables are the unobservable propensity for CEO turnover and outside succession. The observed value of Y_i is defined as in equation (1), i.e., coded 1 if there is a turnover; otherwise it is coded 0. Similarly, the observed values of the succession variable S_i is set equal to one if the succession type is outside succession, which happens if an outsider is promoted to CEO conditional on turnover, otherwise it is set equal to zero.

It is noteworthy that when S_i is observed to be zero, there are actually two cases, inside succession and family succession. Inside succession happens if an insider is promoted to CEO conditional on turnover. Family succession happens if a family member is promoted to CEO conditional on turnover. We roughly consider family succession as a special case of inside succession. In robustness tests, we drop all family-firm-year observations to check whether our classification rule changes the results significantly.

VI. Results and Discussion

A. Descriptive Statistics

Panel A of Table 1 presents descriptive statistics on board characteristics and financial variables for each category of organizational form and ownership structure. Panel B of Table 1 presents t-statistics for comparisons between mean values of variables between different organizational form and ownership structures based on hypotheses developed in section 4. There are 751 firms and 8,755 firm-years in our sample. Over our sample period 1993-2006, there are 4,463 mutual firm-years,

[32] We use probit and multinominal probit models here to be consistent with the bivariate probit model used for CEO succession type estimations. The results remain virtually unchanged if logit and multinominal logit are used instead of probit models. Several recent studies argue that hazard model is an alternative method to study CEO turnover (Campbell et al., 2011; Jenter and Kanaan, 2010; Coates and Kraakman, 2011). We also apply Cox semi-parametric proportional hazard regressions to re-estimate our main model (Table 5). The magnitude and statistical significance of the coefficients in the hazard model and parallel multinomial probit model are roughly similar.

2,948 closely-held stock firm-years, 1,163 publicly-traded stock firm-years, and 269 firm-year observations for insurance stock companies owned by non-insurance parents. Closely-held stock firm-years include 750 closely-held non-family-owned firm-years, 1,723 closely-held family firm-years with a family-member CEO, 475 closely-held family firm-years with a non-family CEO. This implies that roughly 75% of closely-held insurance stock companies are owned by controlling families. Publicly-traded stock firm-years consist of 378 publicly-traded family firm-years with a family-member CEO, 183 publicly-traded family firm-years with a non-family CEO, and 514 publicly-traded non-family-owned firm-years.

Mutuals, closely-held non-family-owned stocks, and publicly-traded non-family-owned stock firms have larger boards at the means than family owned closely-held stock firms. Interestingly, mutuals have a significantly lower proportion of outsider board members than publicly-traded non-family-owned stock firms.[33] Mutuals do have a higher proportion of outside board members than other organizational forms and ownership structures. It is noteworthy that both publicly-traded and closely-held family stock firms have significantly (at the 1% level) lower proportions of outside board members than either closely-held or publicly-traded non-family-owned stock firms. This implies that the conclusion by Mayers, Shivdasani, and Smith (1997) that mutuals tend to have higher proportions of outsiders on the board than all stocks is mainly driven by the relatively low degree of board independence of family-owned stocks.

Table 1 also presents summary statistics on financial variables for the firms in the sample. Closely-held family firms are relatively very small in terms of net premiums written compared to all other types of firms, indicating the importance of controlling for firm size in our regression analysis. All categories of publicly traded insurers have significantly larger average premiums than all other firm types, with the largest being for publicly-traded, non-family-owned firms. Mutuals are larger on average than all categories of closely-held stocks and stock insurers owned by non-insurance parents. Mutuals also have lower leverage than all categories of publicly traded stock firms, an operating strategy that reflects their more limited access to new capital.

Table 2 reports the annual turnover numbers and rates for the full sample and the sub-samples by organizational form and ownership structure. The annual turnover rate for the full sample is 6.5%.[34] Our results indicate 572 turnovers, 243 of which are identified as non-routine turnover. Because we are mainly interested in non-routine turnover, we focus on the results in the last column of Table 2. Mutuals have a higher non-routine turnover rate (2.6%) than all stocks (2.4%), but the difference is not statistically significant and does not

[33] As explained above, we combine mutuals and reciprocals in our tests. When we separate mutuals and reciprocals in our regressions, F tests confirm that there is no significant difference between mutuals and reciprocals, and all other results remain virtually the same. The results also are virtually unchanged when we eliminate reciprocals.

[34] Coles, Lemmon and Naveen (2003) find that turnover rates for large private and public firms are 8.1% and 11.5%, respectively. He and Sommer (2011) find that turnover rates for mutuals and stocks in the U.S. P-C insurance industry are 9% and 19%, respectively. The extant literature focusing only on publicly-traded stock companies finds the following turnover rates: 7.8% in Weisbach (1988), 12.9% in Kang and Shivdasani (1995), 9.3% in Denis and Denis (1995), 11.2% in Huson, Parrino and Starks (2001), and 9.6% in Fee and Hadlock (2004).

support Hypothesis 1. However, mutuals have a significantly lower average turnover rate than either publicly-traded or closely-held non-family-owned stock firms (4.7% and 4.5%, respectively), supporting Hypothesis 1-1. Thus, the confounding effects of family control lead to rejection of Hypothesis 1.

We do not find a significant difference in non-routine turnover rates between non-family-owned closely-held stocks (4.5%) and publicly-traded stocks (4.7%), i.e., the comparison of means does not support Hypothesis 2. Thus, discipline from a small number of owners with high incentives to monitor managers seems to be as effective as that from the capital markets.

The non-routine turnover rate of all family stock firms with a family-member CEO (0.7%) is significantly lower than that of all other stocks (4.4%), strongly supporting Hypothesis 3. Thus, among stock insurers, family-owned firms with family member CEOs have the lowest likelihood of non-routine turnover. The results suggest that family-member managers are difficult to remove, due to their power and entrenchment or greater willingness to invest their long-term human capital in the company, consistent with Denis, Denis, and Sarin (1997).

Hypothesis 4-1 is not supported. The non-routine turnover rate of publicly-traded family stock firms with a non-family-member CEO (6.0%) is higher than for non-family-owned publicly-traded stock firms (4.7%), but the difference is not statistically significant, possibly due to the small sample size. Surprisingly, the non-routine turnover rate of closely-held family stock firms with a non-family-member CEO (3.2%) is lower than for non-family-owned closely-held stock firms (4.5%) although not significantly. Thus, Hypothesis 4-2 also is not supported.

Table 3 documents the CEO succession type. Panel A provides the source of CEO succession conditional on the occurrence of a turnover event for all successions (routine and non-routine). For the full sample, inside successions account for 53.9% of turnover events, excluding family successions, and 64.1% of events if family successions are counted as inside successions.

Among the four types of family-owned stock firms, those with family-member CEOs almost always find a new CEO from inside the firm (95.9% for closely held firms and 100% for publicly traded firms). For family-owned stock firms where the CEO is not a family member, we observe no family succession observations in our sample. For these firms, more than 53.9% are outsiders for publicly-traded firms and 57.1% for closely-held firms. It seems that the pattern of family succession is quite stable in family firms – those with family CEOs tend to appoint family-member successors and those without family CEOs tend to appoint outsiders.

It is of special interest to compare the difference between mutuals and non-family-owned publicly-traded stock firms since they represent the two extreme types of the spectrum of organizational from and ownership structure. For mutuals, 34% of new CEOs are from outside and 66% are from firm inside, based on all turnover events. For publicly-traded non-family firms, on the other hand, 39% of new CEOs are from outside and 61% are from firm inside. The difference is not statistically significant and thus does not support Hypothesis 5 that the likelihood of outside replacement is lower in mutuals than in publicly-traded non-family stocks.

The difference between inside successions and outsider successions is smaller for closely-held non-family-

owned stock firms, 52% versus 48%, based on all successions, than for the overall sample. The outsider succession rate between closely-held and publicly-traded non-family-owned stock firms is not significantly different, and thus the univariate results do not support Hypothesis 6.

Panel B of Table 3 provides data on CEO succession for routine turnover events, while Panel C provides data on CEO succession for non-routine turnover events. Inside successions dominate when routine turnover events occur. For the full sample, 62.7% of routine turnovers result in inside succession, if family successions are excluded, increasing to 76.5% result if family successions are counted as inside events. For non-routine turnovers, inside successions represent only 42.2% of CEO replacements (47.5% counting family successions). The pattern of succession type by sub-category for routine turnovers is similar to that of overall turnover. Thus, we focus the remaining discussion on succession type for non-routine turnovers.

Consistent with Borokhovich, Parrino, and Trapani (1996), outside successions dominate for non-routine turnover events. In our sample, outside successions represent the majority of CEO replacements except for stock firms with family-member CEOs, where nearly all successors are family members. The pairwise comparisons between all categories of firms that do not have family-member CEOs and those that do have family-member CEOs are all statistically significant at the 1% level. This provides strong support for Hypotheses 7-2 and 7-4. The outside succession rate is higher for closely-held and publicly-traded family-owned firms where the CEO is not a family member (72.7% and 66.7%, respectively) than for publicly-traded non-family stocks (50%), consistent with Hypotheses 7-1 and 7-3. However, these differences are not statistically significant, probably due to the small sample sizes. For non-routine turnover events, the rate of outside succession is 53.9% for mutuals and 50.0% for publicly-traded non-family stock firms, not supporting Hypothesis 5.[35] Thus, boards of mutuals may face higher pressure to "turn the firm around" when a non-routine turnover is necessary.

B. Regression Results of Turnover Likelihoods

1. Regression Results for Full Sample

Column (1) of Table 4 presents the probit regression results with turnover as the dependent variable, and columns (2) and (3) present the multinomial probit regression results for the outcomes of routine and non-routine turnover with no-turnover used as the base outcome. We omit the dummy variable for publicly-traded non-family-owned stock firms; and thus this category serves as the benchmark firm type. We focus the discussion on the non-routine turnover results presented in the third column of Table 4 and mention the main differences between the routine and non-routine turnover results where applicable.

In column (3), the coefficient of lagged ROA is negative and significant at the 1% level. This indicates that there is a significantly negative relationship between firm performance and the likelihood of non-routine turnover, consistent with most extant CEO turnover studies (e.g., Weisbach, 1988; Evans, Nagarajan, and Schloetzer, 2010). In contrast, ROA is not significant at the conventional level in the second column when routine turnover is used as the dependent

[35] For non-routine turnover, outside succession is lower for mutuals (53.9%) than for closely-held non-family-owned stock insurers (58.8%) or publicly-traded family-owned stock firms where the CEO is not a family member (72.7%). However, these differences are not statistically significant.

variable. The significant and negative coefficient of ROA in the turnover regression shown in column (1) seems to be driven by the non-routine turnover effect.

To test the sensitivity of the performance-turnover relationship in highly performing firms, we add a Top 10% ROA variable (an interaction term of lagged ROA and the dummy for ROA in the top 10th percentile).[36] The Top 10% ROA variable is positive and significant, which indicates that the relationship between firm performance and CEO turnover is much weaker for firms in the top 10% in terms of ROA. The net of the coefficients of lagged ROA and the Top 10% variable is negative indicating that some sensitivity to performance exists for the top 10%. However, because such firms are high performers, it is likely that CEOs are in a stronger position than for firms that rank lower on the ROA scale; and it is dubious that the board of directors would fire these superior performing CEOs. It is also possible that superior performing CEOs are more likely to be attracted by better offers at other financial firms or in government. In contrast, this interaction term is not significant when routine turnover is used as the dependent variable, providing further evidence that routine turnover is not affected by firm performance.

The industry performance variable (median of industry ROA) is positive and significant, supporting the argument that the board of directors can figure out that the firm performance is industry-wide or firm-specific. That is, the results support the relative performance evaluation hypothesis. Our results are not consistent with the finding that there are more turnovers when industry overall operational results are worse as indicated by Jenter and Kannan (2010).

The mutual dummy has a significant negative coefficient in the non-routine turnover equation. Thus, mutuals seem to experience less non-routine turnover compared with publicly-traded non-family-owned stocks, providing strong support for Hypothesis 1-1.[37] Mutuals also have significantly lower turnover than non-family owned closely held stock firms and family-owned stock firms where the CEO is not a family member. The mutual dummy variable is not significant for routine turnover.

The dummy variables fr publicly-traded and closely-held family stock firms with a family-member CEO are significant and negative in the non-routine turnover equation. Further, the coefficients of these two variables are significantly smaller than coefficients for any other organizational forms and ownership structures, indicating that family-member CEOs are the least likely to be removed, consistent with Hypothesis 3.[38] This is consistent with managerial ownership of the firm resulting in entrenchment (Denis, Denis, and Sarin, 1997).

The dummy for non-family-owned closely-held stock firms is insignificant in all equations, not supporting Hypothesis 2, and consistent with Coles, Lemmon and Naveen

[36] Blackwell, Brickley and Weisbach (1994) apply this methodology in studying relationship between subsidiary banks and subsidiary performance although their variable is not statistically significant (footnote 17 on p. 345).

[37] In unreported regression results, where we compare mutuals and all stock firms, mutuals are not significantly different from stock firms with regard to non-routine turnover probability, not supporting Hypothesis 1. This is likely due to the distorting effect of family controlled stocks.

[38] The coefficients of these two variables are significant smaller than dummies of any other organizational forms and ownership structures, all at the 1% level, except for the comparison of the dummies for publicly-traded family stock firms with a family-member CEO and for mutuals, which is significant at the 10% level.

(2003). The dummy for publicly-traded family stock firms with a non-family-member CEO is insignificant, not supporting Hypothesis 4-1. The dummy for closely-held family stock firms with a non-family CEO also is insignificant, not supporting Hypothesis 4-2. Thus, as long as the CEO is not a family member, family firms show similar CEO turnover decisions as non-family-owned stock firms. Combined with the results for Hypothesis 3, these results show that whether a family member holds the CEO position is the most important factor in CEO turnover decisions.

The dummy for stock insurers owned by non-insurance holding companies is positive and significant in the non-routine turnover equation. Considering the magnitude and significance of the other dummy variables, this result suggests that non-insurance-owned stocks experience more non-routine turnover than any other type of firm. This may indicate that non-insurance parents are more likely to rotate executives among businesses to gain experience with different types of operations, whereas such moves make less sense within an insurance organization.

Firm size carries the expected positive sign although it is not significant. [39] The leverage variable also is insignificant, indicating that regulation and/or firm risk are not important factors in CEO turnover decisions. The line of business Herfindahl index has a significant positive relationship with non-routine turnover. This may indicate that boards have difficulties in precisely evaluating the performance of CEOs in more diversified firms (with a lower HHI) than in focused firms, and is also consistent with the argument the costs of replacing a CEO are higher in a more complex firm (Parrino, 1997; Berry et al., 2006). Therefore, business complexity does affect non-routine turnover decisions for insurers.

Board independence is measured in our regressions by a dummy variable equal to 1 if the fraction of outside directors is greater than 0.6. Interestingly, this variable is positive and significant in the non-routine turnover regression but negative and significant in the routine turnover equation. This implies that a higher fraction of outside board members increases the probability of removing under-performing CEOs in non-routine turnover decisions. Board size is not significant across the table.[40]

2. Economic Significance by Organizational Form and Ownership Structure

We would like to compare the economic significance of the change in ROA on likelihoods of CEO turnover, routine turnover, and non-routine turnover for the full sample, and subsamples for each type of organizational form and ownership structure. We mainly focus the discussion on non-routine turnover. First, we rerun the multinomial probit regression for the full sample without

[39] Warner, Watts, and Wruck (1988) argue that larger firms have higher "normal" management turnover. Larger firms are probably subject to closer regulatory and public scrutiny. Larger firms usually have larger pools of general management talent readily available for routine turnover although we cannot clearly distinguish between these alternative explanations. Parrio (1997) argues that the availability of qualified candidates is one of the important considerations of CEO turnover decisions.

[40] Neither board size nor board independence significantly affects CEO turnover decision when we estimate the subsample of mutuals. This result suggests that the higher fraction of outside members on the board does not fully compensate for the lack of monitoring from the capital market in mutuals. The findings cast doubt on the argument by Mayers, Shivdasani, and Smith (1997) that mutuals effectively correct their weakness of corporate governance due to the inalienability of ownership by employing more outside directors.

firm organizational form and ownership structure dummies.[41] We then estimate the multinomial probit regression for each type of organizational form and ownership structure separately. Based on these regression results, we calculate the likelihood of CEO turnover when ROA is in the top 10% (≥ the 90th percentile) and bottom 10% (≤ the 10th percentile) using medians of the subsamples for the other regressors. The results are reported in Table 5.

The results in the first row for full sample are comparable to those in prior studies of the performance-CEO turnover relation.[42] The likelihood of manager non-routine turnover increases from 1.9% to 3.4% when an insurer's ROA falls from the top 10% to the bottom 10%, and this difference is statistically significant at the 1% level. This is about an 80% increase in the non-routine turnover likelihood.

We then analyze the likelihoods of CEO non-routine turnover in the bottom deciles of ROA by organizational form and ownership structure. A comparison of rows 2 and 8 shows that mutuals have lower non-routine turnover probabilities than publicly-traded non-family-owned stock firms (3.2% versus 5.9%) when firm performance is at the bottom 10th percentile of ROA. Mutuals also have significantly lower non-routine turnover than non-family owned closely-held stock firms (row 3, 5.3%) and closely held family stock firms where the CEO is not a family member (row 5, 3.7%). These differences are statistically significant at the 1% level. However, mutuals have significantly higher non-routine turnover than both closely-held and publicly traded family stock firms where the CEO is a family member. Thus, Hypothesis 1 is supported for insurance-owned stock firms where the CEO is not a family member. In comparison with mutuals, insurance-owned stocks are more likely to use non-routine turnover to discipline management, unless the CEO is a family member. This provides evidence that mutuals have less effective corporate governance mechanisms than stocks without a family-member CEO even though mutuals have a higher fraction of outside members on the board than most types of stocks. This suggests that the capital market provides more effective discipline than boards.

If we compare row 2 versus row 10, the evidence does not support Hypothesis 1 that mutuals have lower probability of CEO non-routine turnover than all stocks, primarily because family firms with family CEOs have very low non-routine turnover rates. Mutuals also have lower CEO turnover than stock insurers owned by non-insurance firms.

We compare the CEO turnover patterns between closely-held and publicly-traded non-family-owned stock firms based on results in row 3 and row 8. When ROA is at bottom 10 percentile, the probability of non-routine turnover is 5.3% for closely-held non-family-owned firms (row 3) and 5.9% for publicly-traded non-family-owned firms (row 8), and the difference is statistically significant at the 1% level. This result is consistent with Hypothesis

[41] The results are quantitatively similar with those in Table 4 and are available from authors upon request.

[42] Warner et al. (1998) find that the probability of CEO turnover changes from 8.6% in the top decile of returns to 12.8% for firms in the bottom decile. Barro and Barro (1990) find that the turnover probability of large public-traded bank executives increases from 25.2% for firms two standard deviations below average stock-price performance to 0.003% for firms two standard deviations above average. Blackwell et al. (1994) estimate the likelihood of manager change at 12.2% for banks in the top decile of returns and 30.7% for banks in the bottom decile. He and Sommer (2011) find the CEO turnover probability increases from 4.9% in the top decile to 8.6% in the bottom decile.

2 that non-family-owned publicly-traded stock insurers are more likely to remove poorly performing CEO than non-family-owned closely-held stock insurers.

In the case of non-routine turnover, when the ROA is at bottom 10th percentile, the turnover likelihood is the lowest in family stock firms with a family-member CEO (0.065% for closely-held and 0.149% for publicly-traded firms) among all organizational forms and ownership structures, and all differences are statistically significant at the 1% level. A comparison of row 11 and row 12 confirms this conclusion. This supports Hypothesis 3 that among common stock insurance companies, family-owned firms with family-member CEOs have the lowest likelihoods of non-routine turnover.[43]

We further compare the non-routine turnover probability between non-family-member CEOs in family-owned stock firms and in non-family-owned stock firms to see if controlling families play a role as active monitors. When ROA is at bottom 10 percentile, the likelihood that CEOs are forced to resign is about the same and not statistically different in publicly-traded non-family-owned stock firms (5.9% in row 8) than in publicly-traded family-owned stocks with non-family CEOs (6.0% in row 7). However, for poorly performing publicly-traded family-owned stock companies with non-family CEOs, the likelihood of non-routine turnover significantly increases from 0.4% to 6.0% (row 7) when firm performance deteriorates from the top 10% to the bottom 10% of ROA. This is much higher than the increase in the rate for non-family-owned publicly-traded stock firms (from 4.8% to 5.9%, row 8), which is not statistically significant. The results thus generally support Hypothesis 4-1.

For closely-held stock firms in the bottom 10%, the non-routine turnover rates are 5.3% for non-family owned firms (row 3) and 3.7% for family-owned firms where the CEO is not a family member (row 5). The difference is statistically significant at the 1% level. However, the increase in turnover as performance deteriorates from the top 10% to the bottom 10% is from 3.8% to 5.3% for non-family owned firms (a 40% increase) and from 2.0% to 3.7% for family-owned firms where the CEO is not a family member (an increase of 82%), supporting Hypothesis 4-2. The results indicate that both the capital market and controlling families play important roles in disciplining poorly performing CEOs in publicly-traded companies. If there is only the presence of a controlling family without monitoring from the capital market (row 5), poorly performing non-family-member CEOs are less likely to be replaced than for publicly traded family-owned stock firms with no family CEO (row 7). Hence, adding stock market monitoring increases the performance sensitivity of non-routine turnover.

Overall, the results in Table 5 suggest that the sensitivity of non-routine turnover to performance is generally consistent with the predicted pattern that poor performance increases the likelihood of turnover for all firm subsamples except where the CEO is a family member, where the turnover rates are trivial. The magnitude of the turnover sensitivity varies across organizational forms and ownership types in patterns generally consistent with the hypotheses.[44]

[43] The routine turnover probability for closely-held family stock firms with a family CEO is higher than for non-family-owned closely-held stock firms when firm performance is in the bottom 10th percentile (1.940 versus 1.167), indicating that family CEOs are more likely to choose voluntarily stepping down.

[44] There are some exceptions for routine turnover but the hypotheses apply primarily to

3. Firm Performance surrounding CEO Turnover

We calculate firm performance during years surrounding CEO turnover, where performance is measured by firm ROA minus industry median ROA (*median-adjusted ROA*). The results, which are not reported to conserve space, indicate that CEO turnovers are preceded by poor firm performance and followed by improvements in performance, consistent with prior literature (e.g., Denis and Denis, 1995). Median adjusted ROA for the whole sample is -0.176 and -0.186 one year before and during the turnover year but 0.288 one year after CEO turnover.[45] This phenomenon holds for both routine and non-routine turnover. Industry median adjusted ROA for the whole sample is -0.268 and -0.404 (-0.039 and -0.058) one year before and during the turnover year but 0.446 (-0.019) one year after CEO non-routine (routine) turnover.[46] The results also hold for almost all subsamples of organizational forms and ownership types. The only exception is for publicly-traded family stock firms with a family-member CEO.

C. Evidence on Successor Choice

We further classified both non-routine and routine turnover events into whether the new CEO is promoted from inside or hired from outside. Table 6 presents coefficient estimates for bivariate probit models in which non-routine turnover decision and CEO succession choice are estimated jointly.[47] The results of the non-routine turnover decision do not change materially with those reported in Table 4 when the turnover decision is studied alone. Thus, we focus on discussion of CEO succession choice reported in column (1). In column (1), we treat family succession as a special case of inside succession and include it in the model. In column (3), we exclude family succession due to its potentially special characteristics.

The mutual dummy variables are negative and significant at better than the 1% level in both columns (1) and (3). Thus, mutuals seem to be more likely to promote new CEOs from inside the company, supporting Hypothesis 5. The dummy for closely-held non-family-owned stock insurers is not significant in either column (1) or (3). Thus, the results do not support Hypothesis 6 stating that closely-held non-family-owned stock insurers are less likely to choose outside CEO successors than publicly-traded non-family-owned stock insurers.

The dummy for publicly-traded family stocks with a non-family-member CEO is positive and significant in column (1). Considering the signs and significances of the other dummy variables for stock insurers, this category of firms has the highest probability of outside succession of any category of stock firms except for stock firms owned by non-insurance holding companies. This result supports Hypothesis 7-1 that compared to peers in non-family-controlled publicly-traded stock firms the incoming CEO successor in a family-controlled publicly-traded stock firm where the outgoing CEO is not a family member is more likely to be an outsider. However, Hypothesis 7-2 is not

non-routine turnover.

[45] The difference of performance between one year before and after is significant at the 10% level while the difference between the turnover year and one year after is significant at the 5% level.

[46] The difference of performance conditional on routine turnover between one year before the turnover year and one year after is significant at the 5% level. Surprisingly, the difference of performance conditional on non-routine turnover between one year before the turnover year and one year after is not significant at the conventional level.

[47] The number of observations in the turnover model in Table 7 is less than in Table 5 because we do not have succession information for all observations.

supported. The dummy for publicly-traded family stocks with a family-member CEO is not significant, although the sign is negative as expected. Monitoring from the capital market thus plays an important role in succession decisions for family-owned firms where the CEO is not a family member.

We do not find a significant difference between the coefficients of the dummy for closely-held family stocks with a non-family-member CEO and the dummy for non-family-owned closely-held stocks. Therefore, Hypothesis 7-3 is not supported. In contrast, the difference between the coefficients of the dummy for closely-held family stocks with a family-member CEO and the dummy for non-family-owned closely-held stocks is significant at the 1% level, strongly supporting Hypothesis 7-4. Overall, the presence of a family member CEO seems to dominate in the choice of succession, similarly to the non-routine turnover decision.

The dummy variable for the fraction of outside directors greater than 60% (board independence) is positive and significant at better than the 1% level in both equations (1) and (3). The positive relation between board independence and the likelihood of outside succession is robust to various specifications, e.g., dropping organizational form dummies or operational variables, which are not reported to save space. Thus, the likelihood that an incoming CEO is from outside the firm increases with the percentage of outside directors.[48] Board size is negative and significantly related to outside succession in equation (1), suggesting that larger boards provide a bigger pool for new CEO insider candidates.

ROA has the expected negative sign in equations (1) and (3), but the coefficients are not statistically significant. Therefore, we do not find a significant relationship between firm performance and outside succession. However, the median of industry ROA is negative and significant, providing evidence that outside succession is more likely, conditional on succession taking place, if the industry is having a bad year. Outside succession is significantly more likely if the firm is highly levered, suggesting that boards are more likely to seek outside successors if firm risk is relatively high or to head off potential regulatory costs. The coefficient of the fraction of premiums from personal lines is negative and significant, suggesting that boards are more likely to seek outside successors in insurers focusing on the more complex commercial lines.

Overall, our results support the finding of Borokhovich, Parrino, and Trapani (1996) that outside succession is preferred when a firm is poorly performing (in terms of leverage) and the board is outsider-dominated. This is consistent with the argument of Fama and Jensen (1983) that outside board members have incentives to signal to the managerial market that they are good at decision control by appointing the best candidate to the CEO position. Thus, both the probability of non-routine turnover and outside appointment increases in poorly performing firms with higher fractions of outside members on the board.

We also find that inside succession is prevalent in mutual insurance companies, in comparison with all types of stock firms except family-owned firms with family-member CEOs. This result is consistent with the argument of Mayers and Smith (1988) that mutuals have higher costs of

[48] We also add an interaction term of ROA and the dummy variable of fraction of outside directors larger than 60%. The interaction term is not significant and the results of other variables do not change materially.

controlling owners-manager conflicts. Family firms with family CEOs are less likely than any other type of firm to appoint an outside successor. However, publicly-traded family stock firms with non-family-member CEOs are more likely to appoint an outside successor than any other type of firm except for stock insurers owned by non-insurance parents. Hence, capital market discipline plays an important role even for family-owned insurers.[49]

D. Additional Robustness Tests

With regard to the board independence proxy, we conduct several robustness tests. We first use the proportion of outside directors on the board to proxy for board independence (Brickley, Coles, and Terry, 1994; Linck, Netter, and Yang, 2008). This variable is significantly negative related to CEO turnover but not significantly related to non-routine turnover in Table 4. Second, we also estimate the models with the cutoff for outsider-dominated boards redefined to 50% (as in He and Sommer, 2011). The 50% board independence dummy variable is not significant anywhere. All other results remain qualitatively the same in these robustness tests.

Several alternative proxies are used to measure firm performance. First, we replace ROA with ROA before dividends and taxes (Denis and Denis, 1995) and next with underwriting ROA before dividends and taxes (He and Sommer, 2011). We also utilize ROE (return on equity) and a negative net income dummy equal to one if the firm has a negative net income and zero otherwise (Kang and Shivdasani, 1995). The alternative proxies for performance yield similar results in terms of both turnover and succession. Second, rather than including the median of industry ROA as a regressor, we also apply sector adjusted performance by subtracting all stock firms' median ROA from stock firms' ROA and mutuals' median ROA from mutuals' ROA, following He and Sommer (2011). The results are consistent with those shown in Tables 4 and 6. We also tested the average of the performance measures for the two years prior to the turnover event and obtain similar results. Following Jenter and Kanaan (2010), we also test two-year and three-year changes in the performance variables. All results remain similar.

Instead of Top 10% ROA dummy variable in Table 4, we also run the models using the a Top 20% ROA dummy, and all results remain almost unchanged. When we add both Top 10% ROA dummy and *next* Top 20% ROA dummy simultaneously in Table 4, the next 20% ROA dummy is not significant across the table. All other results of Table 4, including Top 10% ROA dummy remain virtually unchanged.

Board size might be collinear with the board independence variable to some extent. The Pearson correlation between log of board size and the board independence dummy variable is 0.52. However, the results with the other variables are qualitatively the same when we drop either the board independence variable or the board size variable.[50] When we replace the log of board size with board size, all results remain virtually unchanged. We also try adding the square of board size. The square of board size is never significant across columns in the Table 4 models, and all other results remain virtually unchanged.

[49] We test robustness by re-estimating the models in Table 6 using only those cases where our source clearly indicated that the new CEO is an outsider, i.e., excluding cases where we identify a CEO as an outsider depending upon how long she has been with the firm. The results are generally similar to those presented in Table 6.

[50] Lehn and Zhao (2006) also include both proportion of outsiders and board size in the CEO turnover model.

To further explore the role of regulation in the CEO turnover decision, a dummy variable for the firm's risk-based capital (RBC) falling below 250% is tested rather than the leverage variable. Because the NAIC calculates RBC at the company level, we calculate the RBC ratio for insurance groups by aggregating the affiliated companies' RBC ratios. The results with RBC are similar to those using the leverage variable.

We were concerned about the potential endogeneity between turnover and performance. To avoid this problem, we utilize lagged values of insurer performance in our turnover regressions. The lagged values of the performance variables are expected to be exogenous with respect to current period turnover. Nevertheless, we also employ standard methods to test for endogeneity of the performance variables. Specifically, we conduct Hausman's specification test and an inverse Mill's ratio test. Both tests indicate that endogeneity between turnover and performance is not a concern in our study.

VII. Conclusions

A large body of research literature studies CEO turnover in publicly-traded stock companies. Our paper contributes to this literature by exploring the pattern of CEO turnover in both publicly-traded and closely-held stock insurance companies as well as mutual insurers. We subdivide both major types of stock firms into family-owned and non-family-owned firms, and we subdivide family-owned firms into those that do and do not have a family-member CEO. This study thus conducts a much more detailed analysis of organizational and ownership types than provided in the existing literature.

This paper provides evidence on how organizational forms and ownership structures affect corporate governance mechanisms in insurance companies. We examine CEO turnover in insurance companies with various organizational forms and ownership structures. We find that the likelihood of CEO turnover is inversely related to firm performance and that outside succession dominates when non-routine turnover occurs. We also find that the CEO turnover rate and its sensitivity to performance change with various organizational forms and ownership structures in patterns consistent with most of our hypotheses.

The main findings of this paper are the following: First, poorly performing family-member CEOs in both closely-held and publicly-traded family stock firms are the most difficult to remove, and their successors are mostly from the controlling family. This finding provides evidence that controlling shareholders are entrenched. Second, poorly performing non-family-member CEOs in publicly-traded family stock firms have the highest likelihood both routine and non-routine turnover, except for stock firms owned by non-insurance parents. This suggests the effectiveness of monitoring from the capital market and controlling shareholders.

A third finding is that mutuals have lower likelihoods of CEO turnover and lower turnover-performance sensitivity than any other category of firm except family-owned firms with family-member CEOs. Also new mutual CEOs are more likely to come from inside the company. This suggests that a higher proportion of outside members on the board in mutuals does not fully compensate for the lack of capital market monitoring and threat from the takeover market.

The quality of an insurer's corporate governance mechanisms potentially affects the policyholders' rights because there are both owner/manager and owner/policyholder

conflicts of interest in an insurance company. Our findings carry implications for the insurance regulators regarding how to protect policyholders' rights by improving the quality of corporate governance mechanisms in an insurance company.

Unlike publicly-traded stock companies, which are required to reveal certain information to the public, non-publicly-traded companies have more limited disclosure requirements. The information that we hand-collected in the insurance industry allows us to examine the impact of organizational forms and ownership structures on the likelihood of CEO turnover and its sensitivity to performance. Similar studies on other industries would be fruitful revenues to establish broader information about the patterns of CEO turnover in companies with various organizational forms and ownership structures. Additional research on the casual relationship between organizational forms and ownership structures and corporate governance mechanisms, including CEO turnover, would also be valuable.

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Figure 1: Insurer's Organizational Form and Ownership Structure in this Study

Our primary sample includes both insurance groups and individual insurance companies. For the insurance group, we treat the whole group as an independent unit. We do not treat stock-owned mutuals and mutual-owned stocks as independent observation units since they are subsidiaries of an insurance group and share the same management with the lead company in the group.

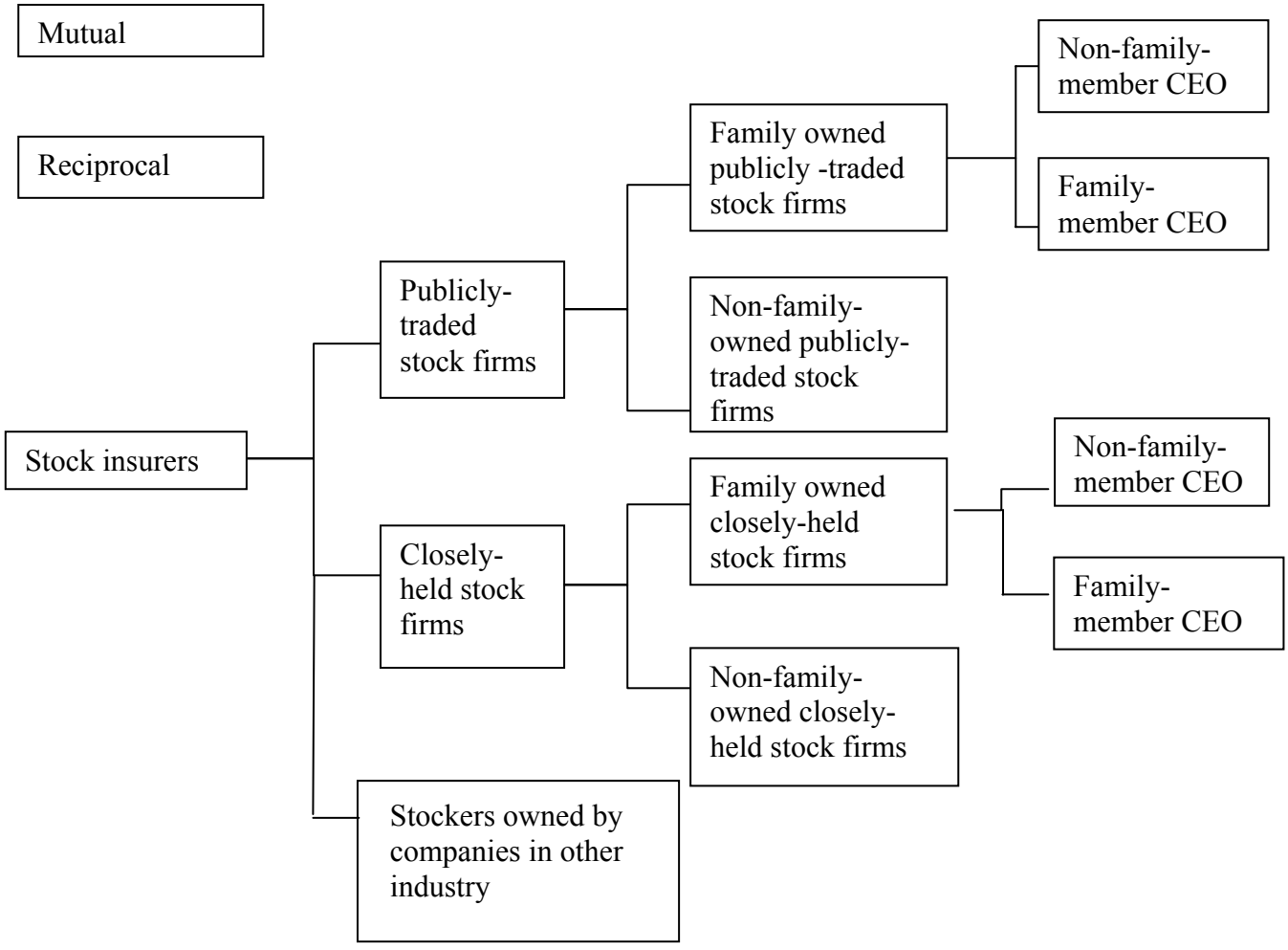

Table 1: Descriptive Statistics on Financial and Board Characteristics

This table reports summary statistics for our sample during 1993-2006. The table presents summary statistics of corporate governance variables and financial variables by organizational form and ownership structure, respectively. Each year issue of *Best's Insurance Reports* gives the corporate governance variables from the mid of the last year till the mid of the current year of publication. Mutual is a dummy variable equal to one if the firm is a mutual firm or a reciprocal firm and zero otherwise. Closely-held firm is a stock firm not publicly traded, including three types: closely-held family firms with CEO as a family member, closely-held family firms with CEO as a non-family-member and diffused-owned closely-held stock firms. Publicly-traded firm is a stock firm publicly traded, including three types: publicly-traded family firms with CEO as a family member, publicly-traded family firms with CEO as a non-family-member and widely held (non-family-owned) publicly-traded firms. Stock insurers owned by non-insurance holding companies is a dummy variable equal to one if the firm is ultimately owned by a public parent firm not in the insurance industry. Board Size is the number of the board of directors. Board Independence is the proportion of independent board of directors. Means on financial variables are collected from the NAIC database for sample period 1993-2006. ROA is the ratio of net income after taxes and extraordinary items to total admitted assets and is winsorized at 1 and 99 percentile to remove excess effects of outliers. Log of Net Premiums Written is the logarithm of Net Premiums Written. Leverage is the ratio of Liability to Total Admitted Assets. Herfindahl indexes of line and states of business are Herfindahl indexes of premiums written by product line and by state, respectively. Fraction of NPW from commercial long tail lines (Workers' Compensation, Other Liability, and Commercial Automobile Liability) is the proportion of Net Premiums Written (NPW) in long tail lines to total NPW. Fraction of NPW from personal lines is the proportion of NPW in personal lines (Farm-owners Multiple Peril, Homeowners Multiple Peril, Automobile physical damage and personal Automobile Liability) to total NPW. Panel B compare the difference in variable means between different organizational form and ownership structure based on hypotheses developed in section 4. *t*-statistics are reported in parentheses in Panel B. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Sample	Observations	ROA	Net Premiums Written (millions)	Leverage = Liabilities/ Assets	Herfindahl Index of Lines of Business	Herfindahl Index of States of Business	% of NPW from Personal Lines	% of NPW from Long Tail Commercial Lines	Board Size	Board Independence
Panel A: Sample Means										
(1) Full sample	8755	0.027	344.4	0.546	0.546	0.682	39.4	24.3	9.238	0.596
(2) Mutual	4463	0.024	278.2	0.538	0.494	0.757	43.5	22.1	10.279	0.710
(3) Closely-held non-family-owned stock firms	750	0.028	139.0	0.569	0.657	0.612	21.4	32.3	10.896	0.659
(4) Closely-held family stock firms, CEO is a family member	1723	0.025	23.6	0.512	0.670	0.753	39.4	24.0	6.699	0.343
(5) Closely-held family stock firms, CEO is not a family member	475	0.034	30.0	0.518	0.634	0.752	50.5	25.3	5.774	0.281
(6) Publicly-traded family stock firms, CEO is a family member	378	0.038	1060.9	0.596	0.454	0.350	33.9	27.0	9.758	0.584
(7) Publicly-traded family stock firms, CEO is not a family member	183	0.030	1469.1	0.634	0.419	0.261	40.2	33.2	9.585	0.569
(8) Publicly-traded non-family-owned stock firms	514	0.027	1754.6	0.663	0.432	0.273	31.4	25.0	10.09	0.731

(9) Stock insurers owned by non-insurance holding companies	269	0.044	161.8	0.534	0.596	0.488	24.2	29.0	7.093	0.475
(10) All stocks (3+4+5+6+7+8)	4023	0.029	430.9	0.556	0.601	0.606	35.9	26.5	8.226	0.477
(11) All family-member CEO stocks (4+6)	2101	0.028	209.5	0.527	0.631	0.678	38.4	24.5	7.249	0.387
(12) All non-family-member CEO stocks (3)+(5)+(7)+(8)	1922	0.030	673.1	0.587	0.568	0.528	33.1	28.7	9.291	0.576

Table 1: Descriptive Statistics on Financial and Board Characteristics

Panel B: Significance Tests

Sample	Observations	ROA	Net Premiums Written (million)	Leverage(= Liability/ Assets)	Herfindahl Index of Lines of Business	Herfindahl Index of States of Business	% of NPW from Personal Lines	% of NPW from Long Tail Commercial Lines	Board Size	Board Independence
Panel B. T-Test of Equality between Organizational Forms and Ownership Structures										
Row (2) versus row (10)	-	(4.94)***	(3.37)***	(3.88)***	(16.44)***	(18.89)***	(9.19)***	(6.07)***	(22.92)***	(43.42)***
Row (2) versus row (8)	-	(1.95)*	(12.89)***	(13.49)***	(4.44)***	(29.68)***	(7.25)***	(1.96)**	(1.02)	(2.41)**
Row (3) versus row (8)	-	(0.36)	(11.26)***	(9.07)***	(12.35)***	(15.25)***	(5.10)***	(3.67)***	(2.84)***	(4.98)***
Row (11) versus row (12)	-	(1.24)	(7.75)***	(9.10)***	(6.56)***	(12.01)***	(4.19)***	(3.87)***	(16.06)***	(21.35)***
Row (7) versus row (8)	-	(0.60)	(0.88)	(2.09)**	(0.48)	(0.44)	(2.91)***	(3.39)***	(2.27)**	(11.77)***
Row (5) versus row (3)	-	(1.90)*	(5.66)***	(4.25)***	(1.28)	(6.24)***	(13.19)***	(3.13)***	(17.62)***	(23.24)***

Table 2: Descriptive Statistics of Turnover Type by Organizational Form and Ownership Structure

This table reports summary statistics for our sample during 1993-2006. The table presents the observation number of turnover event, routine turnover event and non-routine turnover event, by organizational form and ownership structures, respectively. Routine turnover is defined as any changes in the CEO of the firm if the departing CEO remains in the company (generally on the board of directors) for more than 2 year after stepping down, or the explicit information about the turnover is available indicating reasons related to death or illness and level, respectively. those for which the stated reason for turnover is retirement or normal succession. All other turnovers are defined as non-routine turnover. Turnover (routine turnover, non-routine turnover) rates which are defined as the ratio of turnover (routine turnover, non-routine turnover) event and number of observations. The organizational form variables are as defined in Table 2. Panel B compare the turnover rates between different organizational form and ownership structure based on hypotheses developed in section 4. *t*-statistics are reported in parentheses in Panel B. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%

Sample	Number of Observation	Turnover	Routine Turnover	Non-Routine Turnover	Turnover Rate	Routine Turnover Rate	Non-Routine Turnover Rate
(1) Full sample	8755	572	329	243	6.53%	3.76%	2.78%
(2) Mutual	4463	299	183	126	6.70%	4.10%	2.60%
(3) Closely-held non-family-owned stock firms	750	58	24	34	7.73%	3.20%	4.53%
(4) Closely-held family stock firms, CEO is a family member	1723	49	39	10	2.84%	2.26%	0.58%
(5) Closely-held family stock firms, CEO is not a family member	475	35	20	15	7.37%	4.21%	3.16%
(6) Publicly-traded family stock firms, CEO is a family member	378	14	10	4	3.70%	2.65%	1.06%
(7) Publicly-traded family stock firms, CEO is not a family member	183	26	15	11	14.21%	8.20%	6.01%
(8) Publicly-traded non-family-owned stock firms	514	49	25	24	9.53%	4.86%	4.67%
(9) Stock insurers owned by non-insurance holding companies	269	42	13	29	15.61%	4.83%	10.78%
(10) All stocks (3+4+5+6+7+8)	4023	231	133	98	5.74%	3.31%	2.44%
(11) All family-member CEO stocks (4+6)	2101	63	49	14	3.00%	2.33%	0.67%
(12) All non-family-member CEO stocks (3)+(5)+(7)+(8)	1922	168	94	84	8.74%	4.37%	4.37%
Panel B. T-Test of Equality between Organizational Forms and Ownership Structures							
Hypothesis 1: Row (2) versus row (10)					(1.82)***	(1.93)**	(0.48)
Hypothesis 1-1: Row (2) versus row (8)					(2.39)***	(0.82)	(2.69)***
Hypothesis 2: Row (3) versus row (8)					(1.13)	(1.51)*	(0.11)
Hypothesis 3: Row (11) versus row (12)					(7.88)***	(3.62)***	(7.67)***
Hypothesis 4-1: Row (7) versus row (8)					(1.75)**	(1.67)**	(0.71)
Hypothesis 4-2: Row (5) versus row (3)					(0.23)	(0.93)*	(1.20)

Table 3: Descriptive Statistics of Succession Type

This table reports summary statistics for our sample during 1993-2006. Panel A-C present observation number of Inside Succession, Outside Succession and Family Succession conditional on the occurrence of turnover event, routine turnover event and non-routine turnover event, by organizational form and ownership structure, respectively. The rates of succession type conditional on the occurrence of turnover event, routine turnover event and non-routine turnover event, respectively, are given in parentheses. Inside Succession happens if an insider is promoted to CEO conditional on turnover. Outside Succession happens if an outsider is promoted to CEO conditional on turnover. Family Succession happens if a family member is promoted to CEO conditional on turnover. We only keep observations which we can find the source of successions. The other variables are as defined in Table 2 and 3.

Sample	Turnover Observation	Inside Succession Observation	Outside Succession Observation	Family Succession Observation
Panel A. Turnover				
Full sample	566	53.89%	35.87%	10.25%
Mutual	295	66.44%	33.56%	-
Closely-held non-family-owned stock firms	56	51.79%	48.21%	-
Closely-held family stock firms, CEO is a family member	49	2.04%	4.08%	93.88%
Closely-held family stock firms, CEO is not a family member	35	42.86%	57.14%	0.00%
Publicly-traded family stock firms, CEO is a family member	14	14.29%	0.00%	85.71%
Publicly-traded family stock firms, CEO is not a family member	26	46.15%	53.85%	0.00%
Publicly-traded non-family-owned stock firms	49	61.22%	38.78%	-
Stock insurers owned by non-insurance holding companies	42	47.62%	52.38%	-
Panel B Routine Turnover				
Full sample	324	62.65%	23.46%	13.89%
Mutual	180	79.44%	20.56%	-
Closely-held non-family-owned stock firms	22	68.18%	31.82%	-
Closely-held family stock firms, CEO is a family member	39	0.00%	5.13%	94.87%
Closely-held family stock firms, CEO is not a family member	20	50.00%	50.00%	0.00%
Publicly-traded family stock firms, CEO is a family member	10	20.00%	0.00%	80.00%
Publicly-traded family stock firms, CEO is not a family member	15	60.00%	40.00%	0.00%
Publicly-traded non-family-owned stock firms	25	72.00%	28.00%	-
Stock insurers owned by non-insurance holding companies	13	46.15 %	53.85%	-
Panel C Non-Routine Turnover				
Full sample	242	42.15%	52.48%	5.37%
Mutual	115	46.09%	53.91%	-
Closely-held non-family-owned stock firms	34	41.18%	58.82%	-
Closely-held family stock firms, CEO is a family member	10	10.00%	0.00%	90.00%
Closely-held family stock firms, CEO is not a family member	15	33.33%	66.67%	0.00%
Publicly-traded family stock firms, CEO is a family member	4	0.00%	0.00%	100%
Publicly-traded family stock firms, CEO is not a family member	11	27.27%	72.73%	0.00%
Publicly-traded non-family-owned stock firms	24	50.00%	50.00%	-
Stock insurers owned by non-insurance holding companies	29	48.28%	51.72%	-

Table 4: Multinomial Regression Results of Routine and Non-routine Turnover

This table reports probit regression results for the sample period during 1993-2006. Column (1) reports the probit regression result. Column (2)-(3) provide multinomial probit regression results for the outcomes routine turnover, and non-routine turnover dummy variables, respectively, with no turnover event as the base outcome. The dependent variables are listed on the top of the columns. We omit the dummy of the non-family-owned publicly-traded firms and let it be the base firm structure. ROA $_{t-1}$ * (Top 10% ROA dummy) $_{t-1}$ is the interaction term of ROA $_{t-1}$ and the dummy variable indicating that ROA $_{t-1}$ in the top 10 decile. The other independent variables are as defined in Table 1-3.p-values are reported in parentheses below each coefficient estimate using robust standard errors controlling for firm-level clustering. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Turnover $_t$	**Routine Turnover** $_t$	**Non-routine Turnover** $_t$
	(1)	(2)	(3)
Intercept	-1.895***	-3.017***	-3.099***
	(0.000)	(0.000)	(0.000)
ROA$_{t-1}$	-1.633***	-0.950	-3.558***
	(0.002)	(0.289)	(0.000)
ROA $_{t-1}$ * (Top 10% ROA dummy) $_{t-1}$	1.466*	0.827	3.285**
	(0.057)	(0.540)	(0.021)
Median of Industry ROA $_{t-1}$	9.362**	11.752*	13.136*
	(0.018)	(0.063)	(0.077)
Firm size $_{t-1}$ (=Log of Net Premiums Written)	0.019	0.033	0.011
	(0.157)	(0.139)	(0.664)
Leverage $_{t-1}$ (=Liability/Assets)	0.010	0.048	-0.048
	(0.938)	(0.828)	(0.837)
Herfindahl Index of Lines of Business $_{t-1}$	-0.019	-0.203	0.342**
	(0.810)	(0.135)	(0.028)
Herfindahl Index of States of Business $_{t-1}$	-0.052	-0.162	0.068
	(0.428)	(0.141)	(0.612)
Fraction of NPW from Personal Lines $_{t-1}$	-0.014	-0.021	0.026
	(0.819)	(0.851)	(0.836)
Fraction of NPW from Commercial Long Tail Lines $_{t-1}$	-0.083	-0.080	-0.152
	(0.224)	(0.474)	(0.258)
Log of Board Size $_t$	0.018	0.022	0.032
	(0.756)	(0.828)	(0.772)
(Dummy equal to one if fraction of outside directors> 0.6) $_t$	-0.028	-0.191**	0.194**
	(0.603)	(0.033)	(0.039)
Dummy for Mutual $_{t-1}$	-0.122	0.068	-0.464***
	(0.142)	(0.660)	(0.002)
Dummy for Closely-held non-family-owned stock firms $_{t-1}$	-0.050	0.072	-0.118
	(0.622)	(0.718)	(0.489)
Dummy for Closely-held family stock firms, CEO is a family member $_{t-1}$	-0.527***	-0.380**	-1.253***
	(0.000)	(0.042)	(0.000)
Dummy for Closely-held family stock firms, CEO is not a family member $_{t-1}$	0.066	0.073	-0.284
	(0.605)	(0.745)	(0.207)
Dummy for Publicly-traded family stock firms, CEO is a family member $_{t-1}$	-0.476***	-0.416*	-1.039***
	(0.001)	(0.066)	(0.000)
Dummy for Publicly-traded family stock firms, CEO is not a family member $_{t-1}$	0.203	0.296	0.261
	(0.145)	(0.192)	(0.270)
Dummy for Stock insurers owned by non-insurance holding companies$_{t-1}$	0.367***	0.200	0.649***

	(0.005)	(0.427)	(0.001)
Sample Size	8372	8372	8372
Turnover event counts	545	315	230
Log likelihood	-1958.659	-2296.301	-2296.301

Table 5
Implied Annual Turnover Probabilities Based on Probit Regressions by Organizational Form and Ownership Structure

This table reports the economic significance for the sample period during 1993-2006. Medians of other independent variables are used in calculating the predicted turnover probability. Tests of the equality of turnover possibility when ROA at 10 and 90 percentile are conducted and results are given in column (3), (6), and (9). Panel B compare the turnover possibility at 10 and 90 percentile of performance of subsamples between different organizational form and ownership structure based on hypotheses developed in section 4. *t*-statistics are reported in parentheses in Panel B. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Turnover Possibility (percent)			**Routine Turnover Possibility (percent)**			**Non-routine Turnover Possibility (percent)**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
Organizational Form and Ownership Structure	**90 percentile of ROA**	**10 percentile of ROA**	**(2)-(1)/(1)**	**90 percentile of ROA**	**10 percentile of ROA**	**(5)-(4)/(4)**	**90 percentile of ROA**	**10 percentile of ROA**	**(8)-(7)/(7)**
(1) Full sample	5.254	7.415	41.13***	3.373	3.846	14.02	1.862	3.404	82.81***
(2) Mutual	5.321	8.191	53.94***	3.300	4.845	46.82**	1.901	3.155	65.97**
(3) Non-family-owned closely held stock firms	7.679	6.709	-12.63	3.877	1.167	-69.90	3.791	5.325	40.46
(4) Closely-held family stock firms, CEO is a family member	1.878	2.036	8.41	2.029	1.940	-4.39	0.045	0.065	44.44
(5) Closely-held family stock firms, CEO is not a family member	6.802	7.957	16.98	4.345	4.027	-7.32	2.024	3.683	81.97
(6) Publicly-traded family stock firms, CEO is a family member	1.946	4.027	106.94	3.979	1.833	-53.93	6.22e-07	0.149	2.40e+05
(7) Publicly-traded family stock firms, CEO is not a family member	3.122	15.913	409.71*	5.065	6.748	33.23	0.392	5.964	1421.42**
(8) Non-family-owned publicly-traded stock firms	10.278	12.031	17.06	3.881	3.391	-12.63	4.848	5.923	22.17
(9) Stock insurers owned by non-insurance holding companies	25.835	19.142	-25.91	20.755	0.795	-96.17*	11.958	19.245	60.94
(10) All stocks (3+4+5+6+7+8)	4.304	5.842	35.73*	3.292	2.730	-17.07	1.189	2.772	133.14***
(11) All family-member CEO stocks (4+6)	1.879	2.218	18.04	2.133	1.720	-19.36	0.059	0.216	266.10
(12) All non-family-member CEO stocks (3+5+7+8)	7.380	10.002	35.53*	4.515	3.581	-20.69	3.022	6.100	101.85***
Panel B. T-Test of Equality between Organizational Forms and Ownership Structures									
Hypothesis 1: Row (2) versus row (10)	(64.85) ***	(140.23) ***	-	(0.58)	(174.49) ***	-	(76.26) ***	(30.40) ***	-
Hypothesis 1-1: Row (2) versus row (8)	(83.25) ***	(72.86) ***	-	(13.18) ***	(37.96) ***	-	(69.29) ***	(74.95) ***	-
Hypothesis 2: Row (3) versus row (8)	(16.34) ***	(41.35) ***	-	(0.03)	(29.04) ***	-	(8.96) ***	(5.39) ***	-

Hypothesis 3: Row (11) versus row (12)	(1.6e+02) ***	(2.6e+02) ***	-	(69.38) ***	(85.15) ***	-	(1.5e+02) ***	(2.7e+02) ***	-
Hypothesis 4-1: Row (7) versus row (8)	(26.70) ***	(11.58) ***	-	(4.80) ***	(13.28) ***	-	(23.96) ***	(0.22)	-
Hypothesis 4-2: Row (5) versus row (3)	(6.19) ***	(10.81) ***	-	(3.43) ***	(39.04) ***	-	(19.36) ***	(15.42) ***	-

Table 6: Bivariate Probit Model Results of Outside Successions

This table reports bivariate probit model results for the sample period during 1993-2006. Column 1 and 2 provide results with dependent variable as the outside succession and non-routine turnover for the full sample. Column 3 and 4 provide results for all non-family firms, respectively. The dependent variables are listed on the top of the columns. In column 1, Outside Succession is a dummy variable equal to one if an outsider is promoted to CEO conditional on turnover. All other successions are coded as zero, i.e., family successions in family stock firms are considered as inside successions. In column 3, we repeat the regression by dropping all family stock firms. Thus, in column 3, outside successions coded as zero includes only inside successions. We omit the dummy of the non-family-owned publicly-traded stock firms and let it be the base firm structure. The other independent variables are as defined in Table 1, Table 2, Table 3 and Table 5. p-values are in reported in parentheses below. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Full sample		All Non-family firms	
	(1)	(2)	(3)	(4)
Independent Variables	Outside succession $_t$	Non-routine Turnover $_t$	Outside succession $_t$	Non-routine Turnover $_t$
Intercept	-0.330	-2.127***	-0.220	-2.067***
	(0.208)	(0.000)	(0.425)	(0.000)
ROA $_{t-1}$	-0.280	-2.319***	-0.455	-1.848**
	(0.593)	(0.002)	(0.428)	(0.041)
ROA $_{t-1}$ * (Top 10% ROA dummy) $_{t-1}$	1.103	2.359**	0.646	1.498
	(0.129)	(0.029)	(0.425)	(0.242)
Median of Industry ROA $_{t-1}$	-6.235*	10.422*	-5.861*	7.268
	(0.056)	(0.052)	(0.093)	(0.219)
Firm size $_{t-1}$ (=Log of Net Premiums Written)	-0.007	0.003	-0.026*	0.010
	(0.581)	(0.892)	(0.063)	(0.659)
Leverage $_{t-1}$ (=Liability/Assets)	0.416***	-0.074	0.354**	-0.232
	(0.001)	(0.714)	(0.012)	(0.312)
Herfindahl Index of Lines of Business $_{t-1}$	-0.007	0.225*	0.039	0.124
	(0.930)	(0.071)	(0.643)	(0.379)
Herfindahl Index of States of Business $_{t-1}$	0.131**	0.116	0.060	0.147
	(0.039)	(0.252)	(0.380)	(0.186)
Fraction of NPW from Personal Lines $_{t-1}$	-0.406***	0.011	-0.373***	-0.110
	(0.000)	(0.915)	(0.000)	(0.384)
Fraction of NPW from Commercial Long Tail Lines $_{t-1}$	-0.034	-0.128	0.012	-0.181*
	(0.566)	(0.181)	(0.848)	(0.089)
Log of Board Size $_t$	-0.120**	0.001	-0.042	-0.023
	(0.035)	(0. 994)	(0.495)	(0.821)
(Dummy equal to one if fraction of outside directors> 0.6) $_t$	0.484***	0.267	0.642***	0.427**
	(0.000)	(0.107)	(0.000)	(0.023)
Dummy for Mutual $_{t-1}$	-0.422***	-0.380***	-0.462***	-0.368***
	(0.000)	(0.002)	(0.000)	(0.004)
Dummy for Closely-held non-family-owned stock firms $_{t-1}$	-0.054	-0.104	-0.088	-0.079
	(0.543)	(0.463)	(0.329)	(0. 583)
Dummy for Closely-held family stock firms, CEO is a family member $_{t-1}$	-2.114***	-0.988***		
	(0.000)	(0.000)		
Dummy for Closely-held family stock firms, CEO is not a family member $_{t-1}$	-0.043	-0.217		

	(0.694)	(0.243)		
Dummy for Publicly-traded family stock firms, CEO is a family member $_{t-1}$	-5.847	-0.824***		
	(0.991)	(0.001)		
Dummy for Publicly-traded family stock firms, CEO is not a family member $_{t-1}$	0.246**	0.130		
	(0.043)	(0.489)		
Dummy for Stock insurers owned by non-insurance holding companies $_{t-1}$	0.317***	0.534***	0.342***	0.584***
	(0.008)	(0.001)	(0.004)	(0.000)
Number of firm years	229	7358	193	4890