CEO TENURE AND ITS EFFECT ON FIRM PERFORMANCE IN THE U.S. FINANCIAL SERVICES SECTOR

A Doctoral Dissertation Research

Submitted to the
Faculty of Argosy University, Washington, DC Campus
College of Business

In Partial Fulfillment of
the Requirements of the Degree of

Doctor of Business Administration

by

Daniel Michael Goldsmith

March 2012

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ABSTRACT

This study considers the issue of the relationship between CEO tenure and firm performance. The study design used the Linear Mixed Model, Logistic Regression Model, and Multiple Regression Model to test the relationship between CEO tenure and firm performance. The independent variables used in this study are CEO tenure, industry firm type, CEO tenure blocks, CEO termination, and CEO retention. The dependent variable is firm performance, which are reflected in two dimensions: Return on Assets and Return on Equity. The data was gathered for year 1999-2009. This study consisted of 282 firms in the U.S. financial sector. The source of information for this secondary data was from the Securities and Exchange Commission's Electronic Data Gathering and Retrieval system (EDGAR). The Linear Mixed Model was used to determine firm performance over the period designated for this study. The Logistic Regression Model was used to evaluate CEO tenure for six continuous years of service starting from the time the CEO was hired. The model revealed that turnover occurred with CEOs, although the turnover is not statistically significant. The Multiple Regression model was used to determine if firm performance was at its highest point at between year seven and year ten of continuous CEO service from the point of hire into the CEO position. The outcome of this model revealed that firm performance in years seven through ten was not necessarily higher than the earlier years in the performance period. The conclusion of this study is that CEO tenure does promote consistent, sustainable, and profitable firm performance.

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reflected in these pages is completely dedicated to you. It is my hope that those that read it will be enlightened by its contents and will be so moved to excel as you have inspired me to excel.

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CHAPTER ONE: INTRODUCTION

Organizational learning research suggests that organizations that have the ability to acquire, integrate, and exploit new knowledge are more likely to be successful in the knowledge era (Farrell, Flood, Curtain, Dawson, & West, 2005). The thrust of the preceding statement speaks to the dimension of learning. With that said, this paper seeks to engage the learning process and expand the understanding of CEOs and their function to the organization, the organization's shareholders, and the organization's stakeholders. It is in this vein that the writer endeavors to highlight and explore a phenomenon that is not only valid academically but practically.

Statement of the Problem

This research will focus on CEO tenure and its bearing and affect on corporate organizational performance. In creating this study, it is important to note that CEO tenure is highlighted in academic literature including dissertations. Therefore, it is appropriate to establish a literal definition of tenure. Tenure, as defined by Webster, is the act, right, manner, or term of holding something (as a landed property, a position, or an office) (Merriam-Webster, 2005). In the context of an organization, a CEO's tenure reflects the amount of time spent in the Office of the Chief Executive. This research will focus on CEO tenure and its bearing and affect on corporate organizational performance. As such, this study is influenced by the literature in that CEO turnover is often the result of unacceptable firm performance. Given the fact that firm performance remains a foremost criterion in determining success or failure, it is appropriate and reasonable to identify those influences that have a bearing on firm performance. In this case, the phenomenon of CEO tenure will be considered as an influence of firm performance.

The management literature speaks extensively to the phenomenon of CEO turnover. As such, this study will consider CEO tenure as a catalyst to achieving consistent and successful firm performance. More specifically, this study poses the question "Does CEO tenure promote consistent, sustainable, and profitable performance for a firm?" The basis of this research is to determine specifically if the same CEO serving the same firm for successive years yields consistent, sustainable, and profitable performance to the firm. At the conclusion of this research, the reader should be able conclude from the research set forth if CEO tenure matters in terms of firm performance.

Background of the Problem

The construct of tenure is considered in light of existing research that denotes CEO turnover as a phenomenon in organizational and business life. The literature suggests that CEO turnover often times is associated with poor job performance, poor organizational performance, or failure to satisfy the expectations of the organization's board of directors (Allgood & Farrell, 2000, Bruton, Friend, & Hirsh, 1997; Hou & Chiang, 2008).

As noted above, there is a strong association between the CEO and the organization's performance. Further evidence of this association is reflected in the existing literature where firm performance influences variables such as CEO compensation as well as compensation of the firm's officers (O'Shaughnessy, 1998). Additionally, firm performance is a construct that influences performance measurement through accounting measures (Drodge, Vickery, & Markland, 1994; Kim & Srivastava, 1998; Rowe & Morrow, 1999).

Other phenomena that often allude to organizational performance are (a) organizational culture (Schimmoeller, 2006); (b) human resource management (Rogers & Wright, 1998); and (c) social responsibility (Choi, Gray, & Carroll, 2008). This clearly suggests the scope, breadth, and depth that firm performance has on organizational well-being and stakeholder well-being.

Existing CEO literature and research focus on a number of elements that are associated with the CEO function – for example, CEO compensation (Crumley, 2008) and CEO strategic leadership (Kotter, 2001). Kotter emphatically states that the CEO is considered the most influential person in the firm. Specifically, the CEO has the unique capacity to view the company from the apex of the firm and is the most visible person in the firm from the outside by society and stakeholders (Kotter, 2001).

It is important to note that the existing literature regarding CEO turnover can be attributed and viewed in a framework of organizational discipline (Yen, 2002). Yen notes that organizational performance -- or the lack thereof is reflected in the firm's debt ratio -- as a basis for a firm to replace its CEO (Yen, 2002). Yen also mentions that CEO turnover often occurs due to differences with the firm's board of directors (Yen, 2002). In addition, the management literature identifies mergers and acquisitions as a means of CEO turnover (Zhao, 2002). Zhao mentions that as firms meld together and a transfer of power and control occurs, it is very possible that a CEO with one of the firms will experience demise from the CEO capacity (Zhao, 2002). This is particularly noted in the surviving firm of a merger – the CEO of the demising firm is likely to succumb to the merger due to the less than acceptable performance (Yen, 2002; Zhao, 2002).

While CEO turnover is a prominent theme in aforementioned literature, there is existing research literature that speaks to CEO tenure. For example, Nouyari and Mintz highlight the constructs of CEO tenure, firm performance, and compensation (Nourayi & Mintz, 2008). This research speaks to CEO compensation as a function of firm performance and tenure (Nourayi & Mintz, 2008). Other research speaks to CEO tenure as a function of Top Management Team (TMT) influencing firm performance (Ling, Simsek, Lubatkin, & Viega, 2008). Ling's research speaks to the fact that CEO tenure does play a role in organizational life as noted with the firm's TMT influence and performance. (Ling et al. 2008).

Allgood and Farrell reveal a negative relationship between firm performance and CEO turnover (Allgood & Farrell, 2000). Essentially, Allgood and Farrell note that while firm performance can influence decisions to replace a CEO, the research also indicates that performance forced turnover varies with CEO tenure (Allgood & Farrell, 2000). The premise behind this observation is that founding CEOs tend to become entrenched early in their jobs but eventually experience the reality of accountability later in their tenure with the organization. Additionally, outside CEOs are likely to receive a probationary period that will result in performance assessment and its ensuing accountability (Allgood & Farrell, 2000).

Given the literature focused on CEO turnover, this study considers the effect of CEO tenure on firm performance. In the previous literature noted in this discussion, CEO turnover is influenced by less than acceptable performance and effectiveness (Allgood & Farrell, 2000; Bruton et al., 1997; Hou & Chiang, 2008). Therefore, it is appropriate for this study to focus on CEO tenure as a factor in firm performance. With that said, this

study will evaluate CEO tenure as a phenomenon of longevity and an influencer on firm performance. Kotter emphasizes the significance and influence that a CEO has on organization and its performance (Kotter, 2001). This study will assess and consider firm performance's as influenced by a CEO's time in office. Fundamentally, the study will review, assess, and measure firm performance in terms of Return on Assets (ROA) and Return on Equity (ROE). These financial metrics are noted in previous literature as a valid and relevant measure of organizational performance (de Wet & du Toit, 2007; Rowe & Morrow, 1999).

Significance of the Study

The study will consider the phenomenon of CEO longevity among firms within the financial services industry. The significance, then, is to establish CEO tenure as a valid context to assess a CEO's ability and skill (Allgood & Farrell, 2000) and its bearing on organizational performance. In addition, the study alludes to the negative relationship between firm performance and CEO turnover (Allgood & Farrell, 2000). Therefore, instead of looking at CEO turnover as an outcome associated with less than acceptable firm performance, this study will look at CEO tenure as a catalyst to sustainable and profitable firm performance.

Assumptions

The assumptions of this study are that the firms identified for this study are publicly held companies (i.e. companies where ownership is issued by shares of company stock). As such, it is assumed that each of these firms have CEO, a Board of Directors, and a Chairman of the Board.

Limitations

The limitations of this study are noted as firms that exist in North America, which consists of Canada and the United States. Additionally, this study does not quantitatively reflect the board of directors' presence as a determinant of CEO performance. The data sample will consist of firms in the Financial Industry, which is noted under the National American Industry Classification System (NAICS) of 523930. While there are other industries that can be considered for this study, the data identified in this industry was appropriate and relevant to a statistical sample size of 300. This statistical sample size is consistent with the sample sizes noted in previous studies.

Research Questions

Given the framework that has been presented above, the research question that will drive this paper is as follows: Does CEO tenure positively affect firm performance? This primary question will give way to additional questions that will serve as a segue to the research hypotheses. The additional research questions are as follows:

RQ1. Is there a relationship (linear) between CEO tenure and financial firm performance as measured by ROA and ROE?

RQ2. Is there a difference in the relationship between ROA and ROE and CEO tenure?

RQ3. Is there evidence that there is a greater CEO turnover on the three or five year CEO anniversaries?

RQ4. Is there evidence that the turnover on contract anniversary is related to firm performance as measured by ROA and ROE?

RQ5. Is there evidence of differences in financial firm categories' of performance in terms of ROA and ROE?

RQ6. For the period of time leading up to ten years in office does the firm show an increase of financial performance as measured by Return on Assets and Return on Equity with the same CEO?

Statements of Hypotheses

Given the questions that are set forth, the following statements of hypotheses are presented.

H_1. There is a linear relationship between CEO tenure and firm performance.

H_2. Relationships between CEO tenure and firm performance in terms of ROA and CEO tenure and performance in terms of ROE will differ.

H_a. CEO tenure at the first two three-year intervals will reflect a higher turnover than interim and later tenure years in the financial sector of the US economy.

H_4. There is higher financial firm performance in terms of ROA or ROE for CEOs the year after the expiration of the three-year periods.

H_5. CEO turnover is at its peak by the CEO sixth year of office.

H_6. Firm performance under the same CEO consistently increases between years seven and ten as measured by Return on Assets (ROA) and Return on Equity (ROE).

Definition of Key Terms

Agency theory. A phenomenon that reflects the conflict of interest between the firm owners and the managers (Crumley, 2006).

ANOVA (Analysis of Variance). A test of the statistical significance or the differences among the mean slopes of two or more groups on variables or factors (Crumley, 2006).

CEO. Chief executive officer of the organization (Crumley, 2006).

Job tenure. The number of years the CEO has occupied the position (Crumley, 2006).

Net assets. The net value of economic resources that are expected benefit future activities (Crumley, 2006).

Net income. The net increase in owner's equity resulting from the profit seeking operations of the company or on the bottom line on an income statement after all expenses have been deducted from revenues (Crumley, 2006).

Return on assets (ROA). The sum of net income plus interest expense divided by average total assets. This metric measures the success a company has in using its assets to earn a profit (Crumley, 2006).

Return on equity (ROE). The net income minus the preferred dividends, divided by average common stockholders' equity. This is a measure of profitability (Crumley, 2006).

Stewardship theory. A theory that highlights the structure of the firm that can assist the executive manager to implement his or her plans effectively. The CEO exercises a fiduciary responsibility to the firm (Elsayed, 2007)

Summary

This study considers CEO tenure as a catalyst to firm performance. This study will consider North American companies in the financial services industry. This study is

presented in five chapters. Chapter One will discuss the Statement of the Problem, Background of the Problem, Purpose of the Research, Significance of the Study, Assumptions & Limitations, Research Questions, Research Hypotheses, Definition of Terms, and Summary.

Chapter Two will review prior research of the relevant literature regarding the necessity and use of metrics, return on equity, and return on assets. The literature review will also focus on CEO turnover from a voluntary and involuntary standpoint. The literature review will focus on Agency and Stewardship Theories of Management, and conclude with a Summary.

Chapter Three will discuss the research design, data sources, data collection techniques, data analysis, sample population, and research hypotheses in conducting this study.

Chapter Four will discuss the empirical research, hypotheses, models, and tests. The data will examine the relationship between CEO tenure and Firm Performance.

Chapter Five will summarize the statistical findings, conclusion, and recommendations for future research.

CHAPTER TWO: LITERATURE REVIEW

Metrics are commonly used to gauge, measure, and manage performance. The metric provides some insight into the phenomenon being measured. In the management literature, there are many examples reflecting the use of metrics as a means of determining the suitability of certain business practices, business decisions, and the effectiveness of those decisions (Allgood & Farrell, 2000; Bruton et al., 1997; de Wet & du Toit, 2007; Hou & Chiang, 2008).

Kaplan notes that the Balanced Scorecard (as a metric) is an instrument that observes intangible assets such as customer relationships, people, systems, culture, and innovation. Kaplan also states that metrics are important to measure a variable in order to manage it or improve it (Kaplan, 2006). To that end, Kaplan concludes that metrics derived from and linked to strategy, improved communication, and resource allocation can be aligned to create greater shareholder value (Kaplan, 2006).

Interestingly, Wyld and Maurin indicate that metrics are not only important, but that the significance of the metric is much more relevant and compelling when transparency is evident (Wyld & Maurin, 2009). This translates to a reality that transparent firms experience higher growth rates, greater investment efficiency, and lower costs of capital (Wyld & Maurin, 2009). In addition, transparency promotes greater accuracy of market metrics as gauges of corporate performance, which translates to a greater capacity and ability to provide investors with informed choices about the firm (Wyld & Maurin, 2009). Moreover, transparency inhibits executives from taking actions that are inconsistent with shareholder interests (Wyld & Maurin, 2009). So while metrics are important, the metrics in and of themselves highlight the criticality of transparency as

a means of promoting credibility with the shareholders and accountability among the executives. The metric itself is necessary to not only measure performance and progress of a firm, but it brings to bear the imperative of transparency.

Return on Assets and Return on Equity

With respect to this study, the metrics of Return on Equity and Return on Assets will be considered. Return on Equity and Return on Assets are considered to be the most widely used measure of corporate financial performance (du Wet & du Toit, 2007). While scholars emphatically contend that ROE is the most important ratio that an investor should consider, ROE remains popular among analysts, financial managers, and shareholders (du Wet & du Toit, 2007).

With respect to leading and directing a firm, corporate assets have traditionally been viewed as measures by which the effectiveness and competitiveness are assessed and determined (Rowe & Morrow, 1999). Historically, research operationalizes the firm performance construct in terms of some type of accounting ratio (Rowe & Morrow, 1999; Nourayi & Mintz, 2008). These ratios typically are Return on Sales, Return on Assets, Return on Equity, and Return on Investment (Rowe & Morrow, 1999; Nourayi & Mintz, 2008). Management researchers refer to these financial metrics as critical to the financial performance construct (Rowe & Morrow, 1999; Nourayi & Mintz, 2008). In addition, these metrics represent the dominant model for empirical management researchers (Rowe & Morrow, 1999). It is noted that these measures are popular for a number of reasons: Firstly, these measures are really effective and appropriate for analyzing the data of publicly traded firms. Secondly, managers use these accounting numbers when making strategic decisions and are useful for providing insights into economic rates of return.

Finally, Rowe states that accounting information reflects a historical significance in terms of firm performance (Rowe & Morrow, 1999).

Return on Assets

Return on Total Assets is a measure of how well assets have been employed. Clearly, ROA is a measure of operating performance (Garrison & Noreen, 1976/1997). Under the traditional Dupont analysis, the Return on Assests (ROA) is the product of net profit margin and total assets turnover (Wen, 2009). ROA is among the most commonly used profitability ratios to assess a firm's ability to make a profit (Wen, 2009).

It is important to note that the Dupont model is considered a timeless and elegant model of financial analysis that has been used by scholars for close to a century (Little, Little, & Coffee, 2009). Most academic literature relies on some form of the Dupont model to provide insights into Return on Assets (ROA) and Return on Equity (ROE) (Little et al., 2009).

With that said, the literature shows a number of uses that ROA has from a managerial perspective. Since the Dupont model originated with a manufacturing application, it is appropriate to note other types of organizations that benefit from the use of ROA (Little et al., 2009). These firms are supply chain firms, ISO Certified firms, and Commercial Lending Firms.

Supply chain. Since the Dupont model is used to reflect the ROA in manufacturing firms, the literature shows that the operating performance of supply chain firms or activities can be measured very effectively (Hendricks & Singhal, 2005). More precisely speaking, a supply chain function looks at providing supplies and materials as a direct function of the equipment it uses (Hendricks & Singhal, 2005). The equipment,

which is noted as an asset on the firm's balance sheet, must produce a desired level of output to achieve and maintain profitability. Other variables that are used to determine profitability are efficiency, reliability, and responsiveness. While these variables are key drivers of profitability, it is the ROA that reflects the monetary and financial significance of the supply chain operation (Hendricks & Singhal, 2005).

ISO 9000 certified firms. While the literature notes the relevance of ROA, there continues to be a use for ROA in other business scenarios. For instance, ROA is used to evaluate the effectiveness of ISO 9000 Certified firms. In Corbett's, Montes-Sancho's, and Kirsch's study regarding the financial impact of ISO 9000 Certified firms, ROA was used as a primary criterion. (Corbett, Montes-Sancho, & Kirsch, 2005). While this study notes the value of the ISO Certification, the ISO certification process emphasizes business process and practices that are designed to improve productivity, quality, and profitability (Corbett, Montes-Sancho, & Kirsch, 2005). Notwithstanding the significant costs of mobilizing the organization's resources and the subsequent implementation of the ISO system, the ROA measure does represent the challenge a firm must overcome to ensure profitability (Corbett, Montes-Sancho, & Kirsch, 2005).

Commercial lending banks. ROA is also used as a means to evaluate the financial soundness of loans made throughout the banking industry. Commercial lending institutions not only use the ROA as a means to evaluate financial prudence, but they note the determinants that can be used to determine the ROA (Wen, 2009). In the literature speaking to commercial lending and ROA, it is noted that several localized ratios are used to determine the suitability of proposed or considered loan activity (Wen, 2009). The ratios noted in the literature are the Loan Loss Reserve to Total Loans, the Loan Loss

reserve account (also known as the Allowance for Loan Losses), and the rate of under-performing loans to total commercial loans (Wen, 2009).

Finally, as far as shareholders are concerned, ROA is considered to be the most critical financial goal of firms (Rothschild, 2006). Investors constantly rate CEOs and CFOs on their ability to produce profits from assets under their control (shareholders). Therefore, ROA is a variable to be considered for this study as it relates to a CEO's ability to manage a firm over time.

Return on Equity

As noted in the literature, ROE and ROA are financial ratios that express meaningful information about a firm. ROE is used specifically used to evaluate a firm's profitability (Burns, Sale, & Stephan, 2008). As noted in the DuPont model, ROE is structured around three underpinnings: net profit margin, asset utilization, and financial leverage (Burns, Sale, & Stephan, 2008). The following denotes the uses of ROE as reflected in the literature. The specific uses noted are Corporate Social Responsibility, Value Management Systems, and Firm Acquisitions.

Corporate social responsibility. Corporate social responsibility (CSR) continues to be an issue that is considered by firms, industry leaders, and academics (Matten & Moon, 2004; Waldman, de Luque, Washburn, & House, 2006; and "Corporate Social," 2005). It is this framework that the literature depicts ROE as a means of not only assessing the financial performance of a firm, but also a yard stick by which management initiatives can be considered. In this instance, scholars have suggested that the influence of corporate social responsibility has a bearing on the firm's profitability, which is measured by ROE (Schlange & Co, 2006). In this research, it has been determined that

CSR has a bearing on capital cost, profitability, and performance results (Schlange & Co, 2006). The use of ROE, along with ROA, reflects the relevance in how they are used to quantify initiatives associated with an organization's focus on social responsibility (Schlange & Co, 2006). While current research indicates that there is a relationship between CSR and financial performance (Schlange & Co, 2006), ongoing research continues to establish strong linkages between CSR and the balance sheet – specifically to ROE.

Value management systems. It is noted in the literature that ROE, similarly to the ROA, is used not only to reflect firm performance, but it also shows how ROE is used to evaluate managerial practices and decisions. In this context, the literature specifically speaks to an organization's value management system and how ROE is used as a calibrating and validating measure.

ROE as a performance metric is reflected in the literature as a construct to assess performance (Frezatti, 2007). This dimension of ROE specifically shows how firm performance is noted and reflected on a firm financial statements. As such, ROE is used as a means to evaluate its relationship to an organization's profile of management accounting artifacts (Frezatti, 2007). In this context, the management accounting artifacts of an organization can be its costing system, its strategic plan and budget, and its management reports (those reports that that allow the management team to understand process according to entity, business, unit, products, cost center, and the like). The ROE construct helps promote context and clarity of these management systems as the senior management develops those strategies that promote solvency, profitability, and value.

Firm acquisition. From the perspective of acquiring firms, a paramount consideration presented to investors is whether the value of the financial benefits from an acquisition is greater than the present value of costs (Guest, Bild, & Runsten, 2010). According to financial theory, this is a key criterion that acquirers should apply and a method that many finance executives do apply (Guest et al., 2010).

As such, profitability studies compare the post-acquisition performance of the acquiring firm with the pre-acquisition performance of the acquiring and acquired firm (Guest et al., 2010). The objective of the profitability study is to examine whether an acquisition improves the profitability of the combined assets of the acquirer and the acquiree (Guest et al., 2010). ROE in this context is instrumental in assessing pre-acquisition wealth as well as the potential of post acquisition wealth of the acquiring firm (Guest et al., 2010).

While these uses of ROE are not entirely representative of its application, it is clear that this construct – according to the literature – is a valid as a means of depicting and reflecting organizational phenomena. It is in this vein that this construct is noted in this study.

CEO Turnover

As this study focuses on CEO tenure, CEO turnover invariably emerges as a pertinent and relevant subtheme (Allgood & Farrell, 2000; Huson, Parrino, & Starks, 2001; Puffer & Weintrop, 1991). While Kaplan and Minton (2008) indicate that tenure among CEOs is about six years of less, they also note that turnover is not only prominent but that it is driven by external and internal forces. For example, external turnover is noted through bankruptcy or takeover. Internal turnover is related to three components of

firm stock performance: performance relative to industry, industry performance relative to the overall market, and performance of the overall market (Kaplan & Minton, 2008).

Yen (2002) states that CEO turnover can be viewed as a disciplinary measure. Specifically, Yen notes a firm's debt ratio positively relates to the likelihood of disciplinary turnover (Yen, 2002). While the literature notes CEO turnover as a reality of organizational life, (Kaplan & Minton, 2008; Mainiero, 1994; Puffer & Weintrop, 1991), Yen mentions that CEO resignations are considered a form of turnover that is likely to occur – particularly when there are power struggles with the board (Yen, 2002).

Disciplinary turnover associated with CEOs is also noted to occur within mergers and acquisitions. While a CEOs turnover or professional demise within the unsurviving organization is almost completely certain, Zhao (2002) mentions that CEO turnovers in a post merger/acquisition environment occur within five years after the acquisition. Specifically, Zhao notes that 61 out 159 CEOs within five years of acquisition leave the firm. The research further states that CEO turnover is not a function of normal retirement (less than the age of 65) or succession planning (Zhao, 2002; Puffer & Weintrop, 1991).

Zhao (2002) also mentions that turnover is often times inevitable since studies show that firms with the better performance history tend to remain as the surviving entity and are more likely to remain in control or assume control of the combined firm (Zhao, 2002). Zhao notes that CEO age and tenure are positively correlated in the sense that older CEOs with longer tenure are more influential than younger CEOs with shorter tenure, all else equal (Zhao, 2002). As a result, an older CEO with longer tenure is likely to be the surviving CEO when a merger transaction is completed (Zhao, 2002).

Zhao (2002) mentions that CEO tenure is more related to management expertise than age. This observation is noted by in previous studies that state that CEO turnover is a function of unacceptable performance (Puffer & Weintrop, 1991; Huson et al., 2001; Gregory-Smith, Thompson, & Wright, 2009; Barro & Barro, 1990).

While performance is the compelling factor of dismissal, tenure does influence the decision to retain or terminate a CEO (Allgood & Farrell, 2000). While previous studies acknowledge the reality of CEO entrenchment (Allgood & Farrell, 2000; Huson et al., 2001; Puffer & Weintrop, 1991), it is argued that the time it takes for a board to learn about the CEO's skill may cause performance-forced turnover sensitivity to vary (Allgood & Farrell, 2000).

CEO turnover is an organizational reality. Allgood and Farrell notes that turnover can be categorized as voluntary or involuntary (2000). Voluntary turnover is noted as all CEO changes arising from retirement, normal management succession, death, or illness or those involving a prestigious employment with another organization (Allgood & Farrell, 2000). Forced turnover are noted as those actions such as resignations, pressure from the board of directors, pressure from outside blockholders, pressure from bank lenders, policy or personality disagreements, demotion, being fired, scandal, poor performance, bankruptcy, and reorganization (Allgood & Farrell, 2000).

As tenure is considered for this study, CEO tenure is defined as a period of time where an office or function is occupied. Allgood and Farrell note that a new CEO possesses one to three years of tenure (2000). The average CEO according to Allgood and Farrell is 9.7 years while an old CEO is one that has more than 10 years of tenure.

With that said, it is important to note that CEO phenomena such as tenure and turnover are critical in that the decision to replace a CEO is arguably among the most important decision made by a board of directors (Huson et al., 2001). This decision alone has long-term implications for a firm's investment, operating, and financing decisions. (Huson et al., 2001). These decisions invariably influence the firm's performance, the firm's standing among its stakeholders, and the firm's value. Given the context of firm value, firm standing among stakeholders, and firm value, the following discussion will focus on Agency Theory and Stewardship Theory. These theories reflect the philosophies, policies, and practices that will not only influence the direction of the firm, but it defines the manner in which firms are perceived by their stakeholders.

Agency Theory

While tenure and turnover of CEOs are phenomena that will continue to merit scholarly consideration and discussion, it is appropriate to identify and consider two philosophies: Agency Theory and Stewardship Theory. From the outset, it is necessary to note that a "pure agency relationship" is the relationship between the stockholders and the managers of a firm. This relationship exists simply because there is a separation of ownership and control (Davis, Schoorman, & Donaldson, 1997).

Shapiro (2005) notes that in an agency relationship, one party acts on behalf of another. Shapiro also notes that a CEO may be an agent of stockholders and the board of directors, he or she is simultaneously the principal in a long chain of principal-agent relationships both inside and outside the corporation (Shapiro, 2005). From a legal perspective, there is a law of agency, which reads as follows:

The law of agency encompasses the legal consequence of consensual relationship in which one person (the 'principal) manifests assent that another person (the 'agent') shall, subject to the principal's right of control, have power to affect the principal's legal relations through the agent's acts on the principal's behalf (Shapiro, 2005).

While Shapiro offers a legal perspective on agency theory, Nygaard and Mrytveit (2002) speak to the economics perspective of agency theory. Specifically, they note that classical agency theory contains a principal and an agent, and the owner assumes the role of the principal and the manager assumes the role of the agent (Nygaard & Myrtveit, 2000). Furthermore, Nygaard and Myrtveit note that while owners (principals) seek to maximize profit, employee managers will maximize their own self interest by taking an increasingly larger portion of corporate revenue when given the opportunity (Nygaard & Myrtveit, 2000).

Shapiro (2005) notes that principal control is critical in the law of agency because of its focus on third parties and the concern that when third parties make agreements with agents or are hurt by agents, their principals will be bound or held responsible. Herein lies the challenge and delicacy of agency relationships. The notion that management (or the agent) will capitalize on opportunities presented to the organization are subject to manipulation by the manager (Nygaard & Myrtveit, 2000). It is suggested that opportunities that are particularly interesting to the organization (principal) may reflect the potential personal advantage to the agent (Nygaard & Myrtveit, 2000). This type of advantage lends itself to opportunistic behavior – this is where the agent begins to identify with the personal advantage associated with the principal's business (Nygaard &

Myrtveit, 2000). Clearly, this type of opportunistic circumstance and possible behavior presents some challenges to the integrity of the agency relationship.

It is noted according to Nygaard and Myrtveit (2000) that a common challenge of agency relationship is that owners (principals) encounter difficulty and risk in achieving effective delegation to the managers (agents). This stems from the fact that principals are not always able to control the actions of their managers/agents (Nygaard & Myrtveit, 2000). This challenge is due to the reality that owners are not directly involved in the managerial process or lack the managerial competence (Nygaard & Myrtveit, 2000).

While Davis et al. (1997) note agency relationship is defined by separation of ownership and control, Nygaard and Myrtveit notes that agency problems are caused by separation of ownership and control in businesses (2005). Managers in control and owners have divergent interests; consequently, this misalignment in interests and priorities can have very harmful consequences to the principal and his/her stakeholders (2005). Other interests that can create misalignment and turmoil in the organization are the principal's propensity for status, reputation, and competitive pressures. This can create difficulties not only for the organization but also for the agent (Davis et al., 1997; Nygaard & Myrtveit, 2000). Invariably, under these conditions and circumstances, opportunistic behavior becomes manifest (Nygaard & Myrtveit, 2000).

Elsayed (2007) mentions in his study, that an agent in an agency relationship will always seek to maximize his wealth at the expense of the principal. Therefore, it is important to note that the agency type management will be prone to extracting assets from the firm for personal prerequisites, positions, and dividends (Elsayed, 2007). Consequently, this indulgence tends to deprive the firm of the assets and resources

needed for core competency development, infrastructure improvement, and product-market renewal (Le Bretton-Miller & Miller, 2009). Invariably, those firms that under invest, fail to renew the business, and harvest strategies will underperform financially (Le Bretton-Miller & Miller, 2009). It can be argued that these firms will lack the resources, capabilities, and resilience to compete effectively, especially in competitive and dynamic settings (Le Bretton-Miller & Miller, 2009). This underperformance will likely manifest itself in weak growth, inferior returns, and poor stock market valuations (Le Bretton-Miller & Miller, 2009).

Stewardship Theory

The Stewardship Theory of Management maintains that the executive manager, far from being an opportunistic shirker, essentially wants to do a good job and be a good steward of the corporation's assets (Elsayed, 2007). With that said, the explicit premise of stewardship theory is that the structure of the firm is the main determinant that can assist the executive manager to implement his or her plans or objectives effectively (Elsayed, 2007).

Some of the traditional literature of stewardship theory define stewardship theory as situations in which managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the organization (Davis et al., 1997). Stewardship is further defined as the model of man whose behavior is ordered such that pro organizational, collectivistic behaviors have higher utility than individualistic self serving behaviors (Davis et al., 1997). In addition, Davis et al. (1997) noted the behavior of the steward is collective because it seeks to attain the objectives of the organization (e.g., sales growth or profitability). As such, this behavior in turn will benefit principals

such as outside owners (through positive effects on dividends and share prices), and also principals who are superordinates, because their objectives are advanced by the steward (Davis et al., 1997). It is important to note that stewardship theorists assume a strong relationship between the success of the organization and the principal's satisfaction. In doing so, it is maintained that stewards protects and maximizes shareholders' wealth through firm performance, because by doing so, the steward's utility functions are maximized (Davis et al., 1997).

Stewardship theory proposes that individuals are not motivated not only by self interest, but also by service to others, altruism, and generosity (Miller, Le Bretton-Miller, & Scholnick, 2008). This is manifest by the stewardship of the firm's business, business continuity, and customer relationships (Miller et al., 2008). The stewardship of the business focuses the organization, its resources, and its practices. Firm and career opportunities along with reputation in the community are all linked to the fate of business (Le Breton-Miller & Miller, 2009). Consequently, there must be a strong incentive for the principal and the agent to act for the long run interests of the company and its stakeholders (Le Breton-Miller & Miller, 2009). It is noted that principal and agent motivations are very likely to shape organizational conduct and performance (Le Breton-Miller & Miller, 2009).

Special care for the firm and its continuity can result in stewardship over its people (Miller et al., 2008). This care and attention can be manifest by building a group of talented, motivated, and loyal employees to keep the firm healthy and improve its prospects for the future (Miller et al., 2008). Specifically, these initiatives can be reflected in the training and development of employees across the organization, provide

employees broader jobs accompanied with greater responsibilities, which not only provides new skills, richer skills, and deeper skills, but it also promotes a greater sense of responsibility, involvement, and commitment to the organization (Miller et al., 2008).

Finally, this focus culminates by creating a culture and environment that promotes inclusiveness. By establishing this type of dynamic, the workplace begins to experience an atmosphere of cohesiveness in which people work together according to their talents to achieve a common purpose. In addition, flexible work methods and practices are implemented that reflect not only the importance of the employee and their value to the firm, but it creates opportunities where work life balances and practices become more commonplace (Miller et al., 2008).

With respect to customer relationships, it is documented that family businesses are very attentive growing, developing, and nurturing customer relationships (Le Breton-Miller & Miller, 2009; Miller et al., 2008). For example, managers worked to better understand the organization's clients and their needs. In addition, measures to promote personal and face-to-face involvement to the client not only yields dividends in terms of solidified connections, increased mutual understanding, and loyalty, but it all also served as a basis for business sustainability during those periods of economic slowdown (Miller et al., 2008).

The focus and emphasis of stewardship now begins to shape a business context that is anchored in investment in capabilities, people, long-term relationship, and sustainable business value (Le Bretton-Miller & Miller, 2009). Consequently, the expectation that firms reflecting this type of leadership will build competitive advantages

and outperform their peers in terms of growth, returns, and market valuations (Le Bretton-Miller & Miller, 2009; Miller et al., 2008).

Literature Review Relevance to the Model

This study focuses on the constructs of CEO tenure and firm performance. For the sake of this study, CEO tenure is the amount of time an individual spends in the CEO position in a specific firm in successive and consecutive years. With that said, CEO tenure is the variable that will be used to influence the outcome of the hypotheses presented in Chapter Three. In addition, CEO tenure is the predictor variable (also known as the independent variable) that will be used to reflect the phenomenon being postulated and considered in this study. The CEO tenure variable will be reflected graphically in the general linear model on the "x" axis, which usually notes the independent variable.

Since this study will consider CEO tenure over the course of ten years, it is expected that CEO turnover will be noted and realized in the data – once it all has been compiled. Therefore, the model in the study considers CEO tenure in three year increments. This three year threshold is noted for several reasons. For one, the literature suggests that CEO turnover is possibly related and attributed to employment contract expiration (Gillian, Hartzell, & Parrino, 2005; Huson et al., 2001). While the contract periods generally range from three to five years, it is necessary to reflect and note the time in position to not only evaluate the incremental effects and associations between CEO tenure and firm performance, but it allows the phenomenon of CEO turnover to be observed in the data (Huson et al., 2001). Secondly, it has been noted CEO turnover

often occurs within three years of the initial appointment (Gregory-Smith et al., 2009; Kesner & Dalton, 1994).

Agency Theory and Stewardship Theory

These theories were discussed in the literature review. While these theories are not explicitly referenced or noted in the model shown in Chapter Three, the phenomena of Agency Theory and Stewardship Theory are relevant.

As noted in the literature review, Agency Theory alludes to a management philosophy where the CEO is susceptible to use his or her position in the company to exploit opportunity to advance his or her personal gain. As the literature suggested, this managerial approach could yield potentially lucrative benefits to the firm as well as the CEO. Also according to the literature, Agency Theory alludes to the phenomenon of entrenchment where the CEO has such influence and control within the firm that the board of directors influence and neutrality become less prominent in the sphere of governance. While this theory is not explicitly reflected in the model shown in Chapter Three, it is reasonable to conclude that this type of philosophy is associated with behavior that promotes less than acceptable performance which ultimately results in a CEO's involuntary turnover.

On the other hand, Stewardship Theory alludes to a management philosophy where the well being of the firm is the primary focus of CEO managerial practice. The literature suggests that managerial practice within this philosophy results in a very holistic way of doing business which considers people, society, and profits also known as the Triple Bottom Line (Robins, 2006). Under this philosophy, the CEO is concerned with satisfying the shareholders of the firm, creating a positive impact on the community

in which the firm operates, and advancing the firm in a sustainable and profitable fashion. While this is not explicit in the model, it is reasonable to conclude that stewardship philosophies are associated with those CEOs that are retained in the employ of the firm and the firm continues to experience growth and improvement in revenues and profits. Consequently, it is expected that the research data will show that firms with sustained and increasing firm performance are associated with CEOs that have tenure in excess of six years.

Firm Performance Construct

The firm performance construct speaks to the other part of this research study. As CEO tenure was noted as a predictor variable, firm performance is noted as the response variable. As such, this construct (variable) will be reflected graphically across the "y" axis of the general linear model.

The literature prominently notes firm performance as a multidimensional construct that is reflected in terms of sales, revenue, return on assets, and return on equity (Allgood & Farrell, 2000; Crumley, 2008; Puffer & Weintrop, 1991; Shaw & Zhang, 2010). With respect to the model set forth in Chapter Three, firm performance is noted as two a dimensional variable: Return on Assets and Return on Equity. Each of these variables are noted in this literature review and they speak to how they are used not only to measure firm performance, but it is also used to track organizational effectiveness through the use of programs such as the International Standards Organization (ISO) 9000 as well as ensuring that the organizational assets are being used efficiently.

While ROA and ROE are accounting and finance terms, they are also metrics that are used to measure performance. In the context of this study, firm performance will be

observed for a public firm for a period of ten years. During this period of time, the data will reflect the ROA and ROE percentages. These percentages will be reflected for ten years with emphasis being placed on three year intervals according to the literature. Also, these percentages will be reflected relationally with the CEO of the firm during this ten year period. As a result, it is expected that not only will ROA and ROE reveal how the firm is performing, but the data will also take into consideration how the economy affected firm performance in a particular industry.

This study is set from 1999 to 2009. During this period, the economy experienced robust growth, production and earnings associated with the dot com boom and it also experienced decline, uncertainty, and sluggish production due to the events of September 11, 2001 and its aftermath. Consequently, it is expected that the data will help depict how firms across a sector performed and how the CEOs fared in a very difficult economic period.

Chapter Three will explain in detail the variables and factors that are used in this study. In addition, the statistical framework associated with these constructs and the model will be detailed, which will not only solidify the linkage between the literature review and the model, but that it will graphically depict the relationship between CEO tenure and firm performance.

Gross Domestic Product

The Gross Domestic Product (GDP) is a measurement of the value of goods and services produced by the U.S. economy in a given time period (Bureau of Economic, 2007). As such, the GDP is one of the most comprehensive and closely watched economic statistics (Bureau of Economic, 2007). For example, the GDP is used by the

White House and Congress to prepare the Federal budget, by the Federal Reserve to formulate monetary policy, by Wall Street as an indicator of economic activity, and by the business community to prepare forecasts of economic performance that provide the basis for production, investing, and employment planning (Bureau of Economic, 2007).

In this study, GDP will be used to reflect the state and condition of the economy for each year noted in the study. In essence, while this study looks at CEO tenure and firm performance, GDP will create a context by which these two constructs are considered and evaluated. This use and application of GDP has been noted in previous studies where economic phenomena are expressed as a percentage of GDP (Cebula & Cuellar, 2010; Domit, 2010; Elmslie & Tebaldi, 2010; Mitchell & Pearce, 2010).

CHAPTER THREE: METHODOLOGY

This study focuses on the phenomenon of CEO tenure and its relationship to turnover among CEOs and firm performance. Each of these constructs is noted prominently in the literature. This study consists of independent and dependent variables. As such, an independent variable is a predictor, antecedent, or presumed cause or influence under investigation in a study (Gliner & Morgan, 2000). In this study, the CEO tenure construct is the construct that is identified as the independent variable, which will be reflected on the "x" axis. The results that are reflected in this study will be directly influenced by CEO variable, which is the number of years in office. This means that the data values with CEO tenure of three, six, or seven years will have a direct bearing not only on how the dependent variable is derived, but it will also have a bearing on the dependent variable will be viewed and evaluated.

The dependent variable is the outcome or criterion (Gliner & Morgan, 2000). The dependent variable is assumed to measure or assess the effect of the independent variable (Gliner & Morgan, 2000). As such, the dependent variable should be reliable, sensitive, and distributed in a way that conforms to the assumption of the data analysis model (Myers, 1976). It is important to note that reliability will be a factor to the extent that measures equivalent in all other respects differ in variability. The measure that is least variable under constant experimental conditions is preferred (Myers, 1976). In this sense, firm performance satisfies this condition.

With respect to firm performance constructs, Return on Assets (ROA) and Return on Equity (ROE) are consistently reflected in the literature (Allgood & Farrell, 2000;

Mainiero, 1994; Moore, 2009; Rowe & Morrow, 1999). These constructs will function as the dependent variable in this research and associated data analysis. The model that is presented here reflects firm performance as a function of CEO tenure. While these performance constructs are prominently noted in the literature, these constructs reflect a variety of application in terms of assessing firm performance, CEO compensation, and CEO turnover. In the sense of evaluating firm performance, these constructs are applied in ways that reflect the unique nature and character of the metric. For instance, Moore (2009), along with Allgood and Farrell (2000) note that ROA and ROE are different key performance measures of special interest to the financial industry. Specifically, ROA is an indicator of how profitable a company is in terms of its relative assets (Fraser, 2001). ROE is noted as the amount of net income returned as a percentage of shareholders' equity (Fraser, 2001). These metrics reflect the tenor of the firm's financial strength, financial liquidity, and capacity to adapt to evolving economic conditions.

The literature indicates that ROA and ROE are measures that can be associated with involuntary CEO turnover (Allgood & Farrell, 2008; National Bureau of, 2006; Nourayi & Mintz, 2008). These measures reflect performance of the firm and are used to influence a board's decision to terminate or retain a CEO. These measures indicate how extensive accounting measures such as these can be used to not only assess a firm's financial agility and strength, but it also serves as a context to evaluate firm performance and personnel decisions.

With respect to CEO executive personnel employment decisions, CEO tenure continues to be associated with ROA. Specifically, ROA has been used in the financial sector (i.e., commercial banks) as a means of determining CEO compensation. While

determining CEO compensation, CEO tenure and performance is taken into consideration (Crumley, 2008; Department of, 2010).

It is important to note that the economy tends to influence CEO turnover, tenure, and firm performance. Jenter (2006) notes that the state of the economy may affect firm performance and CEO turnover. Glenn (2006) notes that the general economic milieu such as competition, financial markets and government legislation tend to influence how firms fare.

Finally, the literature notes that CEO involuntary turnover is related to employment contract periods (Marshall School of, 1998; National Bureau of, 2006; Schwab & Thomas, 2005; Vanderbilt, 2005). In perusing the literature, it is noted that CEO turnover is often evaluated as a subtext to CEO tenure. As such, the causes of CEO turnover are identified (Allgood & Farrell, 2000).

Contributions to the Body of Knowledge

As noted earlier, this study considers the relationship between CEO tenure and firm performance. As such, it is expected that this research will consider the relative value of factors in CEO compensation: namely ROA and ROE. This study, therefore, will examine the strength of the prediction of ROA and ROE performance using CEO tenure years (which is used as a proxy for learning) once two major factors of firm performance have been accounted for.

A second contribution ensuing from this study will focus on the phenomena of contract years as it relates to CEO employment contracts (The University of, 2005). Previous studies noted aspects of CEO contract length (typically three or five years) as well as the problems encountered with terminating CEO employment before contract end.

Therefore, this study will show whether contract term terminations are visible. If the terminations are visible, it is expected that a determination is made that ROA or ROE were influential in the termination (Schwab & Thomas, 2005).

A third contribution will compare performance across the finance sector by category over a ten year period of time. Previous studies compare multiple sectors of firms or only one category within the finance sector (Crumley, 2008; Department of, 2010). As this study will focus on a single sector, a baseline of ten years will be used to note the effect of CEO tenure once the effects of firm category and annual economic climate have been removed (Glenn, 2006).

A fourth contribution to the body of work will focus on the performance constructs of ROA and ROE. As such, this study will show the explicit relationship between CEO tenure and firm performance as measured by ROA and ROE.

A fifth contribution will generalize results across the industry versus studies unique to category. As such, the results will represent a broad sampling of firms within the financial services sector instead of the firm type specific analysis noted in previous literature (Crumley, 2008).

This study will assess the relative impact of annual performance evaluation and CEO tenure. With that said, this study will evaluate firm performance in three year increments where CEO turnover is likely to occur (National Bureau of, 2006; Schwab & Thomas, 2005). This assessment is appropriate when evaluating CEO tenure.

Finally, this research will determine if consistent and increasing firm performance are a function of CEO tenure. While turnover is noted to be attributed to be disciplinary, involuntary, or voluntary, the phenomenon of poor performance is often the basis for

CEO turnover. Therefore, individuals occupying the office of the CEO in successive years are expected to reveal a correlation with firm performance.

Research Questions

Now that the contributions of this study are identified, the following represents questions that will drive and focus the research effort. The questions are as follows:

RQ1. Is there a relationship (linear) between CEO tenure and financial firm performance as measured by ROA and ROE?

RQ2. Is there a difference in the relationship between ROA and ROE and CEO tenure?

RQ3. Is there evidence that there is a greater CEO turnover on the three or five year CEO anniversaries?

RQ4. Is there evidence that the turnover on contract anniversary is related to firm performance as measured by ROA and ROE?

RQ5. Is there evidence of differences in financial firm categories' of performance in terms of ROA and ROE?

RQ6. For the period of time leading up to ten years in office does the firm show an increase of financial performance as measured by Return on Assets and Return on Equity with the same CEO?

Hypotheses

These questions reflect the essence of the research. The following statements of hypothesis delve into the depths of data that will shape the responses appropriate to the questions. The hypotheses are noted as follows:

***H_1*.** There is a linear relationship between CEO tenure and firm performance.

***H_2*.** Relationships between CEO tenure and firm performance in terms of ROA and CEO tenure and performance in terms of ROE will differ.

***H_a*.** CEO tenure at the first two three-year intervals will reflect a higher turnover than interim and later tenure years in the financial sector of the US economy.

***H_4*.** There is higher financial firm performance in terms of ROA or ROE for CEOs the year after the expiration of the three-year periods.

***H_5*.** CEO turnover is at its peak by the CEO sixth year of office.

***H_6*.** Firm performance under the same CEO consistently increases between years seven and ten as measured by Return on Assets (ROA) and Return on Equity (ROE).

Methods

This section of the paper speaks to the mechanics of this study for population, sample and sampling, statistical design, and analysis.

Population

The methods of this study will consist of population and sampling. The population is the finance sector of the U.S. economy that existed from 1999 to 2009. This population will be gleaned from the Securities and Exchange Commission's Edgar Database. Equally as important, the data will be gleaned from the Pro-Edgar database.

Sampling

Sampling is used to reduce 3000 firms to a more tractable 300 or 10% -- small enough to manually collect the data from financial reports but large enough to enable an average of 30 CEO tenure records at each duration of interest providing "power" against Type II statistical errors via replication. Samples were allocated 10% to each of the 10 categories within the Finance sector to examine potentially different results within sector

(banks are likely to have different asset bases than commercial investment firms leader to different ROE and ROA).

Stratified Sampling

The number of firms in each category was found from Pro-Edgar summary statistics. For each category, the following observations are expected:

- The Pro-Edgar number divided by 10 equals the sample size (10%).
- Using the sequence of digits in a table of random numbers from Siegal, "Nonparametric Statistics" the number in alphabetical order of each firm to be in the sample for the stratum was found and the firm name entered into an excel spreadsheet, then duplicated ten times (for ten years).
- Starting at 1999 to 2000, the firm's annual reports were accessed from Pro-Edgar and the data collected and entered to the row corresponding to the year and firm.
- CEO tenure was calculated by subtracting the year that the annual report said she or he became CEO from the date of the report (second year, e.g., 2000-2001 is 2001 annual report).

Statistical Design

In framing the design of this study, it was noted that Meyers (1976) identifies that independent and dependent variables are necessary – specifically, the predictor variable which is independent and the response variable which is also known as the dependent variable. In this study, the predictor variable is CEO tenure, which is reflected along the "x" axis. The performance response variable is ROA and ROE. In addition to the predictor variable and response variable, this study takes into consideration some of the factors noted in this multivariate scenario. Specifically, a factor in this study is identified as annual economic conditions, which is noted by the variable T. In addition, the factor of firm category is noted in this study as the variable F. These variables are noted in the multivariate equations reflected in the following section, but they will be used in this

study to provide a context or perspective into the statistical results that are derived. These factors will provide insights and consideration associated with the results linked to the independent and dependent variables.

Literature on Experimental Design

The statistical operations applied in this study consist of the Linear Mixed Model (LMM). This model is an extension of the general linear model which can accommodate random effects and correlation of residuals with units (Diggle, Heagerty, Liang, & Zeger, 1994/2002). This approach adjusts the statistical tests properly when there are units with multiple measurements – specifically in the case of this study where CEOs are the units and the yearly data are the multiple measurements.

LMM has a significant presence in the practice of research as it is used in business, psychology, and sociology. For example, LMMs have been used to assess the value and effectiveness of High Performance Work Systems as a means of maximizing a firm's competitive advantage (Takeuchi, 2009). The results from this study sheds new light on the mechanism through which High Performance Work Systems impacts employee outcomes and serve to bridge between macro and micro perspectives of human resource management (Takeuchi, 2009). John T. Large and Alan M. Sear (2008) recognized the appropriateness and value of the LMM and applied it in their research focusing on profit making pressures from the Medicare HMO inpatients toward Florida hospitals. This research showed that Florida hospitals experienced financial pressures from the Medicare HMO entities to achieve greater profits (Large, 2005). Lastly, Bushnell (2003) uses LMMs to present a modeling framework for analyzing competition between multiple firms that each possesses a mixture of hydroelectric and thermal

generation resources (Bushnell, 2003). Bushnell's study shows that some firms may find it profitable to allocate considerably more hydro production to off peak periods then they would under perfect competition. Consequently, the LMM is a statistical methodology whose presence is reflected in the discipline of research. In addition, this methodology is noted as substantive, valid, and useful as reflected in the literature.

Methods – Mathematical Model

The appropriate model to test Hypothesis 4, CEO tenure effect on financial firm performance using multivariate response variables is an LMM. The model is noted as follows:

$$\underline{Y} = \underline{a} + \underline{b} * X + c*(\log)X + \underline{F}(i) + \underline{T}(j) + GDP(j) + \underline{e}\ (IJ)$$

In this model, the factors that are underlined signify a vector of two values for each parameter and factor.

Firm Performance: Parameter 'a'

This regression model parameter is present in all regression, MANCOVA, and MANOVA models. It is the average of the response variable for all firms during the study years.

In this model, there will be two overall averages – one for Return on Equity and one for Return on Asset. MANCOVA will show if there are differences in the whole models, not just the parameters. All of the other indices – the linear parameter for CEO tenure (X) and classification variables for firm category (c) and study year (T) are represented as deviations above or below these means.

Firm Performance: Parameter 'b'

This bivariate (two values) parameter estimates the impact of CEO tenure on the bivariate Performance Variables (ROA and ROE). This study defines CEO tenure as the successive occupation in years. The covariance aspect of the model is a linear regression of Performance on CEO tenure, so the sub-model is Y is a + b * X.

Firm Performance: Factor F

This factor allocates an observation into one of the ten (10) categories in the financial industry sector as defined in Pro-Edgar. The firm categories are as follows:

- Insurance (Life, Accidental and Health, Miscellaneous, and Property and Casualty)
- Consumer Financial Services
- Financial Services (Investment and Miscellaneous)
- Banks (Money Center, Regional and Savings and Loans)

Firm Performance: Factor T

Factor T is the year in the study of the data record ("observation"). This study includes data for the firms from 1999 through 2009 (ten annual periods). This factor was included as a blocking factor that might cause enough variation in or both of the response variables to make the CEO tenure effect invisible. In a sense, the factor is also a proxy for the economy.

Firm Performance: Parameter E

E is the parameter that represents "error" but is the deviation of the actual ROA or ROE from that predicted by the model when the other parameters and variables have been estimated using lease squares method to fit the data to a linear model:

Y is predicted from plugging into "a + b * X + F(i) + T(j)" the values for an observation equals record in the data file. A record in the data file consists of Y(x,i,j) equals the ROA and ROE for a length of CEO tenure equals x, a firm category equals Fj and a year in the study equals k. So e (e,j.k) = Y(x,j,k) – Y (model estimate) for each of ROA and ROE.

Methods – Model Explanation

The model is expected to show that the longer a CEO's tenure, the higher the firm's performance. The classification variables are used to reduce the statistical noise that might obscure that effect and have minor descriptive value of their own.

Methods – CEO Turnover Model

To analyze CEO turnover requires counts of CEOs in X and T combinations that they can be compared to a scattergram of the observations.

Hypothesis three (3) considers CEO turnover at contract expiration years. The analysis begins with a simple test of independence of rows (X, tenure length) and column (T, column years). This statistical result will be derived by using the SPSS Cross Tabulation function. This will be accomplished specifically by examining the cell counts contributing most to the significant result to see if the hypothesized ripples occur between CEO tenure length three and four years, possibly five and six years, and six and seven years.

Hypothesis three (3) considers turnover increases at the end of the contract periods. This analysis uses a logistic regression model to see if there are hypothesized steps up in the average performance for CEOs of longer tenure after contract expiration years.

The model for this analysis is noted as follows: log(p/(1-p)) = a + bX + c*log(x) + d*flag3(i) + e*flag5(i) where log(p/(1-p)) is the odds ratio of the CEO being terminated (p = prob(terminated); the odds ratio is the standard dependent variable for logistic regression.

Other statistical methods will include multiple regression. As noted above, logistic regression is a complex associational statistical technique used to predict a dichotomous dependent or outcome variable from a combination of several independent variables, some or all of which can be dichotomous (Gliner & Morgan, 2000). Multiple regression is a complex associational statistical technique used to predict a normally distributed outcome or dependent variable from several normally distributed or dichotomous independent prediction variables (Gliner & Morgan, 2000).

CHAPTER FOUR: PRESENTATION OF FINDINGS AND ANALYSIS

This chapter discusses the methodology applied in this study in terms of data collection, data compilation, statistical analyses and its consequential findings. This methodology is necessary to analyze and interpret the findings related to the study's research questions and associated hypotheses.

The primary research question for this study is as follows: Does CEO tenure positively affect firm performance? The supporting questions are noted as follows:

RQ1. Is there a relationship (linear) between CEO tenure and financial firm performance as measured by ROA and ROE?

RQ2. Is there a difference in the relationship between ROA and ROE and CEO tenure?

RQ3. Is there evidence that there is a greater CEO turnover on the three or five year CEO anniversaries?

RQ4. Is there evidence that the turnover on contract anniversary is related to firm performance as measured by ROA and ROE?

RQ5. Is there evidence of differences in financial firm categories' of performance in terms of ROA and ROE?

RQ6. For the period of time leading up to ten years in office does the firm show an increase of financial performance as measured by Return on Assets and Return on Equity with the same CEO?

The research data addresses the research questions about CEO tenure and its influence of firm performance. Therefore, the purpose of this study is to assess the

influence and impact that CEO tenure has on firms. More specifically, the study considers CEO tenure across the financial services sector. In doing so, the study considers the bearing of CEO tenure across specific firm types such as (a) Insurance Firms (Life, Accidental, Health, Miscellaneous, and Property and Casualty); (b) Consumer Financial Services Firms; (c) Financial Services Firms (Investment and Miscellaneous); and (d) Banks (Money Center, Regional, and Savings and Loans), and the influence it has on firm performance.

Data Collection Framework

The data source for this study was anchored in the U.S. Securities and Exchange Commission (SEC). The data that was used for this study was taken from the SEC's Electronic Data-Gathering Analysis and Retrieval (EDGAR) system. This database was accessed through Edgar Pro, a web based subscription service that allows access to real time, comprehensive SEC information. Edgar Pro is accessed at www.pro.edgar-online.com via the Internet. The information noted in this database consists of:

- SEC filings ranging from annual reports (Form 10-K, Form 10-K/A),
- company reports announcing major events that investors must know about (8-K),
- governance filings such as Forms 4 (Statement of Changes of Beneficial Ownership of Securities),
- SC-13D/A (General Statement of Acquisition of Beneficial Ownership),
- 3 (Initial Statement of Beneficial Ownership of Securities), and
- N-CSR (Certified Shareholders Report of Registered Management Investment Companies) (www.sec.gov)

For the purposes of this study, the annual reports are the primary source of information and contain the necessary data to be collected. The time period for this study

is from 1999 to 2009. As noted in Chapter Three, the firms associated with this study were identified to be collected via a random number generator through Microsoft Excel. While this approach was used in the beginning to identify firms that would fit the criteria of this study, it became apparent early in data collection process that the random number generator would not be effective in this study. The reason for this conclusion is that as the random number was generated to select a firm from the data pool, the researcher found that the firms associated with the randomly generated number did not identify a firm or firms that fit the study's criteria in terms of annual reports or in the years necessary to satisfy this study. As a result, the random number generator was discontinued in this study.

Data Collection Process

As noted in the Data Collection Framework, the researcher was not able to proceed with the random number generator to identify a randomly selected firm. As a result, the researcher reviewed the respective samples of firms and selected those firms that satisfied the criteria of the study. The firms were listed in alphabetical order in the database. In reviewing the firms, the researcher identified those firms that satisfied the requirement of availability of annual reports for the years identified with this study. Specifically, the firms were selected by the criteria of annual reports for the years associated with the study period of 1999 to 2009. In the end, this selection was accomplished until the desired stratified sample size was achieved.

In Chapter Three, the researcher identified a stratified sample of 300 firms which was derived by reducing 3000 firms to a tractable size or 10%. It is important to note that at the time the population and sample sizes were identified, the number of firms

associated with the population and sample suggested that the population and sample size would be 3,000 and 300 respectively. Consequently, the sample size of 300 was identified since it is small enough to manually collect the data from financial reports but large enough to enable an average of 30 CEO tenure records at each duration of interest providing "power" against Type II statistical errors.

In reviewing the data, the researcher started with a population of 3,486 firms, which was larger than initially anticipated as a population size of 3,000 firms was planned. As the researcher began to identify those firms qualifying for this study, it became clear that the firms in the Miscellaneous Financial Services category were problematic. Specifically, the problem with this category was that there were not enough suitable firms to satisfy the 10% threshold for this category. As the researcher began vetting firms for this study, it was discovered that firms within the Miscellaneous Financial Services category contained very few firms that qualified for this study and satisfied the criteria of the study. Specifically, the researcher's vetting of the firms indicated that out of approximately 500 firms reviewed only 18 firms were suitable for this study, which translates to approximately 4% of the firms reviewed.

Additional review of the firms within the Miscellaneous Financial Services category revealed most of the reporting reflected in this category was that of a governance nature. The reports observed in this category are noted as follows:

- Forms 8K (Current Report),
- 4 (Statement of Changes of Beneficial Ownership of Securities),
- SC-13D/A (General Statement of Acquisition of Beneficial Ownership),
- 3 (Initial Statement of Beneficial Ownership of Securities), and

- N-CSR (Certified Shareholders Report of Registered Management Investment Companies). (www.sec.gov)

Given the volume and type of reports for this category that were not annual reports and unsuitable for this study, this firm category was removed from the sample, which resulted in a total sample of 2,071. As such, the researcher concluded that the appropriate annual report documents needed for this study were scarce and inadequate to use for this study – particularly for this firm category. Consequently, the researcher decided to eliminate this category as a sample of consideration.

The chart in Table 1 denotes the firm types or categories along with the number in their respective stratified sample categories. In addition, the table below denotes the number of firms associated with the firm categories and the total number of firms noted for the entire sample. The category of Miscellaneous Financial Services is noted appropriately by superscript a ([a]).

Since there only 2,071 total firms in the population, the stratified sample per firm type is 15%. This 15% was used to create a large enough sample that would generate at least 300 firms. In addition, the 15% was used to militate against the loss of data associated with the Miscellaneous Financial Services firm type. The total number of firms from which this sample is derived is shown in Table 1.

Table 1.

Firm Type Listing

Firm Type	*n* Sampled Firms	Total # Sample Elements
Consumer Financial Firms	25	234
Insurance (Accident & Health)	11	91
Insurance (Life)	12	102
Insurance (Miscellaneous)	7	20
Insurance (Prop. & Casualty)	32	160
Investment Services	30	177
Miscellaneous Financial Services[a]	29	1415
Money Center Banks	8	31
Regional Banks	129	875
S&Ls Savings Banks	56	381
Total	310	2,071

[a]This category was removed from the sample of consideration.

The removal of the Miscellaneous Financial Services category reduced the population to approximately 2,071 firms. It was further decided to take 15% of the total firms noted in the sample to create a stratified sample size of 310 – approximately 10 additional firms in excess of the original sample size of 300. In conclusion, the size of the stratified sample identified for this study is 310.

The final number of firms used for this study is 282. This number speaks to the number of firms where there was repetitive data in some of the sample firms or there was duplicative data. In addition, there were a number of firms where there was recurring terminations and hirings of CEOs in the data. This phenomenon created a concern in that these firms didn't satisfy the criteria of firms identified for this study. As a result, the

researcher eliminated these firms from the sample to ensure that the statistical results associated with this study would be based on sample firms that reflected the data elements of this study without needlessly influencing the results associated with the duplications. The firms noted in the sample are shown in Appendix A and Appendix B.

As the data was collected, the researcher used Microsoft Excel spreadsheets to record the data noted in the annual reports. The data collected on the spreadsheets was the firm's name, the name of the Chief Executive Officer's (CEO), income statement information such as net income, balance sheet information such as total assets and stockholders' equity. The Return on Assets and Return on Equity results were based on the following formulae:

- Return on Assets = Net Income/ Total Assets
- Return on Equity = Net Income/ Shareholder's Equity

Annual Report Review

Each company identified in the stratified sample contains an annual report. These annual reports are reviewed for each year identified for this study. Specifically, the information regarding the company's net income, total assets, and shareholders' equity is identified and noted. Microsoft Excel is used to capture the data that is contained in the annual report. Each data record consisted of approximately 12 rows by 10 columns. The columns had headings that denoted the (a) year, (b) firm's name, (c) name of the CEO, (d) number of years that the CEO had held in the firm at the time a specific annual report was released, (e) total assets of the firm, (f) shareholders' equity of the firm, (g) return on asset number, (h) return on equity number, and (i) Gross Domestic Product (GDP) that indicated the size and state of the economy.

The annual report denotes the CEO of the firm for each year. While some annual reports provided a history of the CEOs and the firm's board of directors, more often is was necessary to conduct an Internet search on the CEO to ascertain details of the CEO's history with the firm. The Internet search directed the researcher to several websites – most often to Business Week and Forbes. The Business Week and Forbes websites allowed the researcher to not only identify the totality of the CEO's professional history, but it allowed the researcher to focus on the CEO's tenure with respect to the firm in question.

Gross Domestic Product

As noted in Chapters Two and Three, the GDP data is critical to this study. Consistent with the CEO and firm data that is noted in the Microsoft Excel spreadsheet, there is a column on the spreadsheet that is reserved for GDP data for each year noted for this study. In this study, Real Gross Domestic Product data is identified and collected from the Department of Commerce via the Bureau of Economic Analysis (http://bea.gov/national/index.htm#gdp). This data is reflected in each data record of each firm noted in this study.

In the next section of this chapter, the focus of the discussion will center on the statements of hypotheses and their associated statistics.

Statement of Hypotheses

This statistics for this study were calculated using the IBM Statistical Package for Social Science (SPSS), Version 19. In using this software, the Linear Mixed Model (LMM), logistic regression, and multiple regression were used as noted in Chapter Three. As such, these models are very appropriate given the data associated with this research.

The statistical outcomes are noted as follows with their associated statements of hypotheses.

Hypothesis One

H_1. There is a linear relationship between CEO tenure and firm performance.

Hypothesis One tests for a linear relationship between CEO tenure and firm performance by applying the LMM. This model was used due to the breadth of the data reflecting CEO tenure. The diversity and range of tenure years was of such that the LMM best accommodated the data and was deemed the most appropriate model to deliver the results noted below. The syntax of the LMM as reflected in SPSS is noted as follows: RoE_{ijk} (or RoA_{ijk}) = intercept + b*$tenure_{ij}$ + c_k*firm type k + d*flag1 + e*flag2 + f*flag3 + g*flag4 + $e_{ijk.}$

This equation and the associated syntax are reflected in detail in Appendix D. Figure 1 reflects the results of this statistical operation.

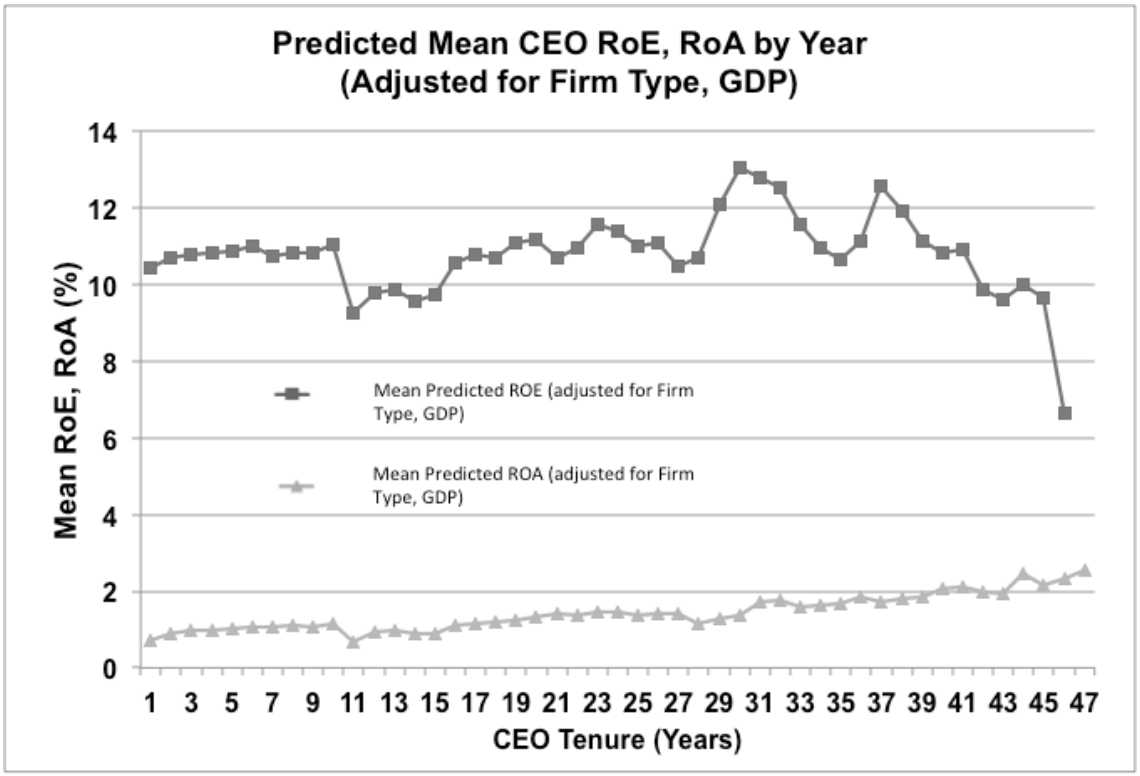

Figure 1. Projected mean CEO ROE, ROA by year.

As noted, firm performance is defined by Return on Equity and Return on Assets, which is reflected on the 'y' axis. As Figure 1 shows, the mean predicted ROE increases linearly – in a slightly upward slope – throughout the range of CEO's tenure years noted in the data. In addition, ROE steadily increases after 10 years and does not change in a statistically significant way thereafter. It is important to note that there are statistically significant phenomena occurring along the mean ROE line. For example, over the course of 10 years, the chart suggests that ROE increases by 16 points and 1.62 points by year 11. This profitable performance continues into tenure year 16 although there is a slight decline in mean ROE, which is noted at (.96). This phenomenon is noted more prominently in the Parameter Estimates Table denoting Type III Test of Fixed Effects in Appendix E.

With respect to the mean ROA, there is a similar pattern of linear movement. This measure within this hypothesis is deemed statistically significant in that10-year block of performance, it is noted that ROA increases .05 points. In year 11, it is noted that ROA increases .25 points. This phenomenon is noted in more detail in the Parameter Estimate Table denoting Type III Test of Fixed Effects in Appendix F. The statistical significance with the mean ROA validates this hypothesis. Therefore, the hypothesis that there is a linear relationship between CEO tenure and firm performance as measured by ROE and ROA is supported by the data.

Hypothesis Two

H_2 Relationships between CEO tenure and firm performance in terms of ROA and CEO tenure and performance in terms of ROE will differ.

Hypothesis Two is similar to Hypothesis One in that ROA and ROE are evaluated in the context of CEO tenure. As in Hypothesis One, Hypothesis Two was tested using the LMM. The equation used was a linear mixed model, fit by SPSS version 19, using the MIXED command. This method allows the residuals for a given CEO to be correlated with each other, more than they are for other CEOs -- this helps allow for the dependence within each CEO's results. The LMM notation and associated syntax is reflected in Appendix D of this study.

As Figure 1 shows, there is a marked change in firm performance as noted by ROA and ROE when considered with CEO tenure. Figure 1 shows the movement of ROA and ROE among different trajectories with mean ROA showing ranging from .5% to approximately 2.5%. Similarly, mean ROE reflects movement at approximately 10. 5% with a trajectory reaching its high point 13% at tenure year 30. Subsequent to tenure

year thirty, ROE declines steadily with a spike reflected in tenure 37. This decline can be attributed to the smaller quantity of CEOs with tenure higher than 30 years.

In a different vein, it is noted that mean ROE is much more robust than mean ROA. While both of these constructs are justified in the literature as valid firm performance constructs, ROE clearly shows a more robust performance consistently through the data and the tenure years. This robust performance can be attributed to the nature of stockholders equity, which consists of stockholders' investment along with residual earnings and income since the inception of the firm (Fraser, 2001). With respect to this measure, the performance of ROE is statistically significant in this study. The Parameter Estimates noted in Appendix E highlights this significance. The various sectors noted in this study show a consistently strong performance as an industry. While ROE was noted at .16, 1.62 and (.96) in years 10, 11, and 16 respectively, it can be deduced that collective measure of ROE is representative of firms within this sector. The Parameter Estimates in Appendix E highlight the statistical significance of these sectors in more detail.

Figures 2 and 3 reflect the tracking of ROA and ROE respectively.

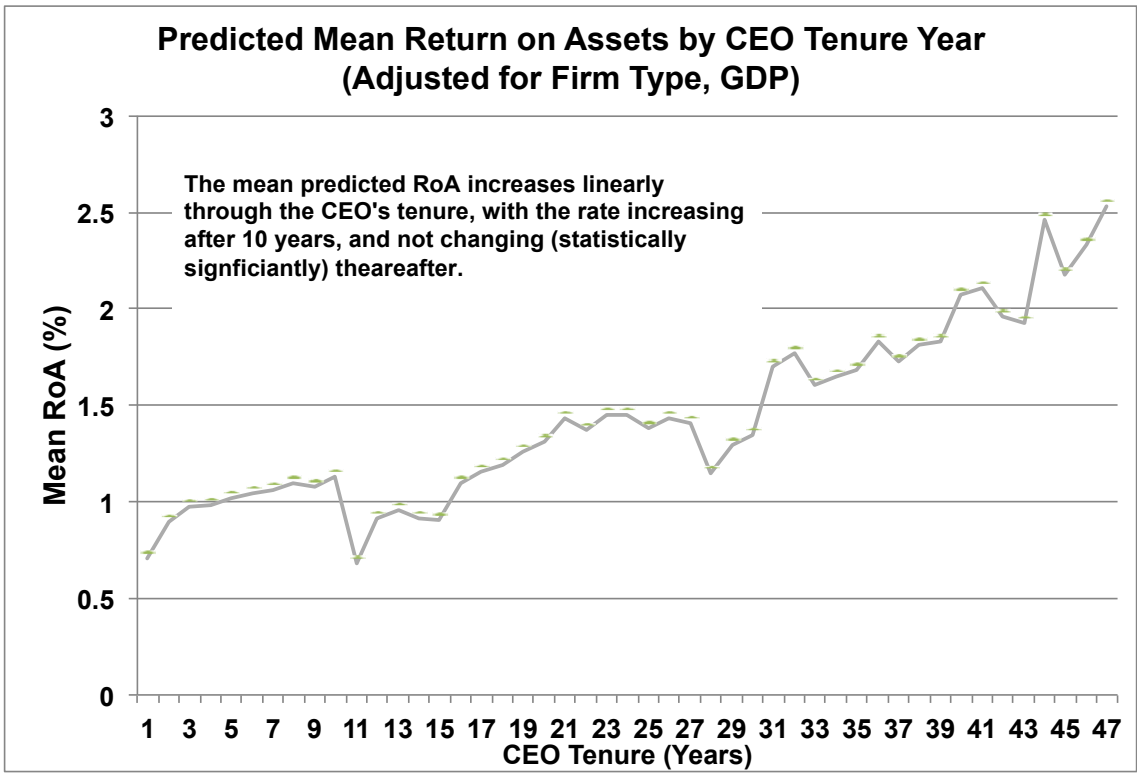

Figure 2. Projected mean return on assets by CEO tenure year.

In this chart, it is noted that ROA grows steadily up through tenure year 10. There seems to be reasonably steady growth in ROA through the range of the data. In light of the declines noted in these tenure periods, the trajectory of the ROA chart line reflects a steady and deliberate growth. As a point of note, the changes observed here are due to a changing mix of firm types and GDP figures. ROA is statistically significant in that firm performance at the end of 10 years reflected growth and increase at .05 points. This growth and increase continues into tenure year 11, which is noted at .25. These details are noted in the Parameter Estimates noted in Appendix F.

It is important to note that while ROA reflected growth collectively, it is important to note that many of the firm types encountered difficulty in achieving consistent and profitable performance. The Parameter Estimates in Appendix F reveal

the challenges observed by the sectors. Figure 3 reflects the movement and tracking of ROE as it relates to CEO tenure years.

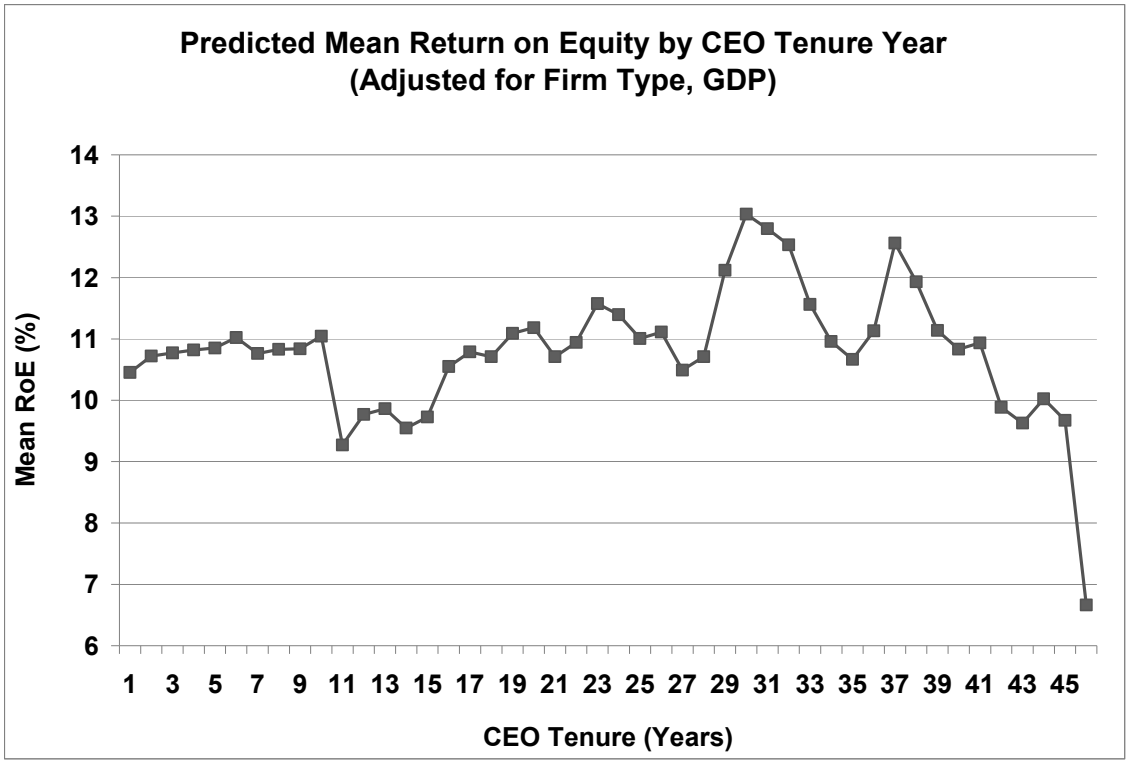

Figure 3. Projected mean return on equity by CEO tenure year.

This chart shows that the mean ROE increases linearly through the CEO's tenure, with the rate increasing after 10 years, and not changing (statistically significantly) thereafter. As a point of note, the changes observed here are due to a changing mix of firm types and GDP figures.

The results reported here are statistically significant, which reveals that there is a difference CEO tenure and ROA and CEO tenure and ROE. That said, it can be concluded that ROA and ROE reflect differently in the chart. ROA tracks from approximately .75% to approximately 2.5%. ROE tracks from approximately 10.5% to 13% and ultimately to 6%. That said, Hypothesis Two, which states that relationships

between CEO tenure and firm performance in terms of ROA and CEO tenure and performance in terms of ROE will differ is supported by the data.

Hypothesis Three

H_3. CEO tenure at the first two three year intervals (1-3 and 4-6 years respectively) will reflect a higher turnover than interim and later years in the financial sector of the US economy.

Hypothesis Three was tested by using a cross tabulation and logistic regression model. The logistic regression model is noted as follows: log(p/(1-p)) = a + bX + c*log(x) + d*flag3(i) + e*flag5(i) where log(p/(1-p)) is the odds ratio of the CEO being terminated (p = prob(terminated); the odds ratio is the standard dependent variable for logistic regression. Flag3 is a binary variable which equals 1 when the tenure year-3; = 0, otherwise, Flag6 is a binary variable which equals 1 when the tenure year = 6; = 0, otherwise. The effects of these binary variables are to capture and test "spikes" in turnover which might occur at these times.

The result of this model is reflected in the graph noted as Figure 4.

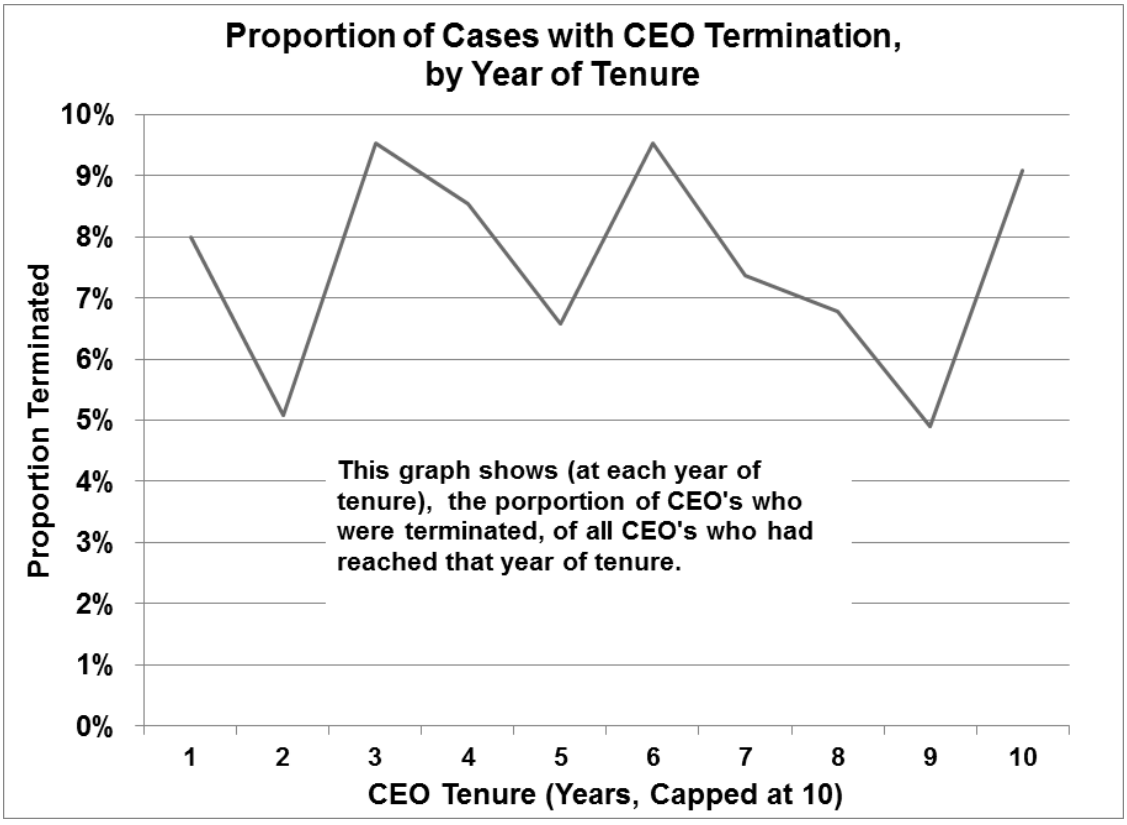

Figure 4. Proportion of cases with CEO termination.

This graph was derived by the data points reflected in the cross tabulation table shown in Figure 5. The data reveals through the graph that CEO turnover is down in tenure years one and two, which also agrees with CEO termination observation noted for tenure years one and two in the cross tabulation. However, a spike in CEO turnover is very noticeable in tenure year three. In tenure years four and five, a decline in CEO turnover is reflected in the graph. In tenure year six, an increase in CEO turnover occurs. This phenomenon of turnover at tenure years three and six corroborate the phenomenon of CEO turnover noted in the literature (Hou & Chiang, 2008, Allgood & Farrell, 2000; Bruton, Friend, & Hirsh, 1997). That said, it is important to note that this phenomenon of turnover noted in this study is not statistically significant. This means that while CEO

turnover occurs in this data, it cannot be ruled out that the observed spikes occur by chance.

As additional attention is directed to the graph, it is noted that a decline in CEO terminations occurs in tenure year seven. The decline in CEO terminations continues well into tenure year nine. Tenure year 10 notes a surge in CEO turnover that does not exceed the levels of tenure years three and six. This observation is noted in Figure 5. The cross tabulation below shows CEO termination status by the maximum tenure year they achieved (modified tenure, capped at 10), followed by the statistical tests for independence. The *p* values for a likelihood ratio test of the independence between tenure and termination status was 0.325, meaning that the null hypothesis of no relationship between termination and tenure cannot be rejected the 0.05 level. The cross tabulation is noted below.

Termination Status vs. Max Tenure Achieved in Data Set

CEO Tenure (capped at 10)	Count Terminated		Percentage Terminated		Total
	No	Yes	No	Yes	
1	276	24	92%	8%	300
2	261	14	95%	5%	275
3	237	25	90%	10%	262
4	214	20	91%	9%	234
5	199	14	93%	7%	213
6	190	20	90%	10%	210
7	176	14	93%	7%	190
8	165	12	93%	7%	177
9	155	8	95%	5%	163
10+	980	98	91%	9%	1,078
Overall	2853	249	92%	8%	3,102

Note: this was done for each CEO*Year combination; there were multiple years per CEO

Figure 5. Cross tabulation table.

While reviewing this table, it is important to note that there are multiple instances where more than one CEO is observed with a firm in a given calendar year. For instance, there are 300 CEOs that are noted in year one of Figure 5.

While Figure 5 is the focus of discussion here, it is appropriate to note that the total number of CEOs observed in Figure 5 declines with the progression of time. That said, as the total number of CEOs decline with the passage of time, the termination percentage continues to reflect spikes in CEO turnover.

The Chi Square table (see Table 2) reflects the examination of the overall independence of the probability of being terminated versus the year of tenure. The Chi Square tests the null hypothesis to determine that there is independence between the rows

and columns of Table 2. As the results show in the Chi Square table, there is not a relationship in this data between year of tenure and the probability of termination.

Table 2.

Chi-Square Tests of Independence Between Max Tenure and CEO

	Termination Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.644[a]	9	.380
Likelihood Ratio	10.325	9	.325
Linear-by-Linear Association	.846	1	.358

Note. $N = 3{,}102$ valid cases.
[a]0 cells (.0%) have expected count < 5. The minimum expected count is 13.08.

Table 3 shows the turnover phenomenon at Tenure Year 3 and Tenure Year 6.

Table 3.

Turnover at Tenure Years 3 and 6

Maximum Tenure (capped at 10)		Count Terminated		Percentage Terminated		Total
		No	Yes	No	Yes	
Year 3	No	258	209	55%	45%	467
	Yes	21	24	47%	53%	45
Year 6	No	264	214	55%	45%	478
	Yes	15	19	44%	56%	34
Overall		279	233	54%	46%	512

Note. The *p*-value for one-sided test (higher termination rates at 3- and 6-year periods) was $p = 0.172$ for Year 3 and $p = 0.140$ for Year 6.

The data set (for valid cases only) was aggregated by CEO and the maximum tenure for each CEO recorded, along with the termination status (CEO was/was not

terminated within the span of this data set), resulting in a data set with one row per CEO. A flag variable was set up to mark maximum tenure at tenure year three and tenure year six (the periods of interest). The cross tabs were run with the termination status versus the three and six tenure flags. The result is that there was no significantly statistical association between probability of CEO termination and either the three or six tenure year periods.

Given the information denoted in the graph and the cross tabulations, Hypothesis Three is not supported by the data. While there is a decline in the number of CEOs considered in terms of termination as the span of tenure continued, the percentage of turnover maintains around 10%. That said, while this percentage of CEO turnover is 10%, and while the literature has established CEO turnover as a prominent phenomenon in tenure years three and tenure year six, this hypothesis is not supported by the data and there is no statistically significant evidence to support the CEO turnover observed in this study. In addition, the outcome of this hypothesis fails to accept the notion that CEOs will experience a higher level of turnover than CEOs functioning in the interim and later years of this study. The Output Table noted in Appendix F supports the conclusion that the turnover noted in this study is not statistically significant. Therefore, the conclusion of this hypothesis is that there is no statistically significant evidence to support the phenomenon of CEO turnover in this study. Appendix G and Appendix H reflect the logistic regression model findings used for this hypothesis.

Hypothesis Four

H_4. There is higher financial firm performance in terms of ROA and ROE for CEOs the year after the expiration of the three-year periods.

Hypothesis Four tests a positive relationship for higher firm performance in terms of ROA and ROE as associated with a CEO's time in office using multiple regression analysis. The multiple regression model is noted as $y = b_1x_1 + c + e$, where y is the dependent variable (ROA/ROE), b is the regression coefficient for the corresponding independent variable (CEO tenure), c is the constant or intercept, and e is the error term reflected in the residuals. The multiple regression analysis was executed by IBM SPSS Version 19 and noted in Appendix I with its associated syntax and notation.

Figure 6 reflects firm performance as stated in the statement of hypothesis. It is noted in the literature that CEO turnover occurs most prominently in tenure years three and six (Hou & Chiang, 2008, Allgood & Farrell, 2000, Bruton et al., 1997). As such, it is the researcher's intent to determine if firm performance improves after the second tenure block, which translates to tenure block three -- year seven and beyond.

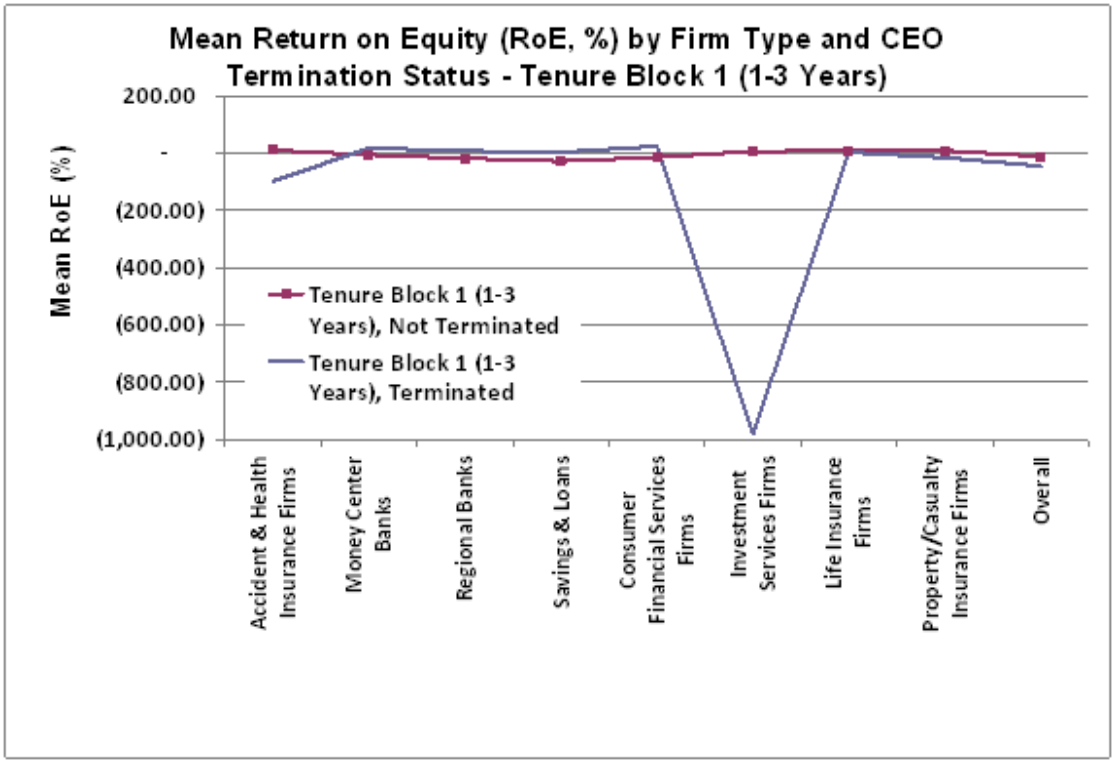

Figure 6. Mean return on equity by firm type and CEO termination status – Tenure block 1.

As noted in Figure 6, the difference in mean firm performance noted in tenure block one is statistically significant. This phenomenon of firm performance is noted by Allgood and Farrell (2000) and it is also noted in the Parameter Estimates listed in Appendix J. The Parameter Estimate identifies two parameters that are significant – those for tenure block one and the Investment Services Firms.

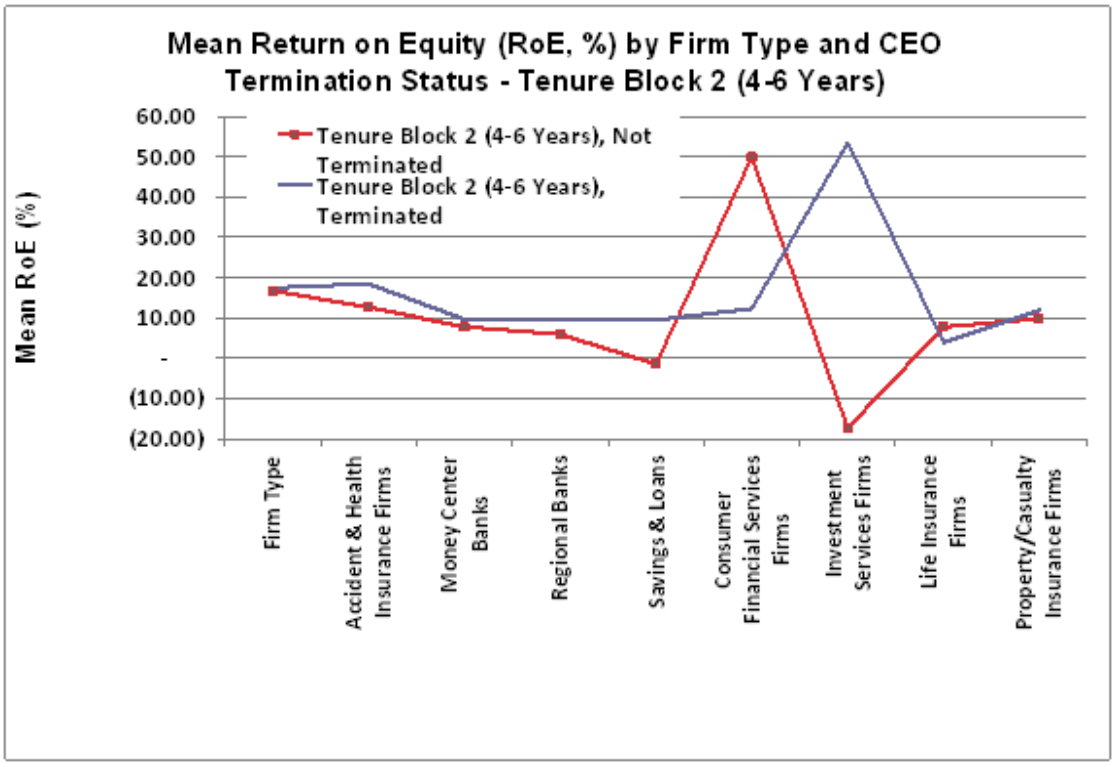

Figure 7. Mean return on equity by firm type and CEO termination status – Tenure block 2.

Figure 7 and Figure 8 reflects firm performance by tenure blocks two and three respectively. Figure 7 indicates that firm performance in tenure block two is comparable to tenure block one. While observing the performance, it is noticeable that CEOs that were not terminated achieved a mean ROE less than those firms whose CEOs were terminated. While there is a significant surge in revenue for Consumer Financial Firms for those CEOs not terminated, its mean ROE is less than the ROE achieved by the CEOs that were terminated. This observation, while noticeable, is not statistically significant.

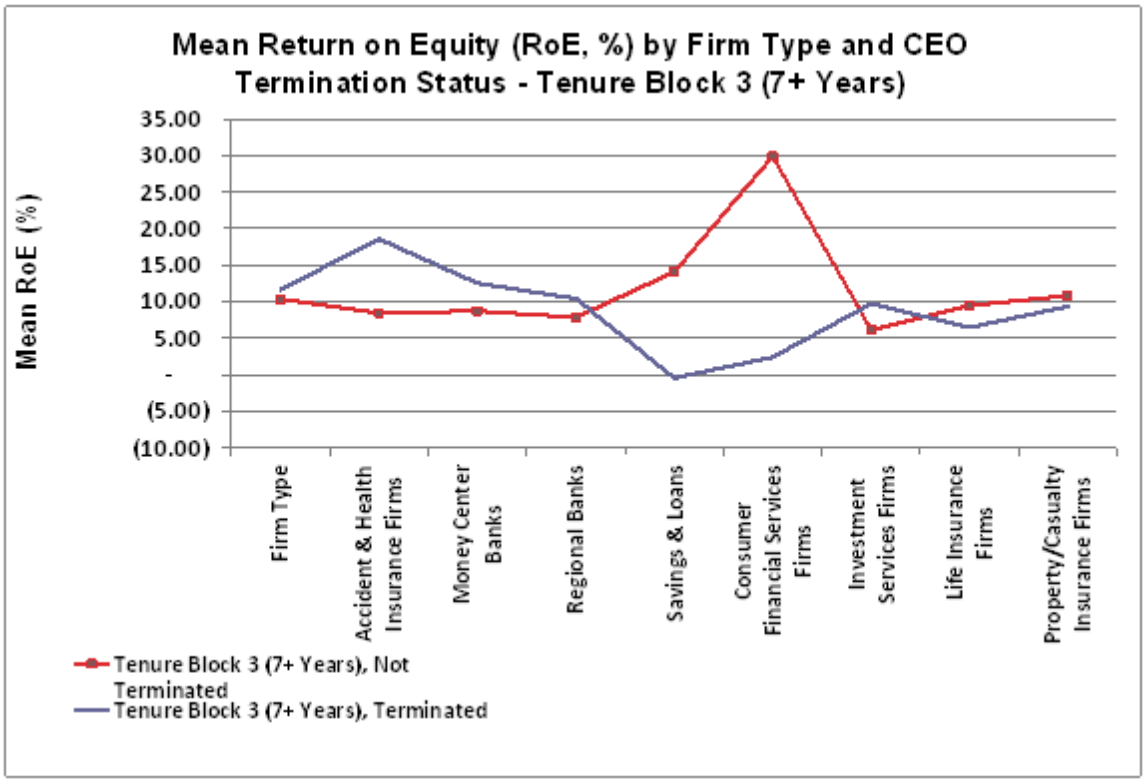

Figure 8. Mean return on equity by firm type and CEO termination status – Tenure block 3.

Figure 8 shows a pattern of performance where mean ROE performance for tenure block three is at least comparable to the tenure blocks one and two. In addition, it is noted that those firms where CEOs were retained is lower than the mean ROE performance for those firms where CEOs were terminated. There is substantial surge in mean ROE for Consumer Financial Services Firms. This surge in performance, while noticeable, is not statistically significant.

With respect to mean ROA, the results were comparable to those attributed to firms evaluated by mean ROE. That said, the firms identified with mean ROA noted the firms where the CEOs were retained actually achieved a lower mean ROA than those firms where the CEOs were terminated. Figures 9 through 11 depict firm performance as measured by ROA by tenure block.

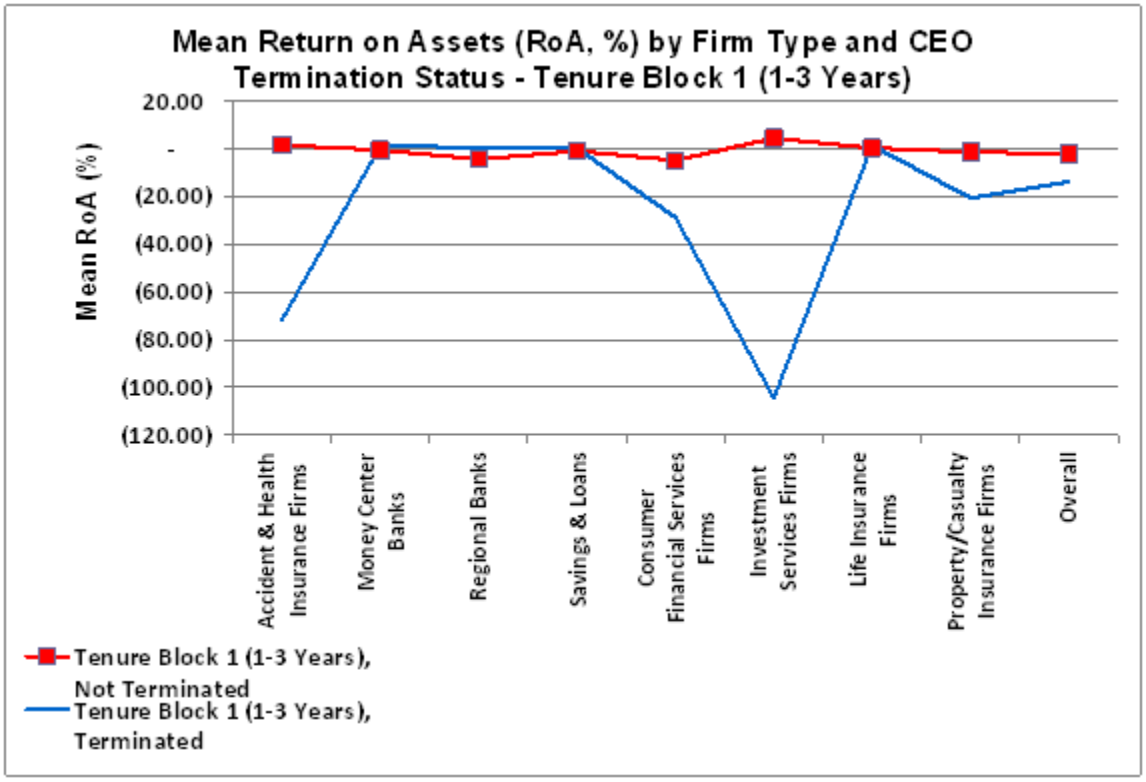

Figure 9. Mean return on assets by firm type and CEO termination status – Tenure block 1.

Figure 9 depicts mean ROA for those firms that were either retained or terminated. As shown in the graph, mean ROA remains even at, just above, or just below zero for those firms that were not terminated in tenure block one. Conversely, there is a marked difference in mean ROA for those CEOs that were terminated. Much of the activity noted for the CEOs that were terminated shows mean ROA at a level of zero or markedly below zero. This finding is statistically significant. This finding is reflected in detail in Appendix K.

Figure 10 represents firm performance as measured by ROA by tenure block two (Years 4 through 6).

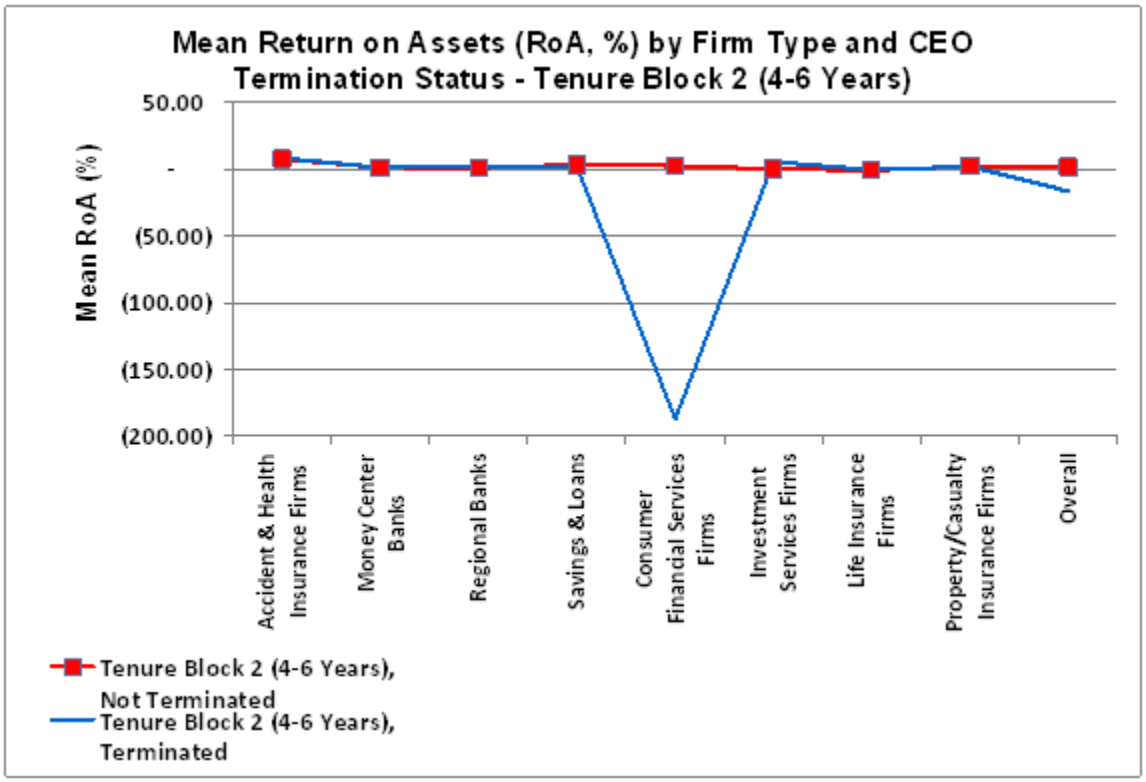

Figure 10. Mean return on assets by firm type and CEO termination status – Tenure block 2.

In Figure 10, it is noted that mean ROA for tenure block two is at least comparable to mean ROA for tenure block one. Firm performance for CEOs not terminated remains close to the zero level on the scale. For those CEOs that were terminated, it is observed that small fluctuations in mean ROA ranges from slightly above zero to -175. This observation, while dramatic is not statistically significant.

Finally, Figure 11 evaluates firm performance as measured by mean ROA for CEOs in tenure block three, which consists of years seven and beyond.

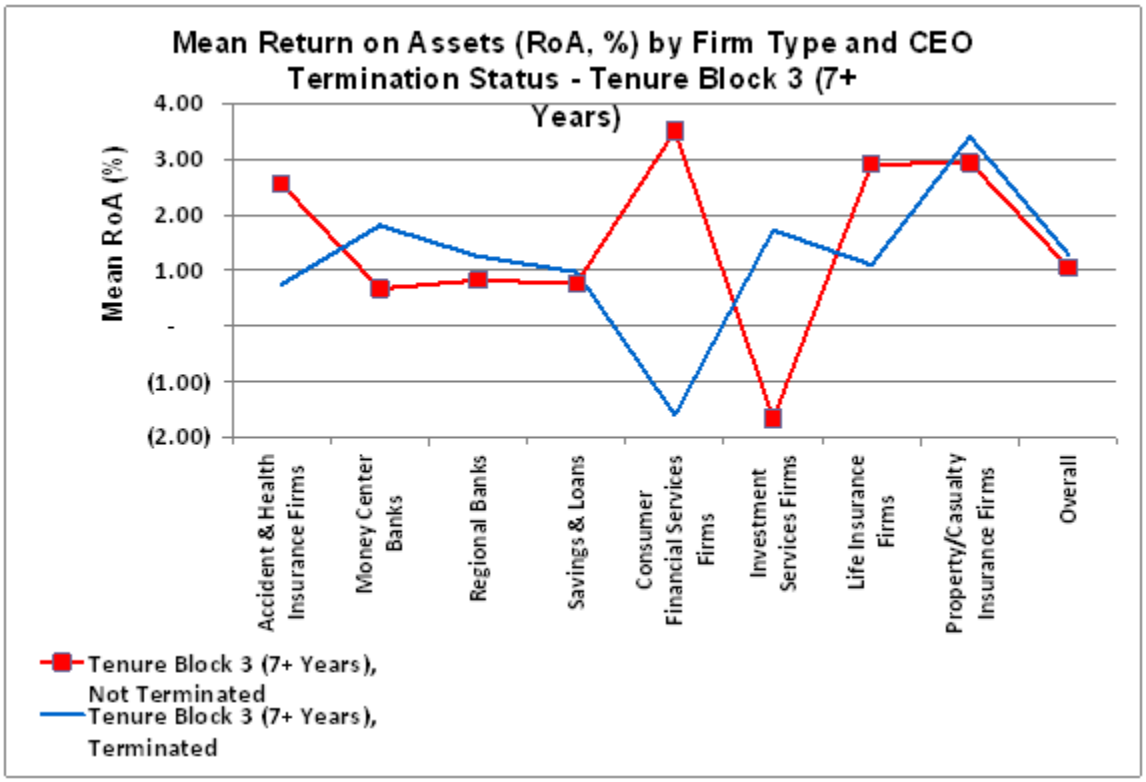

Figure 11. Mean return on assets by firm type and CEO termination status – Tenure block 3.

Figure 11 depicts dramatic activity among the industry. Firstly, mean ROA for those CEOs not terminated reflects a range in performance -- most noticeably in Consumer Financial Services Firms and Investment Services Firms. While this range and extreme of performance is noticeable, this observation is not statistically significant. With respect to mean ROA as it relates to CEOs that were terminated, the mean ROA often exceeds the levels observed for those CEOs that were not terminated. In that same vein, mean ROA for CEOs that were terminated shows performance levels that were less than for those CEOs that were not terminated. Given these observations, it is necessary to note that there is no statistical significance assessed to the performance levels depicted in Figure 11. Finally, in terms of mean ROA, tenure block three is comparable to the first two tenure blocks thus suggesting that firm performance in the latter years of this study

period is not markedly better. That said, it is concluded that this observation is not statistically significant, which means it cannot be ruled out that this phenomenon is an occurrence of chance. Therefore, given the extent of the observations noted in the data, the conclusion is that the hypothesis is not supported by the data.

Appendix L and Appendix M reflect the numerical data points supporting mean ROE and ROA by tenure blocks.

Hypothesis Five

H_5. CEO turnover is at its peak by the CEO's sixth year of office.

Hypothesis Five tests that CEO turnover is at its peak by the CEO's sixth year of office. This statement of hypothesis reflects the narrative and discussion associated in Hypothesis Three. Hypothesis Five employs the same logistic regression and cross tabulation methodologies applied in Hypothesis Three. That said, the discussion and narrative of Hypothesis Three is relevant here in Hypothesis Five. Given the evidence provided in the Figure 4, Table 4, Table 5, and Table 6, Hypothesis Five is not supported by the data.

Hypothesis Six

H_6. Firm performance under the same CEO consistently increases between years seven and ten as measured by Return on Assets (ROA) and Return on Equity (ROE).

Hypothesis Six tests that firm performance consistently increases between years seven and ten. This statement of hypothesis reflects the narrative and discussion associated in Hypothesis Four. Hypothesis Six employs the same multiple regression methodology applied in Hypothesis Four. That said, the discussion and narrative of Hypothesis Four is relevant here in Hypothesis Six.

Summary of Findings

The table below reflects the summary of findings associated with the statements of hypothesis.

Table 4.

Summary of Findings

Hypothesis	Variables Tested	Methodology	Result
1	CEO tenure/Firm performance	Linear mixed model	Tenure affects ROA & ROE
2	CEO tenure/Firm performance	Linear mixed model	Tenure affects ROA & ROE
3	Tenure years/Turnover	Cross tabulation/logistic regression	Not observed
4	Firm performance/Tenure years	Multiple regression	Not observed
5	CEO turnover/ Sixth tenure years	Cross tabulation/logistic regression	Not observed
6	Firm performance/Tenure years	Multiple regression	Not observed

This chapter analyzed the sample data and interpreted the empirical findings related to the study's six hypotheses. Table 4 presents the hypotheses that were tested and their respective conclusions. Hypotheses One and Two were supported by the data. However, Hypotheses Three through Six were not supported by the data. How this study relates to previous research and the conclusions from the findings will be presented in the next chapter.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

This chapter reports the research findings and conclusions of the study of CEO tenure and its affect on firm performance. This chapter consists of five sections. Section One discusses the research problem. Section two discusses the research methodology. Section three discusses the significant findings associated with the statistical methodologies employed in this study: Linear Mixed Model, Logistic Regression Model, and Multiple Regression Model. The fourth section presents the contributions to this study. The fifth section presents suggestions for future research. The sixth section will present the study's conclusions.

Research Problem

The research will focus on CEO tenure and its bearing and affect on corporate organizational performance. This study recognizes the literature's stance on CEO turnover being a function of poor or unacceptable firm performance. This study considers CEO tenure as a catalyst to achieving consistent and successful firm performance. The research question at the center of this study is: Does CEO tenure promote consistent sustainable and profitable performance for a firm? The basis of this question is to determine specifically if the same CEO serving the same firm for successive years yields consistent, sustainable, and profitable performance to the firm.

The research question at the heart of this study leads to subsequent research questions that address additional of CEO performance. The questions are noted as follows:

RQ1. Is there a relationship (linear) between CEO tenure and financial firm performance as measured by ROA and ROE?

RQ2. Is there a difference in the relationship between ROA and ROE and CEO tenure?

RQ3. Is there evidence that there is a greater CEO turnover on the three or five year CEO anniversaries?

RQ4. Is there evidence that the turnover on contract anniversary is related to firm performance as measured by ROA and ROE?

RQ5. Is there evidence of differences in financial firm categories' of performance in terms of ROA and ROE?

RQ6. For the period of time leading up to ten years in office does the firm show an increase of financial performance as measured by Return on Assets and Return on Equity with the same CEO?

These questions present the framework by which this research is accomplished.

Research Methodology

The research constructs in this study have all been noted and justified in the management literature. The basic quantitative framework for this study was set in the context of the general linear model, which prominently notes the independent and dependent variables. In this study, the predictor or control variable in this study is CEO tenure and is cast on the "x" axis. The dependent variable or performance response variable for this study is ROA and ROE and is cast on the "y" axis.

This study relies on the foundational elements of a basic regression model: $y = a + b*X$. This basic model notation was used to craft a model framework that reflected the following variables: T, F, and E. T was used to denote annual economic conditions – specifically the GDP. F was used to denote firm category or firm type. E was used to

denote the error term reflecting the difference between the predicted response and the actual response.

The statistical operation for this study was accomplished by IBM SPSS version 19. The statistics data focused on the Financial Services sector of the United States economy. As such, the statistical population for the Financial Services sector was accessed and retrieved from the Securities and Exchange Commission's Electronic Data Gathering Analysis and Retrieval system (EDGAR). This period for this study ranged from 1999 through 2009 and consisted of firms representing (a) Consumer Financial Services; (b) Insurance (Accident and Health, Life, Miscellaneous, and Property and Casualty); (c) Investment Services; (d) Miscellaneous Financial Services; (e) Money Center Banks; (f) Regional Banks; and (g) Savings and Loans Banks.

This secondary data source provided valid and reliable data for the firms reflected in this study. In identifying the firms for this study, the following conditions needed to be satisfied: The firms needed to be publicly traded firms, and the firms needed to have Income Statements and Balance Sheets for the years between 1999 and 2009. The firms noted in the sample (before any eliminations) are noted in Appendix A. Those firms that were retained for this study are noted in Appendix B.

Sampling is used to reduce 3000 firms to a more tractable sample of 300 – small enough to manually collect the data from financial reports but large enough to enable an average of 30 CEO tenure records at each duration of interest providing "power" against Type II statistical errors via replication. The sample size used for this study was 282. This sample number was derived by eliminating data records that were repetitive.

Significant Research Findings

The following section summarizes the findings resulting from the tests of each of the study's hypotheses.

H_1. There is linear relationship between CEO tenure and firm performance.

This hypothesis was tested with a LMM. The outcome of this test was that support was found for this hypothesis. The outcome revealed a consistent pattern of revenue growth and stability. There is a linear relationship between CEO tenure and firm performance.

H_2. Relationships between CEO tenure and firm performance in terms of ROA and those between CEO tenure and performance in terms of ROE will differ.

This hypothesis was tested with a LMM. The outcome of this test was that support was found for this hypothesis. The outcome revealed a consistent pattern of revenue growth and stability as measured by ROA and ROE. ROE reflects shareholders' equity, which has a residual affect on the firm's financial books. ROE depicted a consistently robust pattern of performance. The data consistently shows an upward and positive trajectory, which reflected a sustained pattern of growth over the tenure periods associated with this study. With respect to ROA, the outcome shows a consistent and positive moving trajectory reflecting asset performance over the tenure years associated with this study.

H_3. CEOs at the end of the first two three year intervals will experience a higher turnover than interim and later tenure years in the financial sector of the United States economy.

This hypothesis was tested with a logistic regression model and supported with cross tabulation. The outcome of this test found no support for this hypothesis. The outcome revealed that there was a pattern of CEO turnover throughout this study. The model for this hypothesis considered 10 years of CEO presence in the firms. The outcome revealed that there are occurrences in CEO turnover in tenure years 3 and 6, but these occurrences are not statistically significant.

H_4. There is higher average financial firm performance in terms of ROA and ROE for continuing CEOs the year after the expiration of the first two 3-year periods.

This hypothesis was tested with a multiple regression model. The outcome of this test did not find support for this hypothesis. The model revealed that firm performance in tenure block three was not greater nor more robust than tenure blocks one and two. In reviewing this outcome, it was noted that firm performance was noted by those CEOs that were terminated and those CEOs that were retained. In reviewing this outcome, it was noted that in each of the tenure blocks there was a consistent pattern of observation where mean ROE and mean ROA was much more robust by those CEOs that were terminated than it was by those CEOs that were retained by the firms. While there was statistical significance assessed to mean firm performance in tenure block one (1-3 years), there was not any statistical significance overall regarding tenure year blocks two and three and firm performance.

H_5. CEO turnover is at its peak by the CEOs' sixth year in office.

This hypothesis was tested with a logistic regression model with support of cross tabulation. The outcome of this test found no support for this hypothesis. Turnover was most prominently noted in Year 3 and Year 6. During this spread of data, it was noted

that the number of CEOs that were counted in this ten year period there was a consistent decline in the number of CEOs. In light of that noted decline, Year 6 continued to show a higher number of CEOs terminated even though the percentage of termination in Year 6 was comparable to that of Year 3. Clearly, year 6 reflects the greatest number of termination incidents in this data. That said, these observations of CEO turnover are not statistically significant, and do not support the hypothesis.

H_6. Firm performance under the same CEO consistently increases between Years 7 and 10 as measured by Return on Assets (ROA) and Return on Equity (ROE).

This hypothesis was tested with a multiple regression model. This study did not find support for this hypothesis. The outcome revealed that firm performance under the same CEO was fairly consistent and did not increase over the duration of tenure block three. It was further noted that CEOs that were retained actually performed worse than those CEOs that were terminated. The outcome noted that this type of performance was consistent throughout the tenure periods associated with this hypothesis. In addition, it was noted that firm performance as measured by mean ROE and mean ROA was more robust in tenure block two (tenure Years 4 to 6) then tenure block three (Years 7 to 10). This phenomenon countered the essence of the hypothesis and was not supported by the data.

Contributions

This study notes the following contributions that are made to the body of academic work.

- This study demonstrates the strength of ROE and ROA as predictors using CEO tenure.

- This study demonstrates that the constructs of ROE and ROA as influential in CEO termination and CEO retention.
- This study compares performance across the finance sector by category over a 10-year period.
- This study shows the explicit relationship between CEO tenure and firm performance as measured by ROE and ROA.
- This study generalizes results across the industry versus studies unique to category of firms. Consequently, the results noted in this study reflect a broad sampling of firms within the financial services sector instead of the firm type specific analysis note in previous literature.
- This study evaluates CEO tenure in three-year increments where CEO turnover is likely to occur. Tenure blocks noted in three-year increments as noted in this study determines the occurrence of CEO turnover.
- This study demonstrates that consistent and increasing firm performance is a function of CEO tenure.

Suggestions for Future Research

This study contributes to the literature with respect to CEOs. This study examines the relationship between CEO tenure and firm performance. This study used data from publicly traded firms of the U.S. financial services industry. Future research may attempt to focus on CEO tenure and firm performance for other industries. With respect to publicly traded firms, this research could focus on the following industries tracked by the Securities and Exchange Commission:

1. Basic Materials: This category consists of the Chemical Manufacturing, Chemicals (Plastics & Rubber), Containers and Packaging, Fabricated Plastic & Rubber, Forestry & Wood Products, Gold & Silver, Iron & Steel, Metal Mining, Miscellaneous Fabricated Products, Non-Metallic Mining, and Paper & Paper Products industries.
2. Capital Goods: This sector consists of Aerospace & Defense, Construction & Agricultural Machinery, Construction Supplies & Fixtures, Construction (Raw Materials), Construction Services, Miscellaneous Capital Goods, Mobile Homes & RVs industries.

3. Consumer – Cyclical: This sector consists of the Appliance/Accessories, Apparel & Tool, Audio & Video Equipment, Auto & Truck Manufacturers, Auto & Truck Parts, Footwear, Furniture & Fixtures, Jewelry & Silverware, Photography, Recreational Products, Textiles – Non Apparel, and Tires industries.

4. Consumer – Non Cyclical: This sector consists of the Beverages (Alcohol & Non-Alcoholic), Crops, Fish/Livestock, Office Supplies, and Personal & Household Products, and Tobacco industries.

5. Energy: This sector consists of the Coal, Oil & Gas (Integrated), Oil & Gas Operations, and Oil Well & Equipment industries.

6. Healthcare: This sector consists of the Biotechnology & Drugs, Healthcare Facilities, Major Drugs, and Medical Equipment Supplies industries.

7. Services: This sector consists of the Advertising, Broadcasting & Cable TV, Business Services, Casinos & Gaming, Communications Services, Hotels & Motels, Motion Pictures, Personal Services, Printing & Publishing, Printing Services, Real Estate Operations, Recreational Services, Rental & Leasing, Restaurants, Retail (Apparel, Catalog & Mail Order, Department & Discount, Drugs, Grocery, Home Improvement, Specialty, and Technology), Schools, Security Systems & Services, and Waste Management Services industries.

8. Technology: This sector consists of the Communications Equipment, Computer Hardware, Computer Networks, Computer Peripherals, Computer Services, Computer Storage Devices, Electronic Instruments & Controls, Scientific & Technical Instruction, Semiconductors, Software & Programming industries.

9. Transportation: This sector consists of the Air Courier, Airline, Miscellaneous Transportation, Railroads, Trucking, and Water Transportation industries.

10. Utilities: This sector consists of the Electric Utilities, Natural Gas Utilities, and Water Utilities industries.

Any focus of these sectors allows the researcher to consider CEO and organizational dynamics as it relates to an industry other than financial services.

An additional area of consideration for research is CEO tenure as it relates to international firms. With the proliferation of international firms, multinational firms, and global firms, it appears that attention on CEO performance, CEO turnover, CEO tenure, and governance is not only appropriate but it would contribute to the body of management literature.

Conclusions

This study considers CEO tenure as being a catalyst for sustained and consistent firm performance. This study also considers CEO turnover and its correlation to CEO employment contracts. Fundamentally speaking, CEO tenure does positively affect firm performance. This is the foundational question undergirding this research. CEO tenure is the driving construct in this research. As such, the conclusion of tenure and its bearing on firm performance is demonstratively noted in Hypothesis One and its associated parameter estimates noted in the parameter estimates contained in Appendix E and F.

Secondly, it is concluded that there is a positive linear relationship between CEO tenure and firm performance. This conclusion is predicated on Hypothesis Two and its associated parameter estimates noted in Appendix E and F.

Thirdly, CEO turnover is a documented phenomenon in the literature (Allgood & Farrell, 2000; Bruton et al., 1997; Hou & Chiang, 2008). While this phenomenon was observed in this study, the turnover phenomenon noted in this study was not statistically significant. This means that the researcher cannot rule out the possibility that this turnover occurrence was a matter of chance.

Fourthly and finally, firm performance reflected in this study period was consistent throughout the study. While the hypothesis suggested that profitable firm performance would be higher at the end of tenure block three, the outcome of the statistics revealed that firm performance in tenure block three was comparable to tenure blocks one and two.

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APPENDICES

APPENDIX A

Final Sample Firms included in Study (Before Eliminations)

Final Sample Firms Included in the Study (Before Eliminations)

APPENDIX A
FINAL SAMPLE FIRMS INCLUDED IN STUDY (BEFORE ELIMINATIONS)

Appendix A: List of Firms Before Eliminations
Accident & Health Insurance Firms
Aetna
Aflac
American Independence Corp
Catalyst Health Solutions
Cigna
Coventry Health Care
Health Net Inc
Humana, Inc
Reinsurance Group of America
Universal American Corp

Appendix A: List of Firms Before Eliminations
Money Center Banks
Bank of America Corp
Canadaigua National Corp
Citigroup Inc.
Southern Community Financial
State Street Corp
United Bancorporation of Alabama
U.S. Bancorp

Appendix A: List of Firms Before Eliminations	
Regional Banks	
1st Source Corp	Cathay General Bancorp
ACNB Corp	CCFNBBancorp Inc
Alaska Pacific Bankshares Inc	Center Bancorp Inc
American National Bankshares, Inc	Central Bancorp Inc
AmercianWest Bancorporation	Central Pacific Financial Corp
Ameris Bancorp	Central Virginia Bankshares, Inc
Annapolis Bancorp Inc.	Century Bancorp Inc
Arrow Financial Corp	Chemical Financial Corp
Associated Bancorp	Choiceone Financial Service Inc
Bancfirst Corp	CIT Group Inc
Banctrust Financial Group Inc	Citizens Financial Services Inc
Bank of Commerce Holdings	Citizens & Northern Corp
Bank of Hawaii Corp	City Holding Company
Bank of South Carolina Corp	Citizen First Holding Co.
Bank of the Ozarks Inc.	Citizen First Corporation
Bank United Financial Corp	Citizens Republic Bancorp Inc
Baylake Corp	CNB Financial Corp
BBB&T Corp	COBIZ Financial Inc
Beach First National Bancshares, Inc	Codorus Valley Bancorp Inc.
Berkshire Bancorp Inc	Colony Bankcorp Inc
BOK Financial Corp, et al	Columbia Banking System Inc
Boston Private Financial Holdings Inc	Comerica Inc
Bridge Bancorp Inc	Commerce Bancshares Inc
Britton & Koontz Capital Inc	Commercial Bancshares Inc
Bryn Mawr Bank Corp	Commonwealth Banchares Inc
C&F Financial Corp	Community Bancorp
Cadence Financial Corp	Community Bank Shares of Indiana, Inc
California National Bancorp	Community Bank System Inc
Camco Financial Corp	Community Capital Corp
Camden National Corp	Community Central Bank Corp
Capital Bank Corp	Community Financial Corp
Capital City Bank Group Inc	Community Trust Bancorp Inc
Capital Bancorp Ltd	Community West Banshares
Cardinal Financial Corp	Cornerstone Bancshares Inc
Carrolton Bancorp	Croghan Banshares Inc
Cascade Bancorp	Cullen Frost Bankers Inc

Appendix A: List of Firms Before Eliminations	
CVB Financial Corp	Franklin Financial Services Corp
DCB Financia Corp	Fulton Financial Corp
Denmark Bancshares Inc	German American Bancorp
Dimeco	Glacier Bancorp Inc
East West Bancorp Inc	Great Southern Bancorp Inc
Eastern Virginia Bankshares Inc	Green Bancshares Inc
Evans Bancorp Inc	Hampton Roads Bancshares Inc
F&M Bank Corp	Hancock Holding Company
Farmers Capital Bank Corp	Heartland Financial USA Inc
Farmers National Bancorp	Heritage Financial Corp WA
Fauquier Bankshares Inc	Hills Bancorporation
Fentura Financial Inc	Horizon Bancorp Inc
Fidelity Southern Corp	Huntington Bancshares Inc
First Bancorp	Iberia Bank Corp
First Bancshares Inc	Independent Bank Corp INDB
First Century Bancshares Inc.	Indpendent Bank Corp MI
First Citizens Banc Corp	Integrea Bank Corp
First Citzens Banc Shares, Inc	Intervest Bancshares Corp
First Citizens Banc Shares Inc Th	Isabella Bank Corp
First Commonwealth Financial Corp	Jeffersonville Bancorp
First Defiance Financial Corp	Kentucky Bancshares Inc
First Financial Bancorp	Key Corp New Key
First Financial Service Corp	Killbuck Bancshares Inc
First M&F Corp	
First Mariner Bancorp	
First Merchants Corp	
First Midwest Bancorp Inc	
First National Community Bancorp, Inc	
First National Corp Va	
First of Long Island Corp	
First South Bancorp Inc Va	
First State Bancorporation	
First Bank Corp	
First Merit Corp	
FNB United Corp	
FNBH Bancorp Inc	

Appendix A: List of Firms Before Eliminations	
Savings & Loans Banks	
Alliance Financial Corp	Ocean First Financial Corp
Americana Bancorp	Parkvale Financial Corp
Astoria Financial Corp	Pathfinder Bancorp Inc
Bank Atlantic Bancorp Inc	Provident Financial Holdings Inc
Bay Banks of Virginia Inc	Provident New York Bancorp
Brookline Bancorp Inc	PVF Capital Corp
Capital One Financial Corp	QNB Corp
Capital Federal Financial	River Valley Bancorp
Central Federal Corp	Rome Bancorp Inc
Citzens South Banking Corp	Santander Holdings USA Inc
Consumers Bancorp Inc	Security Financial Corp
CSB Bancorp Inc	Southern Missouri Bancorp Inc
Dime Community Bancshares Inc	Sterling Financial Corp
Emclaire Financial Corp	Teche Holding Co
ESB Financial Corp	TF Financial Corp
Farmers & Merchants Bancorp Inc	Timberland Bancorp
FFD Financial Corp	Washington Federal Corp
Fideltity Bancorp Inc	WSFS Financial Corp
First Bancshares Inc	WVS Financial Corp
First Capital Inc	
First Federal Bancshares of Arkansas Inc	
First Financial Holdings Inc	
First Niagara Financial Group Inc	
First Place Financial Corp	
Flagstar Bancorp Inc	
Guaranty Federal Bancshares Inc	
HMN Financial Inc	
Indiana Community Bancorp	
Juniata Valley Financial Corp	
Landmark Bancorp Inc	
Meta Financial Group Inc	
NASB Financial Inc	
Northeast Bancorp	
Northern Trust Corp	
Northwest Bancshares Inc	
Northwest Indiana Bancorp	

Appendix A: List of Firms Before Eliminations
Consumer Financial Service Firms
Advanta Corp
Ally Financial Inc
America First Tax Exempt Investors
American Express
Ameritrans Capital Corp
Asta Funding Inc
Cannabis Medical Solutions Inc
Centerline Holding Co
Compucredit Holdings Corp
Credit Acceptance Corp
Fannie Mae 2001-2009
Federal Agricultural Mortgage Corp
Franklin Credit Holding Corp
General Electric
Halo Companies Inc
HSBC Financial Corp
ISTAR Financial Inc
Medallion Financial Corp
Novastar Financial Inc.
OCWEN Financial Corp
PHH Corp
S1 Corp DE
World Acceptance Corp

Appendix A: List of Firms Before Eliminations
Investment Service Firms
Affiliated Managers Group Inc
Alliance Bernstein Holding LP
American Capital LTD
E Trade Financial Corp
Eaton Vance Corp
Epoch Holding Corp
Federated Investors Inc
Franklins Resources Inc
Gamco Investors Inc
Gilman Ciocia
Gilman Ciocia Inc 2
Gleacher and Company Inc
Goldman Sachs Group, Inc
International Assets Holding Corp
Kent Financial Services Inc
Kent International Holdings Inc
Legg Mason
Merriman Holdings Inc
National Holdings Corp
Price to Rowe Group
Raymond James Financial Inc
Sanders Morris Harris Group Inc
Schwab Charles Corp
SEI Investments Co
Seibert Financial Corp
Stifel Financial Corp
SWS Group Inc
TD Ameritrade Holding Cor
U.S. Global Investors Inc

Appendix A: List of Firms Before Eliminations
Life Insurance Firms
American Equity Investment Life
CNO Financial
Delphi Financial
FBL Financial Gropu
Investors Heritage Capital Corp
Kansas City Life Insurance Co
Lincoln National Corp
National Security Group Inc
National Western Life Insurance
Presidential Life Corp
Protective Life Insurance

Appendix A: List of Firms Before Eliminations
Property & Casualty Insurance Firms
21st Century Holding Co
Ace LTD
Alleghany Corp
Allstate Corp
Ambac Financial Corp
American Financial Group Inc
Arch Capital Group LTD
Assurance American Corp
Bancinsurance Corp
Berkely WR Corp
Chubb Corp
Cincinnati Financial Corp
CNA Financial Corp
CNA Surety Corp
Corelogic Inc
Donegal Group Inc
EMC Insurance Group Inc
Enstar Group LTD
First Acceptance Corp
FPIC Insurance Corp Inc
Hallmark Financial Services Inc
Hanover Insurance Group Inc
Horace Mann Educators Corp
Investors Title Co
Loews Corp
Markel Corp
MBIA Inc
Meadowbrook Insurance Group
Mercury General Corp

Appendix A: List of Firms Before Eliminations
Miscellaneous Financial Services
4 Net Software Inc
24Holdings Inc
Acacia Research Corp
Alpha-En Corp
Arlington Asset Investment Corp
ASPI Inc
Australian Canadian Oil Royalties
Avani International Group Inc 1
Avani International Group Inc 2
B2B Internet Holdrssm Trust
Biotech Holdrs Trust
Broadband Holdrs Trust
Capital Beverage Corp
Catalyst Resource Group Inc
Champion Communication Services Inc
CMSF Corp
CRI Hotel Income Partners, LP
Eastern American Natural Gas Trust
Eclips Media Technologies Inc
Ecom Ecom Ecom
Equus Total Return Inc
Factset Research Systems Inc
First City Financial Corp 1
First City Financial Corp 2
Golf Rounds Com Inc
Hugoton Royalty Trust
IFLI Acquisition Corp
Internet Architecture Holdrssm Trust
Internet Infrastructure Holdrssm Trust

Appendix A: List of Firms Before Eliminations
Miscellaneous Insurance Firms
AON Corp
Baldwin Lyons Inc
Brown and Brown
Crawford and Company
Insweb Corp
Marsh and McLennan

APPENDIX B

Final Sample Firms included in Study (After Eliminations)

Final Sample Firms Included In Study (After Eliminations)

Appendix B: List of Firms After Eliminations
Accident & Health Insurance
Aetna
Aflac
American Independence Corp
Catalyst Health Solutions
Cigna
Coventry Health Care
Health Net Inc
Humana Inc.
Reinsurance Group of America Inc
Universal American Corp

Appendix B: List of Firms After Eliminations
Money Center Banks
Bank of America
Canadaigua National Corporation
Citigroup Inc.
Southern Financial Corp
State Street Group
United Bancorporation of Alabama
U.S. Bancorp

Appendix B: List of Firms After Eliminations	
Regional Banks	
1st Source Corp	CCFNB Capital Corp
ACNB Corporation	Center Bancorp, Inc
Alaska Pacific Bancshares Inc	Central Bancorp Inc
American National Bancshares Inc	Central Pacific Financial Corp
American National Bancshares Inc	Central Virginia Bancshares, Inc
American West Bancorporation	Century Bancorp Inc
Ameris Bancorp	Chemical Financial Corp
Annapolis Bancorp Inc.	Choice One Financial Corp
Arrow Financial Corp	CIT Group Inc
Associated Bancorp	Citzens First Corp
Banc of Commerce	Citizens & Northern Corp
Banc of Commerce	Citizens Financial Services Inc.
Bancfirst Corp	Citizen Republic Bancorp
Banctrust Financial Corp.	City Holding Corp
Bank of Hawaii Corp.	CNB Financial Corp
Bank of South Carolina Corp	Cobiz Financial Inc
Bank of the Ozarks Inc.	Codorus Valley Bancorp, Inc
Baylake Corp.	Colony Bankcorp Inc
BBB&T Corp	Columbia Banking System Inc.
Berkshire Bancorp	Comerica Inc.
Bok Financial Corp. Et Al	Commerce Bancshares
Boston Private Financial Holdings, Inc	Commercial Bancshares Inc
Bridge Bancorp	Commonwealth Bancshares Inc
Brian Koontz Capital Corp	Community Bancorp
Bryn Mawr Bank Corp	Community Bancshares of Indiana, Inc
C&F Financial Corp	Community Bank Systems Inc
Cadence Financial Corp.	Community Capital Corp
California First National Bancorp	Community Central Bank Corp
Camco Financial Corp	Community Financial Corp
Camden National Corp.	Community Trust Bancorp Inc
Capital Bancorp Ltd	Community West Bancshares
Capital City Bank Group Inc	Cornerstone Bancshares Inc
Cardinal Financial Corp	Croghan Bancshares Inc
Carollton Bancorp	Cullen Frost Bancshares Inc
Cascade Bancorp	CVB Financial Corp
Cathay General Corp	

Appendix B: List of Firms After Eliminations	
Regional Banks	
DCB Financial Corp	Glacier Bancorp Inc
Denmark Bancshares Inc	Great Southern Bancorp
Dimeco	Green Bankshares Inc
East West Bancorp Inc	Hampton Roads Bankshares, Inc
Eastern Virginia Bancshares, Inc	Hancock Holding Corp
Evans Bancorp Inc	Heartland Financial USA Inc
F&M Bancorp	Heritage Financial Corp Wa
Farmers Capital Bank Corp	Hills Bancorporation
Farmers National Bancorp	Horizon Bancorp
Fauquier Bank Shares Inc	Huntington Bancshares
Fentura Financial Inc	Iberia Bankcorp
Fidelity Southern Corp.	Independent Bank Corp INDB
First Bancorp	Independent Bankcorp MI
First Bancshares Inc	Integra Bank Corp
First Bank Corp	Intervest Bancshares Corp
First Century Bancshares	Isabella Bankcorp
First Citzens Bancorp	Jeffersonville Bancorp
First Citizens Bancshares Inc Tn	Kentucky Bancshares Inc
First Commonwealth Financial Corp	Keycorp New Key
First Defiance Financial Corp	Killbuck Bancshares Inc
First Financial Bancorp	
First M&F Corporation	
First Mariner Corp	
First Merchant Corp	
First Merit Corp	
First Midwest Bancorp	
First National Community Bancorp	
First of Long Island Corp	
First South Bancorp Inc Va	
First State Bancorporation	
First National Corp	
FNB United Corp	
FNBH Bancorp Inc	
Franklin Financial Services Corp	
Fulton Financial Corp	
German American Bancorp	

Appendix B: List of Firms After Eliminations	
Savings & Loans	
Alliance Financial Corp	Parkvale Financial Corp
Bank Atlantic Bancorp	Pathfinder Bancorp Inc
Ameriana Bancorp	Provident Financial Holdings
Astoria Financial Corp	Provident New York Bancorp
Bay Banks of Va Inc	PVF Capital Corp
Brookline Bancorp Inc	QNB Corp
Capital One Financial	River Valley Bancorp
Central Federal Corp	Rome Bancorp Inc
Citizens South Banking Corp	Santander Holdings USA Inc
Consumers Bancorp Inc	Security Federal Corp
CSB Bancorp Inc	Southern Missouri Bancorp Inc
Dime Community Bancshares Inc	Sterling Financial Corp
Emclaire Financial Corp	Tech Holding Co
ESB Financial Corp	TF Financial Corp
Farmers & Merchants Bancorp Inc	Timberland Financial Corp
FFD Financial Corp	Washington Federal Inc
Fidelity Bancorp Inc	WSFS Financial Corp
First Bancshares Inc	
First Capital Inc	
First Federal Bancshares of Arkansas	
First Financial Holdings Inc	
First Niagara Financial Group	
First Place Financial Corp	
Flagstar Bancorp Inc	
Guaranty Federal Bancshares Inc	
HMN Financial Inc	
Indiana Community Bancorp	
Juniata Valley Financial Corp	
Landmark Bancorp Inc	
Meta Financial Group Inc.	
NASB Financial Inc	
Northeast Bancorp Inc	
Northern Trust Corp	
Northwest Bancshares Inc	
Northwest Indiana Bancorp	
Ocean First Financial Corp	

Appendix B: List of Firms After Eliminations
Consumer Financial Services
Ally Financial Inc
American Express
America's First Tax
Ameritrans Capital
Asta Funding Inc
Centerline Holding Co.
CompuCredit Holdings Corp
Credit Acceptance Corp.
Fannie Mae
Federal Agriculture
Franklin Credit Holding
General Electric
Halo Companies Inc
HSBC Finance Corp
I-Star Financial
Medallian Financial Corp.
Novastar Financial Inc.
Ocwen Financial Corp.
PHH Corp.
S1 Corp De
World Acceptance Corp.

Appendix B: List of Firms After Eliminations
Investment Services Firms
Affiliated Managers Group
Alliance Bernstein
American Capital Ltd
E Trade Financial
Eaton Vance Corp
Epoch Holding Company
Federated Investors
Franklin Resources Inc.
Gamco Investors Inc
Gilman Ciocia
Gleacher & Company
Goldman Sachs
International Assets Holding Corp
Legg Mason
Kent Financial Services Inc.
Kent International Holdings Inc
Merriman Holdings Inc
National Holdings, Inc.
Price T Rowe Group
Raymond James, Inc
Sanders Morris Harris Groups Inc.
Charles Schwab Corp
SEI Investment Co
Seibert Financial Corp.
Stifel Financial Corp
SWS Group Inc.
Ameritrade Holdinjg Co.
US Global Investors Inc.

Appendix B: List of Firms After Eliminations
Life Insurance Firms
American Equity
CNO Financial
Delphi Financial
FBL Financial Group
Investors Heritage Capital Corp
Kansas City Life Insurance Co.
Lincoln National Corp.
National Security Group Inc.
National Western Life Insurance Co
Presidential Life Corp
Protective Life Insurance

Appendix B: List of Firms After Eliminations
Property & Casualty
21st Century Holding Co.
Ace Ltd
Alleghany Corporation
Allstate Corporation
Amback Financial Group Inc.
American Financial Group
Arch Capital Group Ltd
Assurance American Corp.
Bancinsurance Corp
Berkeley WR Corp
Chubb Corp
Cincinatti Financial Corp.
CNA Financial Corp.
CNA Surety Corp.
Corelogic Inc
Donegal Group Inc.
EMC Insurance Group
Enstar Group Ltd
First Acceptance Corp.
FPIC Insurance Group
Hallmark Financial Services
Hanover Insurance Group
Horace Mann Educators Group Corp.
Investors Title Company
Loews Corp
Markel Corp.
MBIA, Inc.
Meadowbrook Insurance Group
Mercury General Corp.

APPENDIX C

Descriptive Statistics

APPENDIX C – DESCRIPTIVE STATISTICS

Descriptive Statistics By Firm Type

FirmType	Count of I	NetIncome_mear	ShareholdersEquity_mea	TotalAssets_mean	ReturnonEquity_mea	ReturnonAssets_mea	NetIncome_min
1 Accident & Health Ins. Firms	110	$ 401,078,593	$ 2,996,145,125	$ 16,395,627,479	0.111892	0.0246	$ (2,522,500,000)
2 Money Center Banks	77	$ (33,684)	$ 59,830	$ 759,187	-0.875865	-0.078534	$ (4,551,588)
3 Regional Banks	1373	$ 183,967	$ 1,803,110	$ 19,260,843	0.315136	0.051428	$ (3,094,179)
4 Savings & Loans	594	$ 20,805	$ 462,672	$ 5,282,695	0.07454	0.008984	$ (2,357,210)
5 Investment Svc. Firms	231	$ 2,364,906	$ 854,507,098	$ 11,224,822,796	0.108731	-0.202988	$ (10,298,000,000)
6 Consumer Fin. Svc. Firms	308	$ (337,642)	$ 2,194,742	$ 5,891,650	-0.028175	-0.002456	$ (44,728,894)
7 Life Ins. Firms	121	$ 113,097	$ 3,213,166	$ 17,978,875	4.095266	0.020996	$ (1,554,506)
9 Property/Casualty Ins. Firms	319	$ 78,495,986	$ 690,645,218	$ 3,905,126,377	0.459385	-0.186821	$ (1,679,000,000)

Descriptive Statistics By Firm Type

FirmType	ShareholdersEqui	TotalAssets_min	ReturnonEquity_mir	ReturnonAssets_min	NetIncome_max	ShareholdersEquity	TotalAssets_max
1 Accident & Health Ins. Firms	$ 36,238,564	$ 44,469,000	-1.660684	-1.196771	$2,154,800,000.00	$10,703,200,000.00	$95,333,000,000.00
2 Money Center Banks	$ 2,479	$ 54,095	-121.168885	-9.960103	$1,031,758.00	$194,236.00	$2,223,299.00
3 Regional Banks	$ 48	$ 403	-508.851175	-36.995065	$13,463,000.00	$116,462,000.00	$1,675,169,000.00
4 Savings & Loans	$ 2,614	$ 12,046	-2.646452	-0.355037	$2,328,745.00	$27,072,863.00	$330,272,212.00
5 Investment Svc. Firms	$ (806,811,404)	$ 3	-9.796912	-35	$2,894,000,000.00	$22,436,000,000.00	$325,854,000,000.00
6 Consumer Fin. Svc. Firms	$ (6,192,983)	$ 438	-44.666667	-4.006002	$13,759,249.00	$39,233,744.00	$64,573,331.00
7 Life Ins. Firms	$ (2,201)	$ 28,318	-1.000136	-0.168477	$2,229,786.00	$50,154,521.00	$419,747,878.00
9 Property/Casualty Ins. Firms	$ (1,378,050)	$ 2,455	-5.606982	-63.65	$4,993,000,000.00	$21,851,000,000.00	$157,554,000,000.00

Descriptive Statistics By Firm Type

FirmType	ReturnonEquity_r	ReturnonAssets_min	NetIncome_max	ShareholdersEquity_r	TotalAssets_max	ReturnonEquity_ma	ReturnonAssets_max	NetIncome_sd
1 Accident & Health Ins. Firms	-1.660684	-1.196771	$2,154,800,000.00	$10,703,200,000.00	$95,333,000,000.00	1.436153	0.590384	$ 635,413,643
2 Money Center Banks	-121.168885	-9.960103	$1,031,758.00	$194,236.00	$2,223,299.00	32.322233	2.256185	$ 538,060
3 Regional Banks	-508.851175	-36.995065	$13,463,000.00	$116,462,000.00	$1,675,169,000.00	126.3125	15.044665	$ 1,110,441
4 Savings & Loans	-2.646452	-0.355037	$2,328,745.00	$27,072,863.00	$330,272,212.00	0.553675	0.506392	$ 191,530
5 Investment Svc. Firms	-9.796912	-35	$2,894,000,000.00	$22,436,000,000.00	$325,854,000,000.00	10	1.690421	$ 811,059,147
6 Consumer Fin. Svc. Firms	-44.666667	-4.006002	$13,759,249.00	$39,233,744.00	$64,573,331.00	41.153846	0.35926	$ 4,177,674
7 Life Ins. Firms	-1.000136	-0.168477	$2,229,786.00	$50,154,521.00	$419,747,878.00	485.605485	1.332506	$ 376,180
9 Property/Casualty Ins. Firms	-5.606982	-63.65	$4,993,000,000.00	$21,851,000,000.00	$157,554,000,000.00	127.3	0.174894	$ 513,120,734

APPENDIX C – DESCRIPTIVE STATISTICS

Descriptive Statistics By Firm Type					
FirmType		ShareholdersEqui	TotalAssets_sd	ReturnonEquity_sd	ReturnonAssets_sd
1 Accident & Health Ins. Firms		$ 3,062,720,846	$ 22,217,825,407	0.257521	0.142724
2 Money Center Banks		$ 48,938	$ 613,284	14.435572	1.17437
3 Regional Banks		$ 9,435,607	$ 103,787,696	15.650985	1.303359
4 Savings & Loans		$ 2,305,471	$ 27,484,257	0.163788	0.034328
5 Investment Svc. Firms		$ 3,888,387,265	$ 51,821,304,899	1.147583	2.356917
6 Consumer Fin. Svc. Firms		$ 5,753,126	$ 10,658,776	4.000738	0.376924
7 Life Ins. Firms		$ 10,390,357	$ 64,789,795	44.139964	0.122536
9 Property/Casualty Ins. Firms		$ 3,449,144,518	$ 22,453,481,683	7.134603	3.574596

APPENDIX D

SPSS Syntax for the Linear Mixed Model

APPENDIX D

The equation used was a linear mixed model, fit by SPSS version 19, using the MIXED command. This allows for residuals for a given CEO to be correlated with each other, more than they are for other CEO's; this helps allow for the dependence within each CEO's results.

The model for RoE/A for CEO i at time j, with firm type k, and tenure ij

RoE_{ijk} (or RoA_{ijk}) = intercept + b*tenure'$_{ij}$ + c_k*firm typek + d*flag1 + e*flag2 + f*flag3 + g*flag4 + e_{ijk}

Where tenure' is capped at 10 years,

Flag1 = 1 for tenure 11+ years, =0 otherwise

Flag2 = 1 for tenure 16+ years, =0 otherwise

Flag3 = 1 for tenure 21+ years, =0 otherwise

Flag4 = 1 for tenure 31+ years, =0 otherwise

These flags capture any nonlinearities in the effects of tenure, while pooling cases to be less affected by the low number of cases at a given single year of tenure. Firm type k ranges over the 8 types of firms; there will be one coefficient ck for each (except for the last type, for which ck will be set to 0, due to parameterization requirements.

The residuals within the data for a given CEO are assumed to be correlated with each other, using a compound symmetry matrix.

APPENDIX E

Parameter Estimates Denoting Type III Test of Fixed Effects (ROE)

APPENDIX E
Parameter Estimates Table denoting Type III Test of Fixed Effects (ROE)

Type III Tests of Fixed Effects

Source	All Valid Cases				Valid Cases w/o Cases with Extreme Residuals			
	Numerator df	Denominator df	F	Sig.	Numerator df	Denominator df	F	Sig.
Intercept	1	3021.670	1.559	.212	1	3021.670	1.559	.212
FirmType	7	132.294	1.476	.181	7	132.294	1.476	.181
RealGDP	1	3067.139	.905	.342	1	3067.139	.905	.342
Modified_Tenure	1	2626.222	.847	.357	1	2626.222	.847	.357
Tenure_Flag_11_plus	1	2406.499	.677	.411	1	2406.499	.677	.411
Tenure_Flag_16_plus	1	1379.749	.015	.904	1	1379.749	**.015**	.904
Tenure_Flag_21_plus	1	345.261	.000	.995	1	345.261	**.000**	.995
Tenure_Flag_31_plus	1	140.544	.000	.991	1	140.544	**.000**	.991

Estimates of Fixed Effects for Return on Equity (ROE)

Parameter	All Valid Cases							Valid Cases w/o Cases with Extreme Residuals						
	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval		Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound						Lower Bound	Upper Bound
Intercept	12.51	14.71	1,990.72	.851	.395	(16.33)	41.35	14.48	1.29	1,042.66	11.24	.000	11.96	17.01
Accident & Health Insurance	1.90	6.33	125.88	.300	.765	(10.64)	14.43	**4.29**	**1.27**	**384.71**	**3.38**	**.001**	**1.79**	**6.78**
Money Center Banks	0.85	7.66	141.45	.111	.912	(14.30)	15.99	**4.45**	**1.31**	**422.59**	**3.41**	**.001**	**1.89**	**7.02**
Regional Banks	0.89	3.92	171.15	.226	.821	(6.86)	8.63	**1.36**	**0.67**	**420.95**	**2.05**	**.041**	**0.06**	**2.67**
Savings & Loans	(0.67)	4.25	154.54	-.158	.875	(9.06)	7.72	(0.90)	0.75	411.71	(1.20)	.231	(2.38)	0.58
Consumer Financial Services Firms	0.01	5.36	160.70	.002	.998	(10.57)	10.59	1.85	0.98	421.58	1.89	.059	(0.07)	3.77
Investment Services Firms	11.83	4.92	159.94	2.407	.017	2.13	21.54	**8.09**	**0.91**	**445.90**	**8.89**	**.000**	**6.30**	**9.88**
Life Insurance Firms	(1.04)	6.18	141.67	-.169	.866	(13.26)	11.17	(2.07)	1.15	435.61	(1.81)	.071	(4.33)	0.18
Property/Casualty Firms	-	-	.	.	.	.	.	-	-	.	.	.	.	.
RealGDP	(0.00)	0.00	3,067.14	-.951	.342	(0.00)	0.00	**(0.0006)**	**0.00**	**1,790.42**	**(9.40)**	**.000**	**(0.0008)**	**(0.0005)**
Modified_Tenure	0.66	0.72	2,626.22	.920	.357	(0.75)	2.07	**0.16**	**0.05**	**2,118.09**	**3.26**	**.001**	**0.06**	**0.25**
[Tenure_Flag_11_plus=0]	5.05	6.14	2,406.50	.823	.411	(6.98)	17.08	**1.62**	**0.34**	**2,644.66**	**4.77**	**.000**	**0.96**	**2.29**
[Tenure_Flag_11_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_16_plus=0]	(0.91)	7.50	1,379.75	-.121	.904	(15.61)	13.80	**(0.96)**	**0.45**	**2,725.52**	**(2.16)**	**.031**	**(1.83)**	**(0.09)**
[Tenure_Flag_16_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_21_plus=0]	0.05	7.94	345.26	.006	.995	(15.58)	15.67	(0.04)	0.60	2,723.73	(0.06)	.952	(1.22)	1.15
[Tenure_Flag_21_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_31_plus=0]	0.09	7.81	140.54	.011	.991	(15.35)	15.53	1.07	0.97	1,911.82	1.11	.266	(0.82)	2.97
[Tenure_Flag_31_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.

APPENDIX F

Parameter Estimates Denoting Type III Test of Fixed Effects (ROA)

APPENDIX F

Parameter Estimates Table denoting Type III Test of Fixed Effects (ROA)

Type III Tests of Fixed Effects

	All Valid Cases				Valid Cases w/o Cases with Extreme Residuals			
Source	Numerator df	Denominator df	F	Sig.	Numerator df	Denominator df	F	Sig.
Intercept	1	1699.328	.329	.566	1	1098.410	8.637	**.003**
FirmType	7	263.510	1.952	.062	7	373.943	84.220	**.000**
RealGDP	1	1979.147	.098	.754	1	1471.798	25.886	**.000**
Modified_Tenure	1	2176.959	.289	.591	1	1890.554	18.335	**.000**
Tenure_Flag_11_plus	1	3085.152	.001	.971	1	2429.189	9.637	**.002**
Tenure_Flag_16_plus	1	3076.767	.103	.748	1	2570.858	2.434	.119
Tenure_Flag_21_plus	1	2528.845	.008	.928	1	2583.951	.957	.328
Tenure_Flag_31_plus	1	822.374	.047	.828	1	1757.850	.659	.417

Estimates of Fixed Effects for Return on Assets (ROA)

	All Valid Cases							Valid Cases w/o Cases with Extreme Residuals						
Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval		Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound						Lower Bound	Upper Bound
Intercept	(1.37)	13.14	837.16	-.104	.917	(27.16)	24.42	**2.90**	**0.34**	**851.95**	**8.58**	**.000**	**2.24**	**3.57**
Accident & Health Insurance Firms	0.54	10.98	239.32	.050	.961	(21.09)	22.18	**1.12**	**0.37**	**332.92**	**3.06**	**.002**	**0.40**	**1.84**
Money Center Banks	1.07	11.93	286.65	.090	.929	(22.42)	24.55	**(0.89)**	**0.37**	**334.21**	**(2.42)**	**.016**	**(1.61)**	**(0.17)**
Regional Banks	0.41	5.89	288.83	.070	.945	(11.18)	12.00	**(1.05)**	**0.19**	**348.09**	**(5.65)**	**.000**	**(1.41)**	**(0.68)**
Savings & Loans	0.75	6.67	274.75	.113	.910	(12.38)	13.88	**(1.13)**	**0.21**	**340.09**	**(5.37)**	**.000**	**(1.54)**	**(0.72)**
Consumer Financial Services Firms	(23.71)	8.18	290.91	-2.897	.004	(39.81)	(7.60)	**(24.80)**	**1.07**	**751.27**	**(23.25)**	**.000**	**(26.89)**	**(22.70)**
Investment Service Firms	(1.54)	7.63	276.23	-.202	.840	(16.56)	13.48	**(0.69)**	**0.26**	**376.61**	**(2.62)**	**.009**	**(1.21)**	**(0.17)**
Life Insurance Firms	1.59	10.32	267.34	.154	.877	(18.72)	21.90	**(0.89)**	**0.32**	**352.46**	**(2.80)**	**.005**	**(1.52)**	**(0.26)**
Property/Casualty Firms	-	-	.	.	.	.	.	-	-	.	.	.	.	.
RealGDP	0.00	0.00	1,979.15	.313	.754	(0.00)	0.00	**(0.0001)**	**0.00**	**1,471.80**	**(5.09)**	**.000**	**(0.0001)**	**(0.0001)**
Modified_Tenure	0.29	0.54	2,176.96	.538	.591	(0.77)	1.35	**0.05**	**0.01**	**1,890.55**	**4.28**	**.000**	**0.03**	**0.07**
[Tenure_Flag_11_plus=0]	0.16	4.33	3,085.15	.036	.971	(8.33)	8.64	**0.25**	**0.08**	**2,429.19**	**3.10**	**.002**	**0.09**	**0.41**
[Tenure_Flag_11_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_16_plus=0]	(1.76)	5.48	3,076.77	-.321	.748	(12.52)	8.99	(0.17)	0.11	2,570.86	(1.56)	.119	(0.38)	0.04
[Tenure_Flag_16_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_21_plus=0]	0.66	7.37	2,528.85	.090	.928	(13.78)	15.11	(0.14)	0.15	2,583.95	(0.98)	.328	(0.43)	0.14
[Tenure_Flag_21_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.
[Tenure_Flag_31_plus=0]	(2.27)	10.42	822.37	-.218	.828	(22.72)	18.18	(0.21)	0.26	1,757.85	(0.81)	.417	(0.73)	0.30
[Tenure_Flag_31_plus=1]	-	-	.	.	.	.	.	-	-	.	.	.	.	.

APPENDIX G

Testing Hypothesis by CEO

APPENDIX G
Testing Hypothesis by CEO

Testing Hypothesis by CEO

The data set (for valid cases only) was aggregated by CEO, and the maximum tenure for
CEO was recorded, along with the termination status (CEO was/was not terminated with
span of this data set). A flag variable was set up to mark maximum tenure at 3 and 6 yea
periods of interest). Cross-tabs were run, with the termination status vs. the 3 and 6 year
There was no statistically significant association between termination and the 3, 6 year p

Maximum Tenure (capped at 10)	Count Terminated		Percentage Terminated		
Year 3	No	Yes	No	Yes	Total
No	258	209	55%	45%	467
Yes	21	24	47%	53%	45
Year 6					
No	264	214	55%	45%	478
Yes	15	19	44%	56%	34
Overall	279	233	54%	46%	512
The p-value for a one-sided test (higher termination rates at the 3, 6-year periods) was 0.172 for year 3; 0.140 for year 6.					

APPENDIX H

Logistic Regression Outputs

Testing Hypotheses 3 and 5 Using Logistic Regression

Hypotheses 3 and 5 were tested in another way, by using logistic regressions to see if the associations between CEO termination and critical timepoints (years 3 and 6) were significant. This model was run the using binary flags for years 3 and 6 of CEO tenure. There were no significant associations observed between CEO termination and the year 3 or year 6 flags (i.e., there was not statistically significant spike at each time point).

It is important to note that this model did not result in good predictions of CEO termination, adding weight to the lack of strong associations.

Table 5.

Logistic Model with Firm Type and Flags for Years 3 and 6

Factor	Coefficient	S.E.	Wald	df	Sig.	Odds Ratio
FirmType (all compared to Property/Casualty Insurance Firms)			2.392	7	.935	
Accident & Health Insurance Firms	-.376	.592	.403	1	.525	.687
Money Center Banks	-.065	.598	.012	1	.913	.937
Regional Banks	-.232	.296	.614	1	.433	.793
Savings & Loans	-.355	.342	1.074	1	.300	.701
Consumer Financial Services Firms	.114	.405	.079	1	.779	1.121
Investment Services Firms	-.168	.389	.186	1	.666	.846
Life Insurance Firms	-.068	.513	.017	1	.895	.935
Tenure Year_max (max year attained in data set, capped at 10)	-.020	.029	.500	1	.480	.980
Year_3_Flag	.239	.341	.493	1	.483	1.270

Year_6_Flag	.445	.364	1.490	1	.222	1.560
Constant	.091	.342	.071	1	.791	1.095

Table 6.

Classification Table - How well does the model predict CEO termination?

Observed		Predicted		
		Was the CEO Terminated?		Percentage Correct
		No	Yes	
Was the CEO Terminated?	No	218	61	78.1
	Yes	169	64	27.5
Overall Percentage				55.1

APPENDIX I

SPSS Syntax for Multiple Regression

APPENDIX I
SPSS Syntax for Multiple Regression

For hypotheses 4 and 6, the regression model would be expressed as:

RoE/RoA = a + b*Flag1-3 + c*Flag4-6 + d*Flag7 + e*Terminated(i) + F(i) + e(i)

Where:

Flag1-3 is a flag which = 1 if the CEO's max tenure was in the range 1-3; = 0 otherwise.

Flag4-6 is a flag which = 1 if the CEO's max tenure was in the range 4-5; = 0 otherwise.

Flag7 is a flag which = 1 if the CEO's max tenure was in the range 7+; = 0 otherwise.

Terminated(i) is a flag which = 0 if the CEO was terminated in the range of the data; = 0 otherwise.

APPENDIX J

Parameter Estimates – Mean ROE for CEOs

APPENDIX J

Parameter Estimates - Mean RoE (for CEO)

	All Valid Cases						All Valid Cases, and with non-extreme residuals					
Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound					Lower Bound	Upper Bound
Intercept	9.811	19.142	.513	.608	-27.797	47.418	10.902	1.889	5.771	.000	7.190	14.613
[CEO_Terminated=.00] CEO was not terminated	9.495	11.766	.807	.420	-13.623	32.612	-3.941	1.164	-3.387	**.001**	-6.227	-1.654
[CEO_Terminated=1.00] CEO was terminated	Baseline - The above row shows the difference for non-terminated CEO's vs terminated CEO's											
[Tenure_Block=1] max tenure=1-3 years	-38.900	14.127	-2.754	**.006**	-66.655	-11.145	-8.167	1.443	-5.661	**.000**	-11.001	-5.332
[Tenure_Block=2] max tenure=4-6 years	2.039	16.058	.127	.899	-29.511	33.588	-.777	1.576	-.493	.622	-3.874	2.319
[Tenure_Block=3] max tenure=7+ years	Baseline - The above two rows show the difference for tenure block 1, 2 vs tenure block 3											
Accident & Health Insurance Firms	-5.830	38.117	-.153	.878	-80.718	69.058	4.652	3.809	1.221	.223	-2.832	12.135
Money Center Banks	5.846	39.244	.149	.882	-71.256	82.949	6.094	3.810	1.600	.110	-1.391	13.580
Regional Banks	-.637	19.317	-.033	.974	-38.590	37.316	.947	1.907	.496	.620	-2.800	4.694
Savings & Loans	-2.724	22.226	-.123	.903	-46.392	40.944	1.094	2.191	.499	.618	-3.212	5.399
Consumer Financial Services Firms	7.183	26.435	.272	.786	-44.755	59.120	1.973	2.641	.747	.455	-3.217	7.163
Investment Services Firms	-49.692	25.309	-1.963	**.050**	-99.416	.032	-5.302	2.636	-2.011	**.045**	-10.481	-.122
Life Insurance Firms	6.255	33.452	.187	.852	-59.469	71.978	-.239	3.317	-.072	.943	-6.758	6.279
Property/Casualty Insurance Firms	Baseline - The above eight rows show the difference for for the various firm types vs Property/Casualty Insurance Firms											

Method: A regression was run on all valid cases. Those cases whose residuals were outliers (as defined by the SPSS EXPLORE stem-and-leaf plot) were filtered out, and the model was re-run.

A **bold** number under the 'Sig' column means that the effect was statistically significant.

Explanation of results: in the initial model, two parameters were significant - those for the tenure block=1, and for firm type=6. this means that CEO's who only had from 1-3 years of tenure in our data set had significantly lower mean RoE thant those who had 7+ years, by 38%. Those who were in type 6 firms (Investment Services Firms) had mean RoE's 49% lower than for the other firms.

APPENDIX K

Parameter Estimates – Mean ROA for CEOs

APPENDIX K

Parameter Estimates - Mean RoA (for CEO)

	All Valid Cases						All Valid Cases, and with non-extreme residuals					
Parameter	B	Std. Error	t	Sig.	95% Confidence		B	Std. Error	t	Sig.	95% Confidence	
					Lower Bound	Upper Bound					Lower Bound	Upper Bound
Intercept	.093	6.652	.014	.989	-12.976	13.163	2.613	.546	4.781	.000	1.539	3.686
[CEO_Terminated=.00] CEO was not terminated	5.294	4.089	1.295	.196	-2.740	13.328	-.080	.348	-.230	.818	-.764	.603
[CEO_Terminated=1.00] CEO was terminated	Baseline - The above row shows the difference for non-terminated CEO's vs terminated CEO's											
[Tenure_Block=1]	-6.526	4.909	-1.329	.184	-16.171	3.119	-1.903	.420	-4.535	**.000**	-2.727	-1.078
[Tenure_Block=2]	-8.295	5.581	-1.486	.138	-19.259	2.669	-.068	.472	-.145	.885	-.997	.860
[Tenure_Block=3]	Baseline - The above two rows show the difference for tenure block 1, 2 vs tenure block 3											
Accident & Health Insurance Firms	-2.386	13.246	-.180	.857	-28.412	23.639	.942	1.104	.853	.394	-1.229	3.112
Money Center Banks	3.167	13.638	.232	.816	-23.627	29.962	-1.181	1.104	-1.070	.285	-3.352	.989
Regional Banks	.206	6.713	.031	.976	-12.983	13.396	-1.418	.546	-2.595	**.010**	-2.492	-.344
Savings & Loans	-.171	7.724	-.022	.982	-15.347	15.004	-1.321	.628	-2.104	**.036**	-2.554	-.087
Consumer Financial Services Firms	-26.770	9.187	-2.914	**.004**	-44.819	-8.721	-9.446	1.183	-7.984	**.000**	-11.771	-7.121
Investment Services Firms	-4.685	8.795	-.533	.594	-21.965	12.595	-.715	.745	-.960	.338	-2.178	.748
Life Insurance Firms	1.598	11.625	.137	.891	-21.243	24.438	-.603	.942	-.640	.522	-2.454	1.248
Property/Casualty Insurance Firms	Baseline - The above eight rows show the difference for for the various firm types vs Property/Casualty Insurance Firms											

Method: A regression was run on all valid cases. Those cases whose residuals were outliers (as defined by the SPSS EXPLORE stem-and-leaf plot) were filtered out, and the model was re-run.

A **bold** number under the 'Sig' column means that the effect was statistically significant.

Explanation of results: in the initial model, only parameter was significant - the parameter for firm type =5 (, compared to firm type 9). CEO's who were from Consumer Financial Services Firms had mean RoA's 26.77% lower than CEO's of Property/Casualty Insurance Firms. In this model, this particular firm factor was still statistically signficant (with a much smaller coefficient), but also associations with Regional Banks and Savings & Loans (those CEO's had lower mean RoA's than CEO's for Property/Casualty Insurance Firms. In addition, the association of RoA and Tenure Block was statistically significant - CEO's who had only reached 1-3 years of tenure in this deat set had mean RoA's -1.9% lower than those who had reached 7+ years.

APPENDIX L

Data for Mean ROE by Tenure Block and CEO Terminations

APPENDIX L

Data for Mean ROE by Tenure Block and CEO Terminations

Firm Type	Tenure Block 1 (1-3 Years), Not Terminated	Tenure Block 1 (1-3 Years), Terminated	Tenure Block 1 (1-3 Years), Overall	Tenure Block 2 (4-6 Years), Not Terminated	Tenure Block 2 (4-6 Years), Terminated	Tenure Block 2 (4-6 Years), Overall	Tenure Block 3 (7+ Years), Not Terminated	Tenure Block 3 (7+ Years), Terminated	Tenure Block 3 (7+ Years), Overall	CEO Not Terminated	CEO Terminated
Accident & Health Insurance Firms	10.53	(98.31)	(43.89)	16.75	17.50	17.25	10.33	11.64	10.72	(4.73)	4.75
Money Center Banks	(5.78)	7.73	3.89	12.61	18.47	16.52	8.45	8.58	8.48	18.28	12.94
Regional Banks	(18.59)	7.76	(7.52)	7.82	9.65	8.76	8.69	12.52	10.35	10.91	6.02
Savings & Loans	(28.36)	2.86	(12.01)	5.94	9.54	7.29	7.84	10.42	8.79	8.04	3.75
Consumer Financial Services Firms	(14.09)	24.08	7.11	(1.47)	9.51	5.39	14.07	(0.46)	6.80	11.84	6.67
Investment Services Firms	6.74	(981.93)	(262.90)	9.90	12.30	23.58	29.86	2.42	7.56	(122.97)	(42.94)
Life Insurance Firms	8.12	3.05	5.58	(17.31)	3.46	29.87	6.13	9.70	7.62	16.46	10.22
Property/Casualty Insurance Firms	8.71	(15.58)	(3.43)	7.72	8.92	8.68	9.48	6.48	7.98	(0.00)	4.38
Overall	(11.51)	(45.58)	(27.34)	9.86	11.97	11.03	10.79	9.35	10.19	(3.94)	1.05

APPENDIX M

Data for Mean ROA by Tenure Block and CEO Terminations

APPENDIX M

Data for Mean ROA by Tenure Block and CEO Terminations

Firm Type	Tenure Block 1 (1-3 Years), Not Terminated	Tenure Block 1 (1-3 Years), Terminated	Tenure Block 1 (1-3 Years), Overall	Tenure Block 2 (4-6 Years), Not Terminated	Tenure Block 2 (4-6 Years), Terminated	Tenure Block 2 (4-6 Years), Overall	Tenure Block 3 (7+ Years), Not Terminated	Tenure Block 3 (7+ Years), Terminated	Tenure Block 3 (7+ Years), Overall	CEO Not Terminated	CEO Terminated
Accident & Health Insurance Firms	1.61	(71.62)	(35.00)	7.48	8.34	8.06	2.55	0.75	2.01	(8.78)	(1.71)
Money Center Banks	(0.45)	1.29	0.71	1.06	1.15	1.12	0.67	1.81	0.90	1.28	0.95
Regional Banks	(4.30)	0.65	(2.22)	0.76	1.12	0.94	0.82	1.26	1.01	1.10	0.27
Savings & Loans	(0.81)	0.39	(0.18)	3.30	2.33	2.94	0.77	0.97	0.84	0.91	0.79
Consumer Financial Services Firms	(4.78)	(28.79)	(18.12)	2.51	(187.17)	(116.04)	3.51	(1.60)	0.95	(51.59)	(28.12)
Investment Services Firms	4.54	(104.38)	(25.16)	2.22	5.39	3.84	(1.66)	1.73	(0.14)	(11.00)	(4.85)
Life Insurance Firms	0.43	1.55	0.99	(0.97)	(0.56)	(0.70)	2.91	1.10	2.16	0.90	1.41
Property/Casualty Insurance Firms	(1.28)	(20.60)	(10.94)	2.14	1.97	2.05	2.94	3.41	3.17	(3.33)	(0.90)
Overall	(2.10)	(13.77)	(7.52)	1.51	(16.69)	(8.60)	1.06	1.29	1.16	(6.35)	(2.70)

APPENDIX N

ROE by Calendar Year with Real GDP

APPENDIX N
ROE by Calendar Year with Real GDP

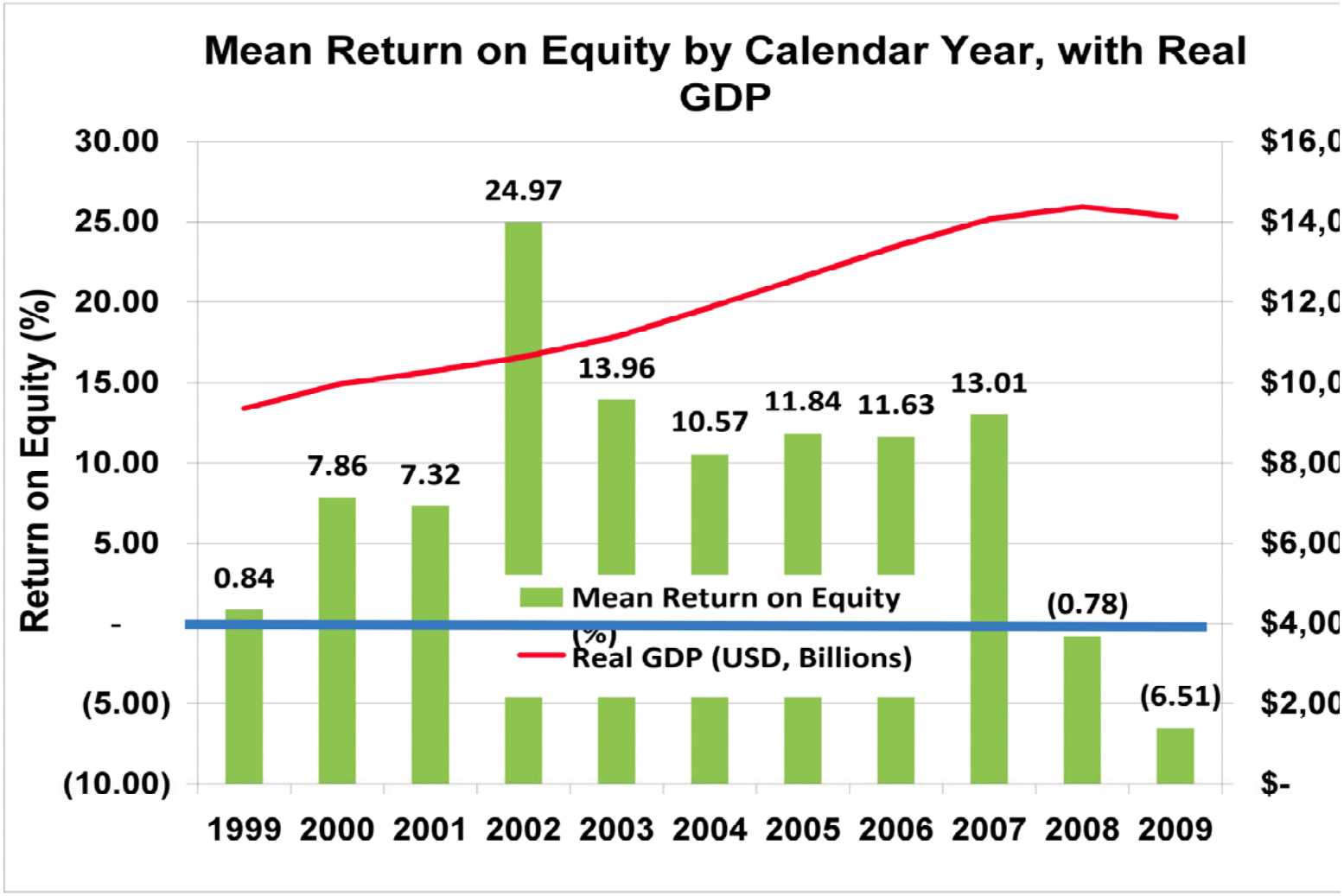

Figure . Mean return on equity by calendar year with real GDP.

Table .
ROE by Calendar Year with Real GDP Data

APPENDIX N
ROE by Calendar Year with Real GDP (Data)

Calendar Year	Real GDP (USD, Billions)	Mean Return on Equity (%)
1999	$ 9,354	0.84
2000	$ 9,952	7.86
2001	$ 10,286	7.32
2002	$ 10,642	24.97
2003	$ 11,142	13.96
2004	$ 11,868	10.57
2005	$ 12,638	11.84
2006	$ 13,399	11.63
2007	$ 14,062	13.01
2008	$ 14,369	(0.78)
2009	$ 14,119	(6.51)

APPENDIX O

ROA by Calendar Year with Real GDP

APPENDIX O
ROA by Calendar Year with Real GDP

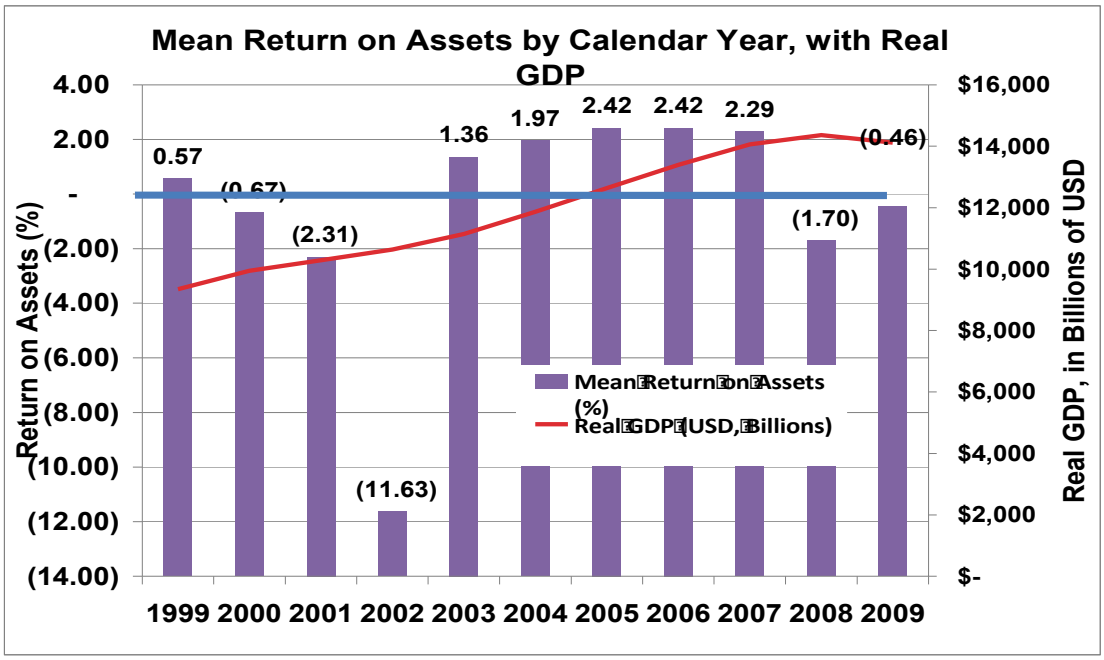

Figure . Mean return on assets by calendar year with real GDP.

Table .
ROA by Calendar Year with Real GDP Data

APPENDIX O
ROA by Calendar Year with Real GDP (Data)

Calendar Year	Real GDP (USD, Billions)	Mean Return on Assets (%)
1999	$ 9,354	0.57
2000	$ 9,952	(0.67)
2001	$ 10,286	(2.31)
2002	$ 10,642	(11.63)
2003	$ 11,142	1.36
2004	$ 11,868	1.97
2005	$ 12,638	2.42
2006	$ 13,399	2.42
2007	$ 14,062	2.29
2008	$ 14,369	(1.70)
2009	$ 14,119	(0.46)

APPENDIX P

Mean Return on Equity/Mean Return on Assets by CEO Tenure and Firm Type

APPENDIX P

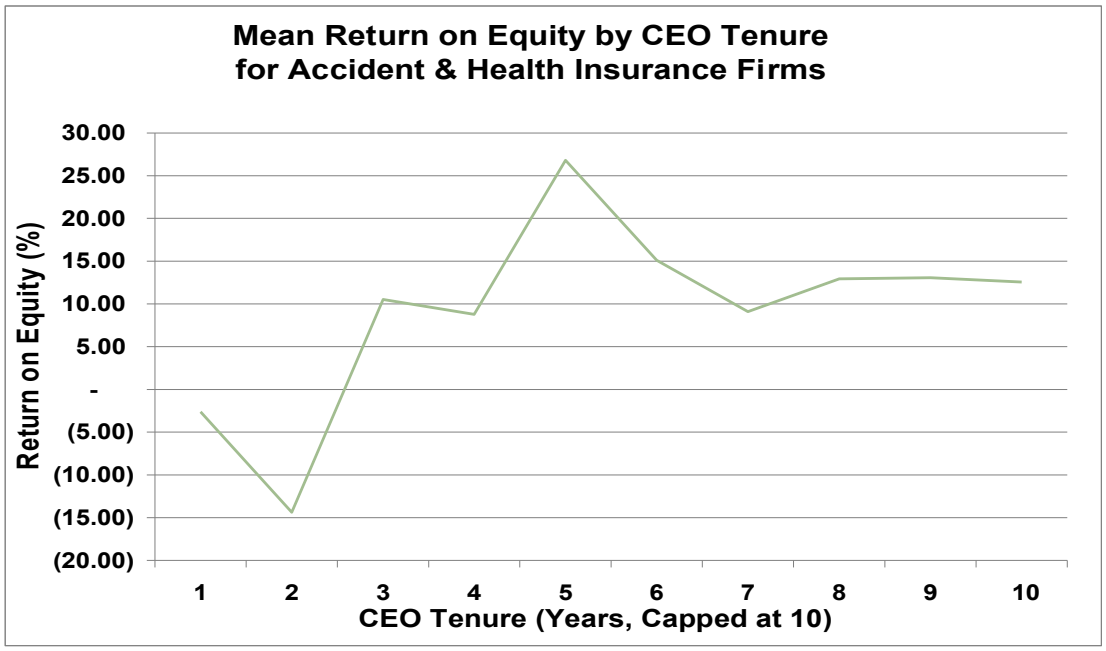

Figure . Mean return on equity by CEO tenure for accident and health insurance firms.

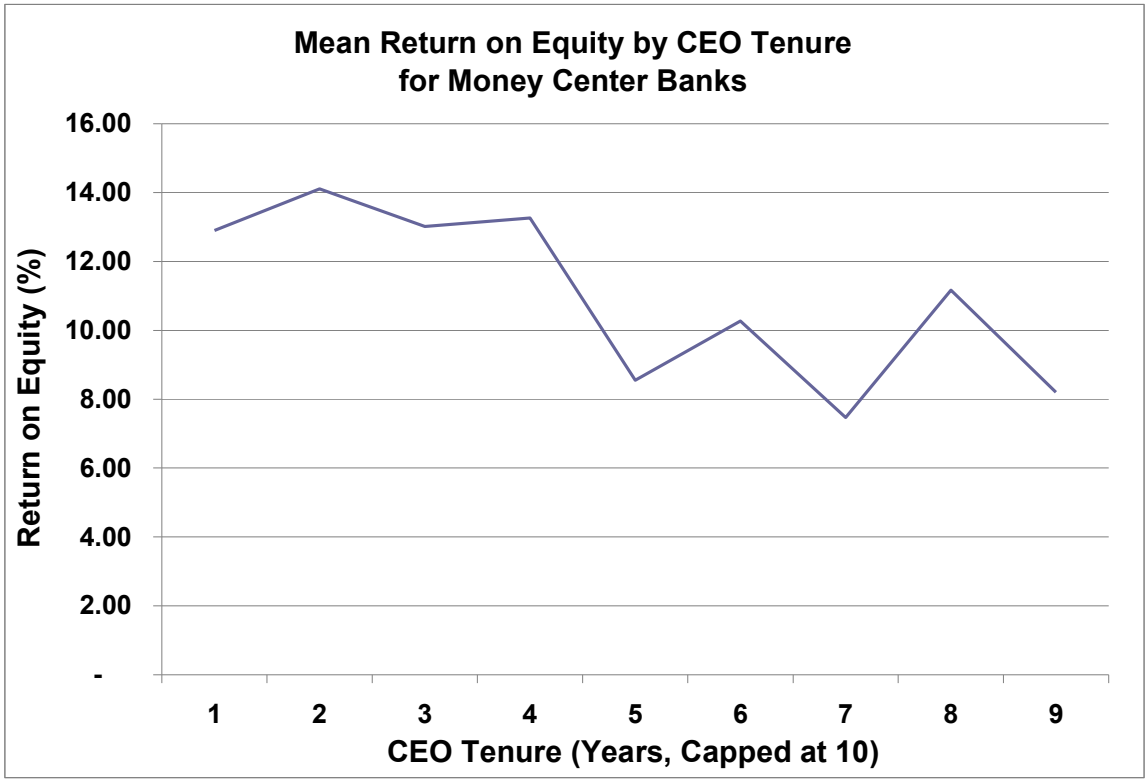

Figure . Mean return on equity by CEO tenure for money center banks.

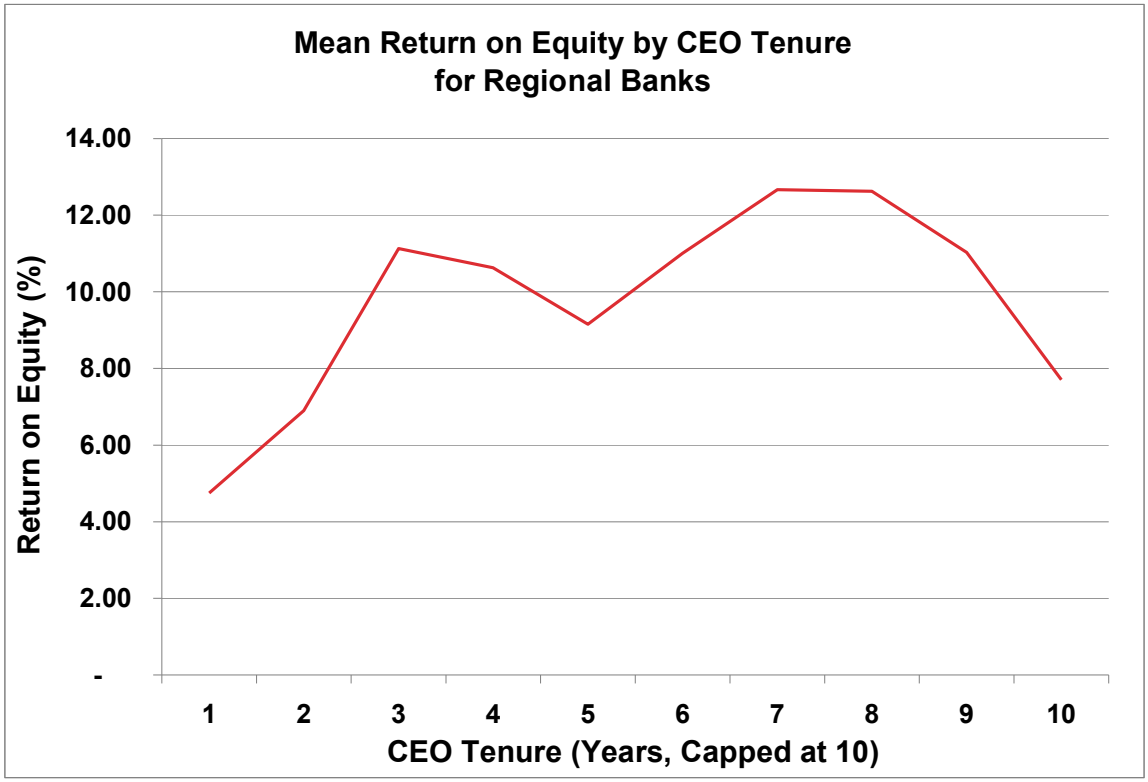

Figure . Mean return on equity by CEO tenure for regional banks.

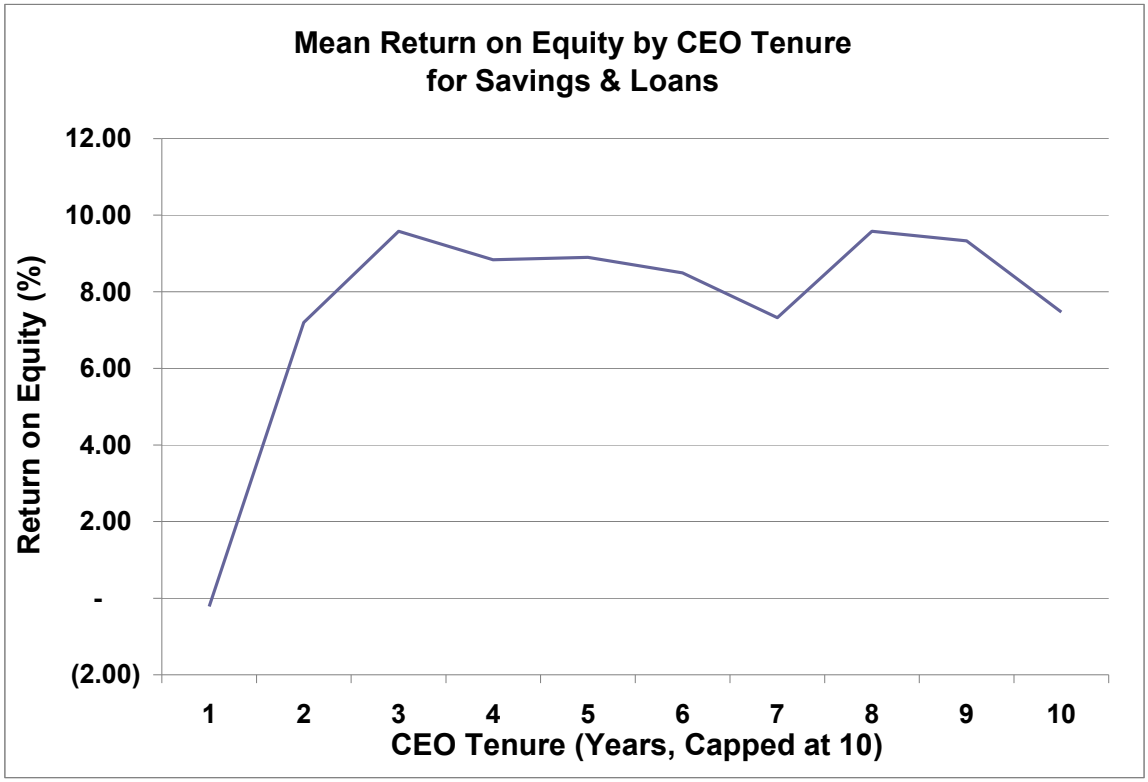

Figure . Mean return on equity by CEO tenure for savings & loans.

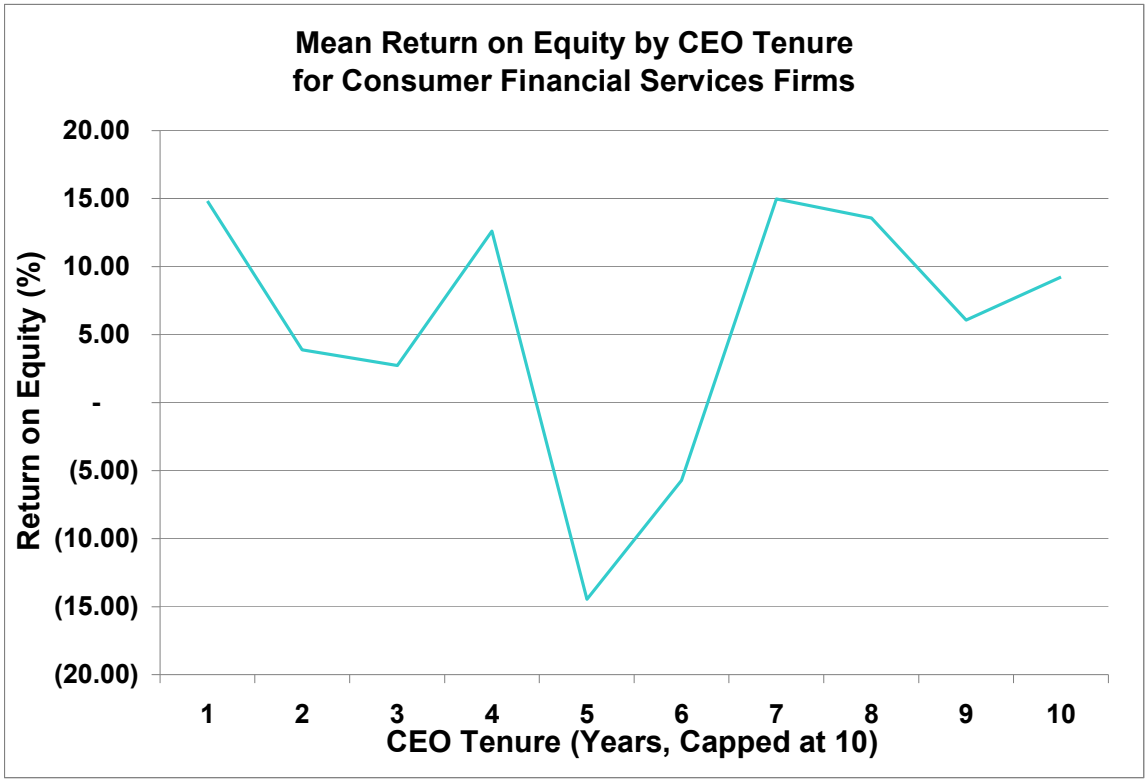

Figure . Mean return on equity by CEO tenure for consumer financial services firms.

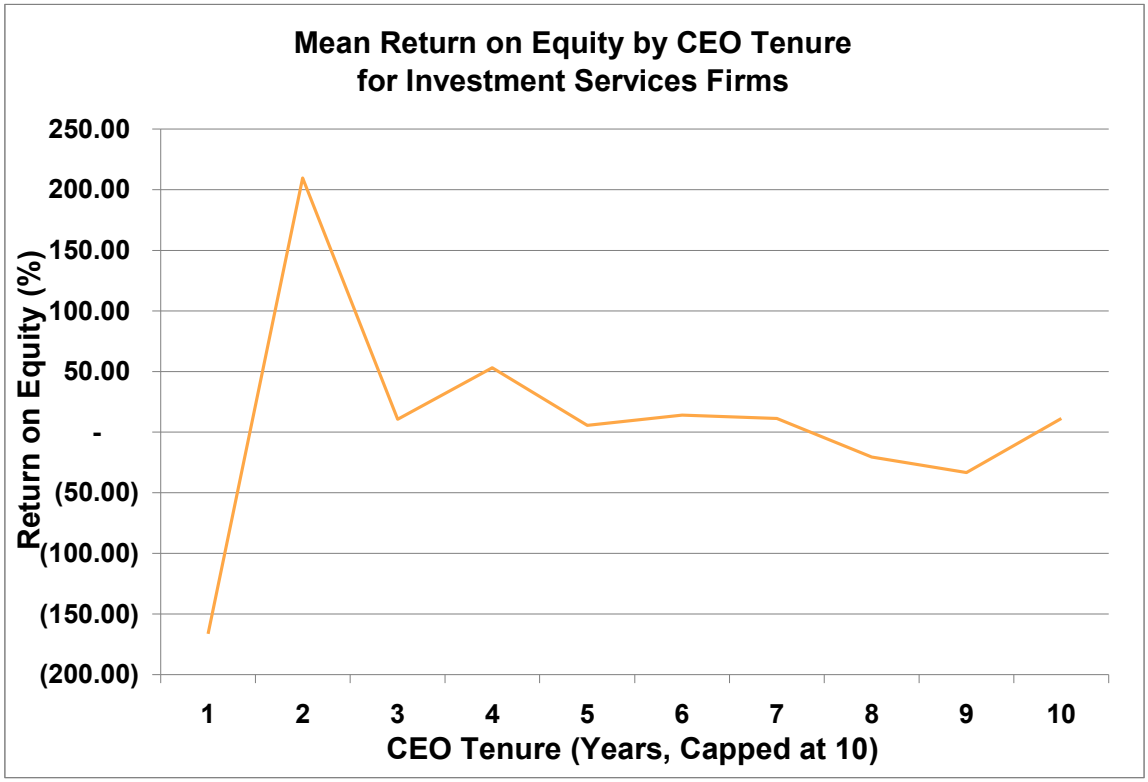

Figure . Mean return on equity by CEO tenure for investment services firms.

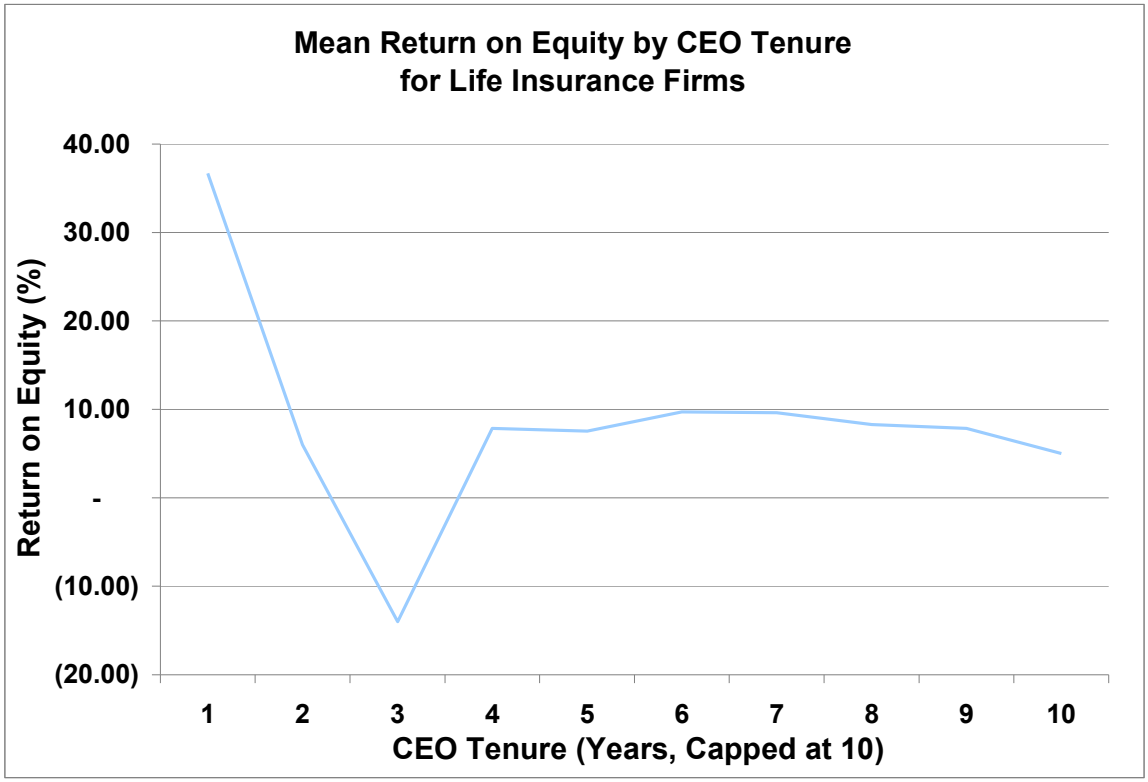

Figure . Mean return on equity by CEO tenure for life insurance firms.

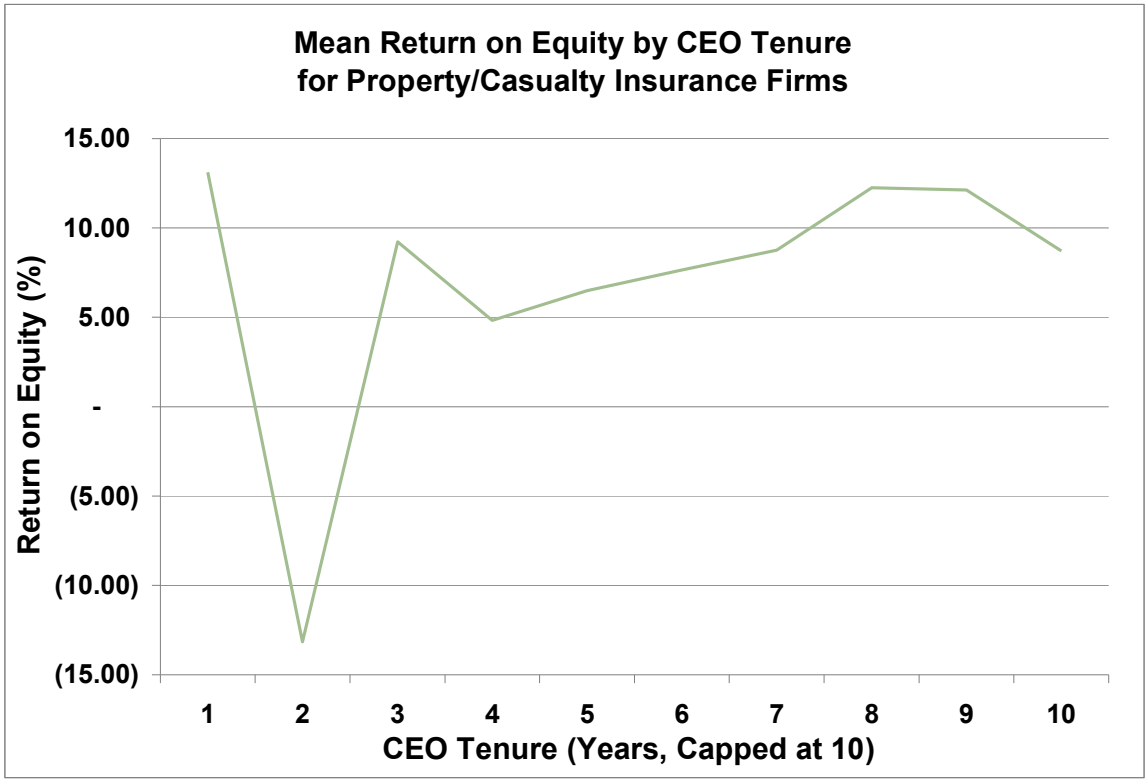

Figure . Mean return on equity by CEO tenure for property/casualty insurance firms.

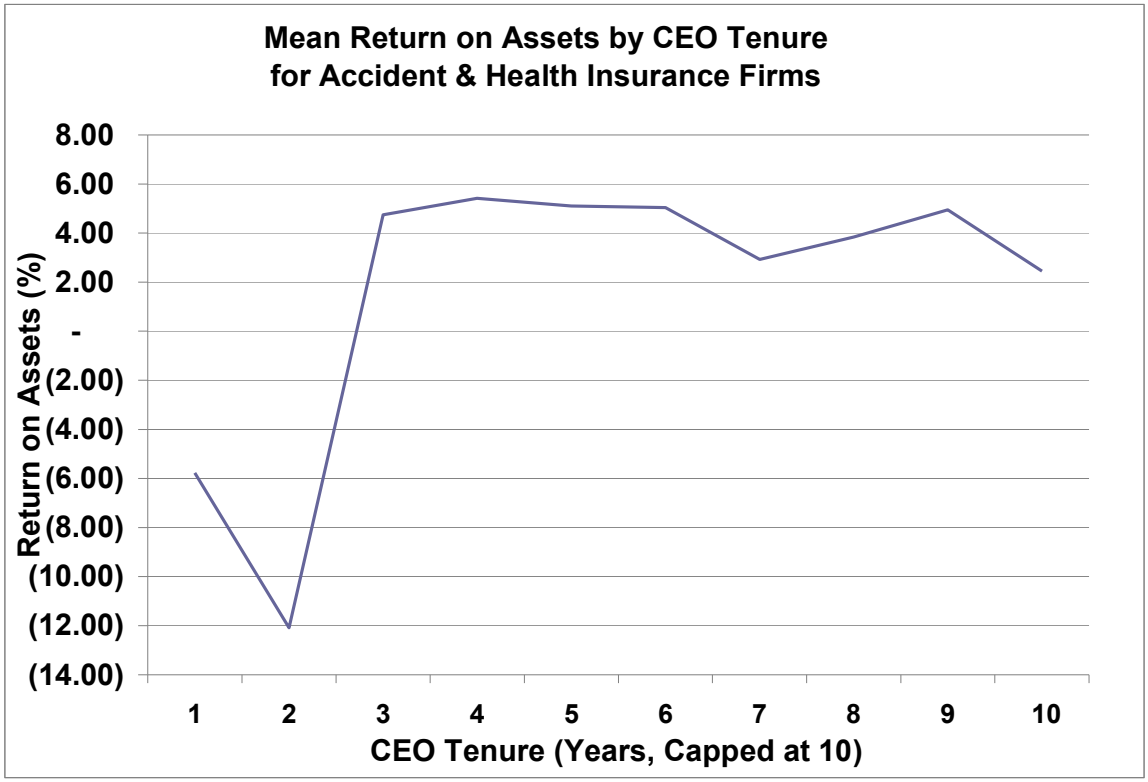

Figure . Mean return on assets by CEO tenure for accident & health insurance firms.

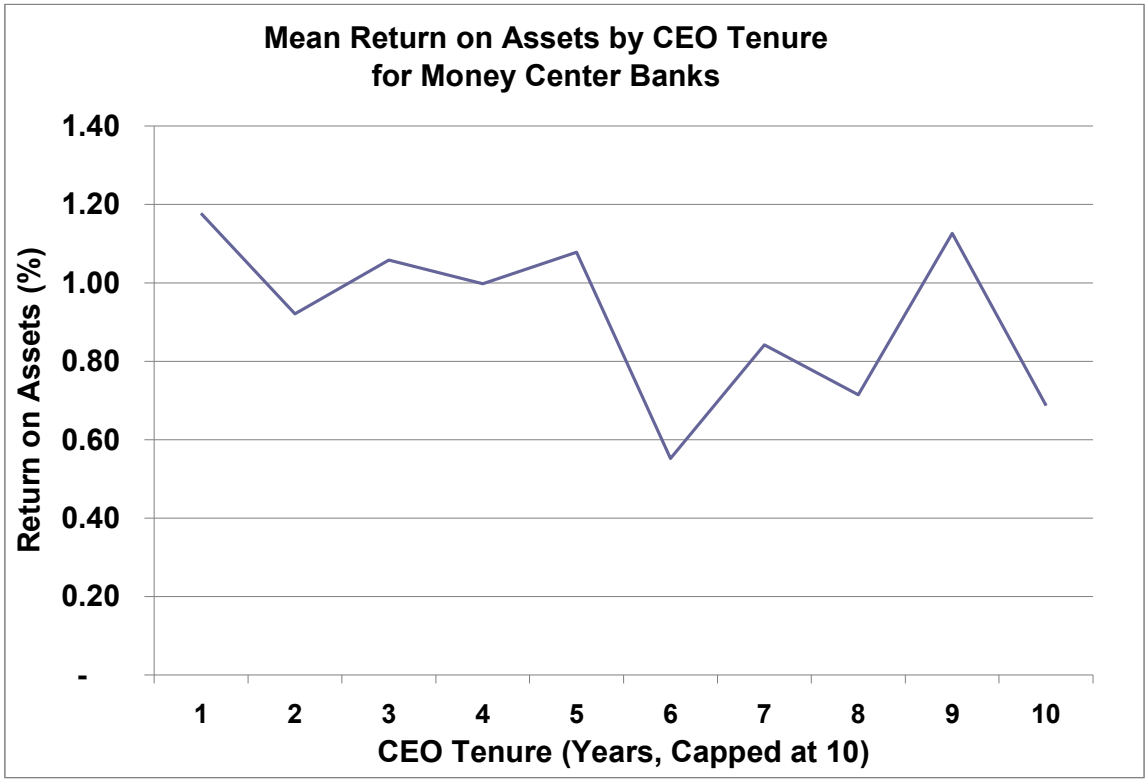

Figure . Mean return on assets by CEO tenure for money center banks.

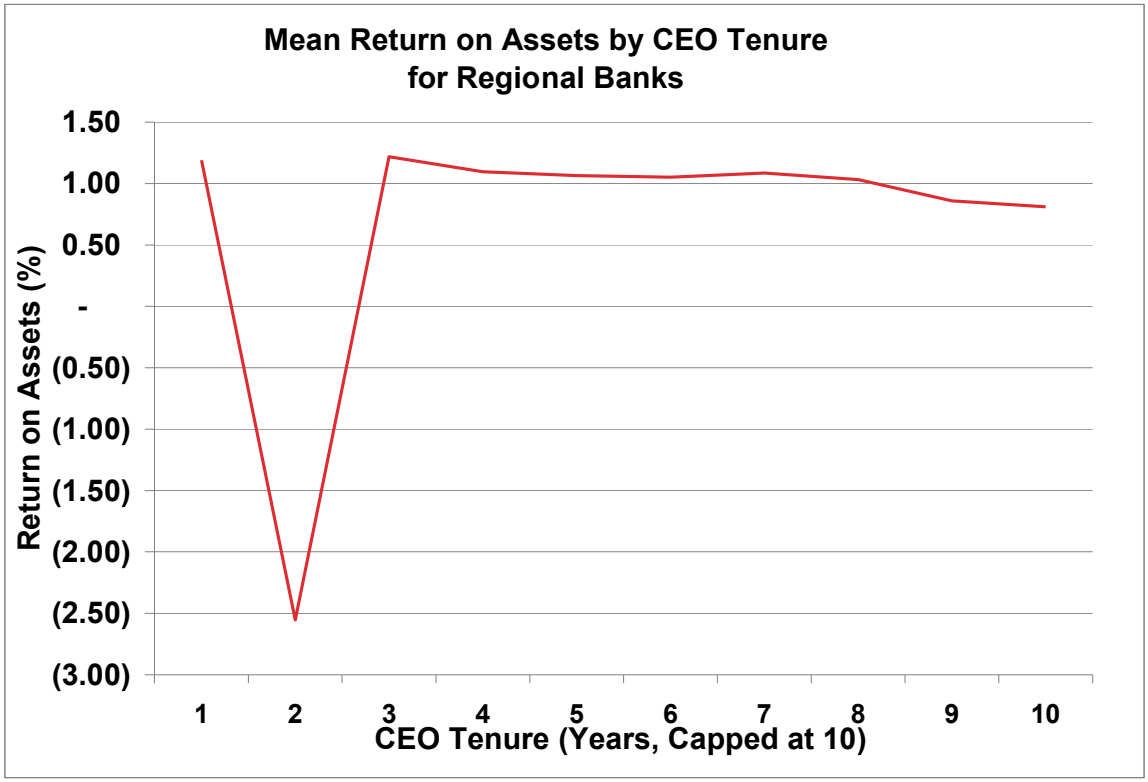

Figure . Mean return on assets by CEO tenure for regional banks.

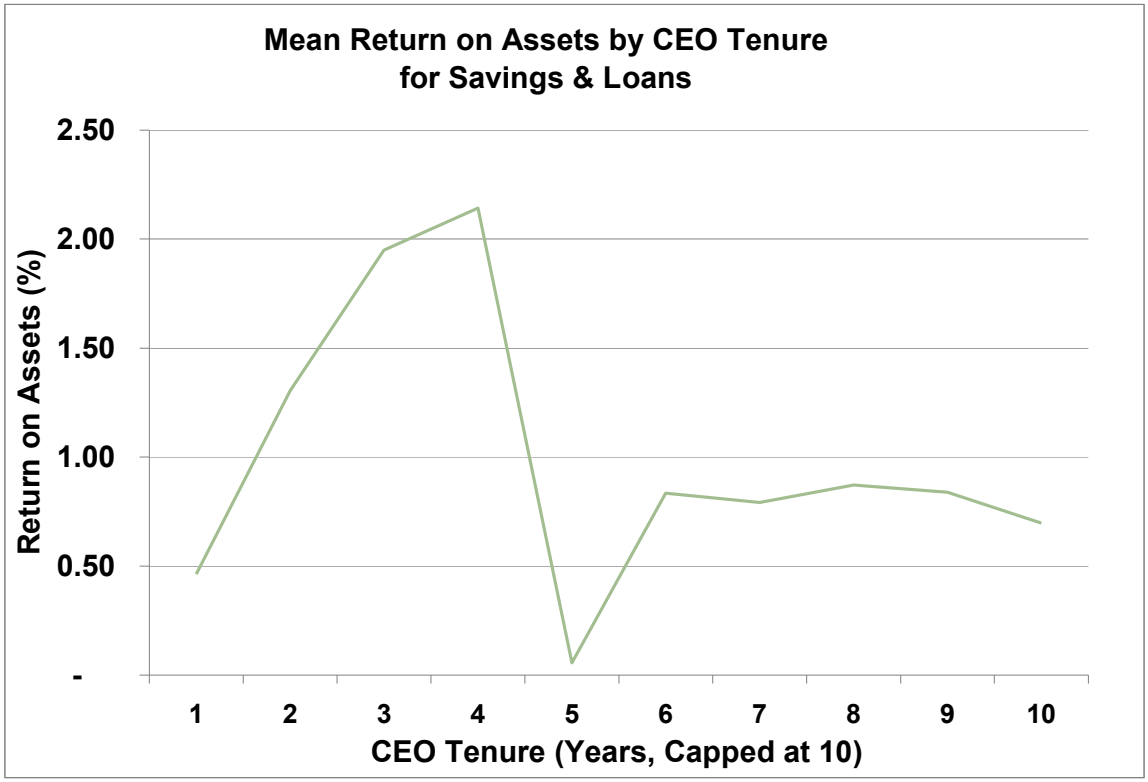

Figure . Mean return on assets by CEO tenure for savings and loans.

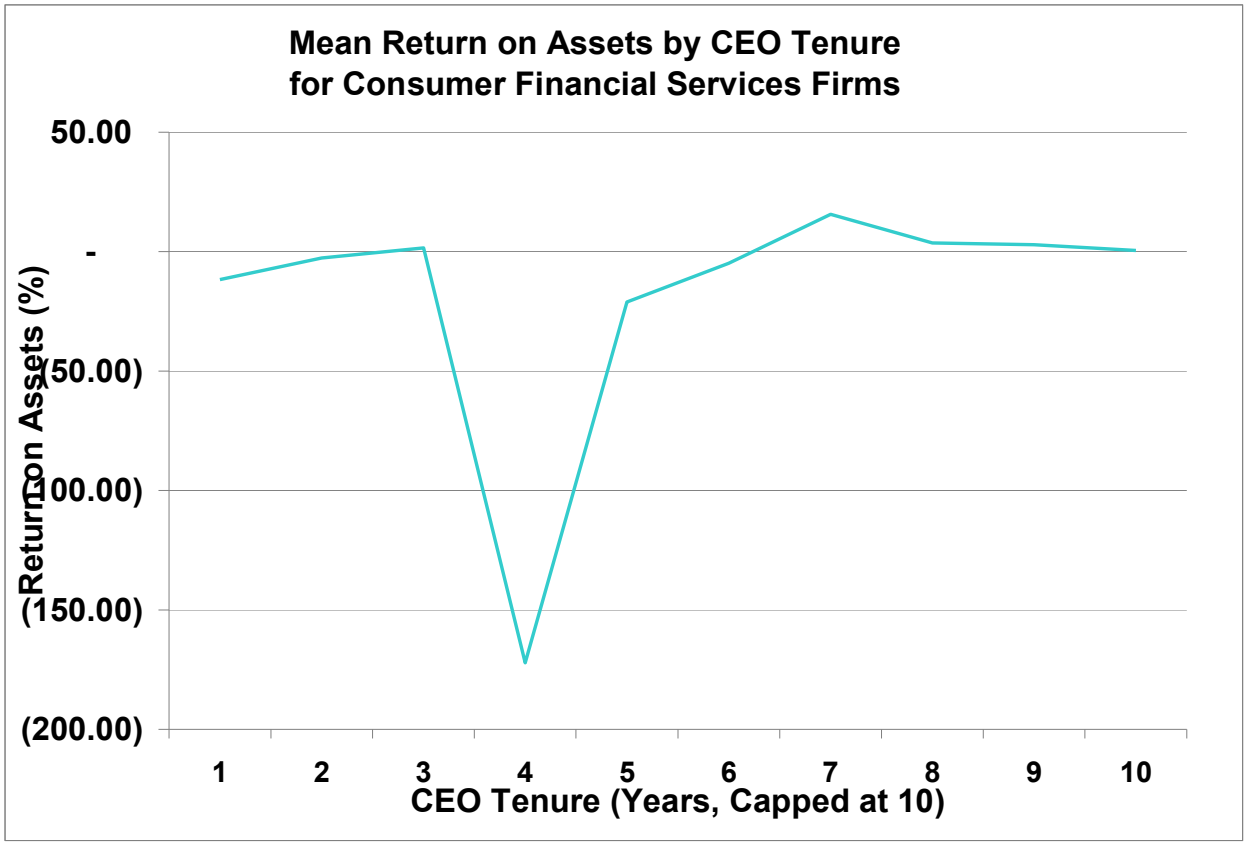

Figure . Mean return on assets by CEO tenure for consumer financial services firms.

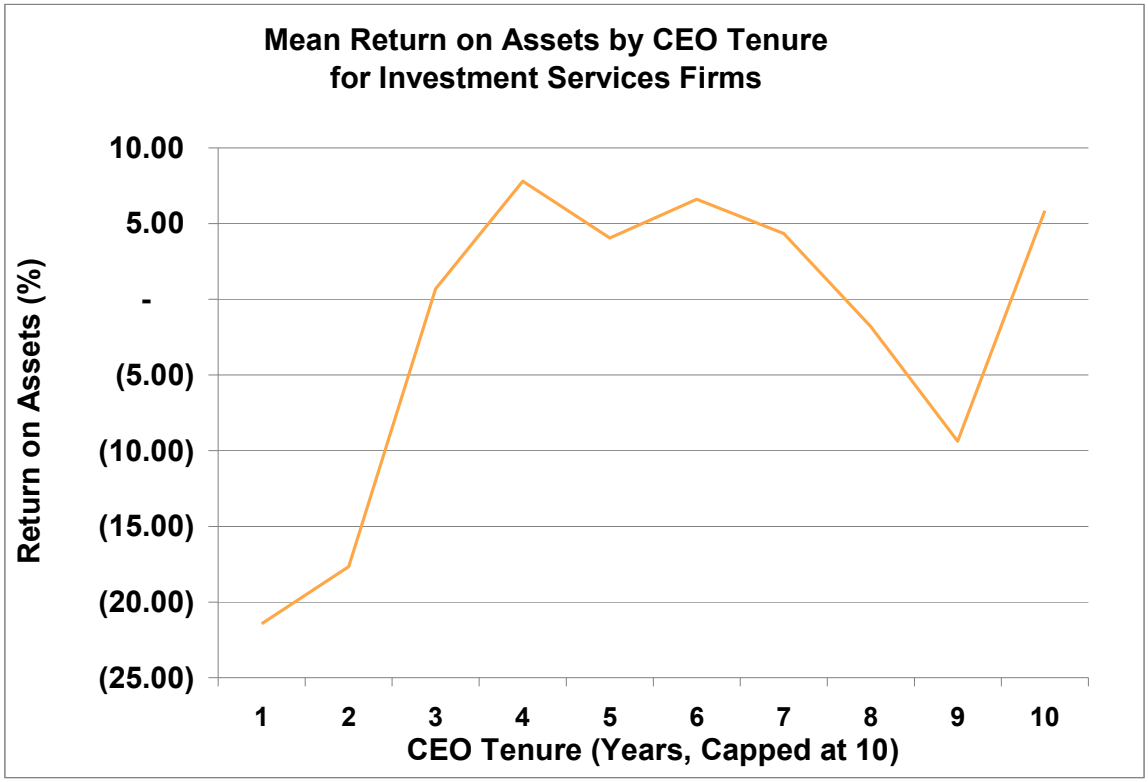

Figure . Mean return on assets by CEO tenure for investment services firms.

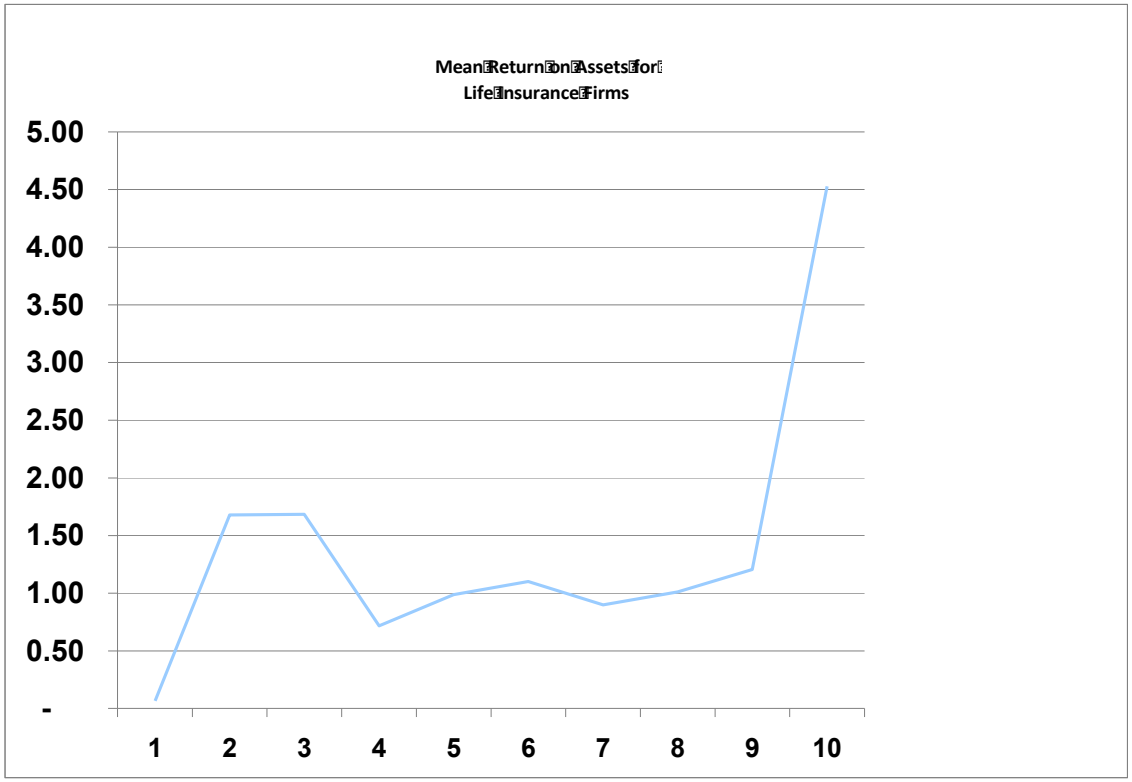

Figure . Mean return on assets for life insurance firms.

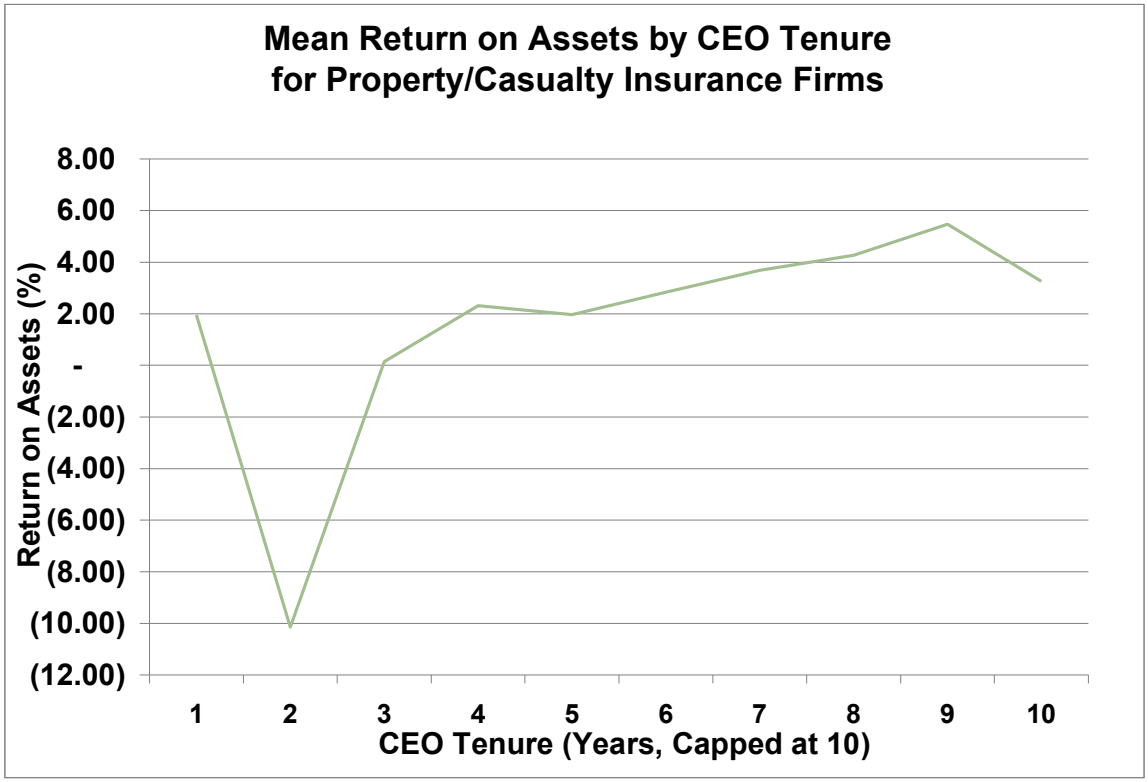

Figure . Mean return on assets by CEO tenure for property/casualty insurance firms.

DATA BY TENURE YEAR BY FIRM TYPE

Tenure Year (Capped at 10)	RoE - Accident & Health Insurance Firms	RoE - Money Center Banks	RoE - Regional Banks	RoE - Savings & Loans	RoE - Consumer Financial Services Firms	RoE - Investment Services Firms	RoE - Life Insurance Firms	RoE - Property/Casualty Insurance Firms	RoA - Accident & Health Insurance Firms	RoA - Money Center Banks	RoA - Regional Banks	RoA - Savings & Loans	RoA - Consumer Financial Services Firms	RoA - Investment Services Firms	RoA - Life Insurance Firms	RoA - Property/Casualty Insurance Firms
1	(2.62)	16.26	4.75	(0.22)	14.83	(166.47)	36.69	13.11	(5.77)	1.18	1.19	0.46	(11.77)	(21.44)	0.07	1.95
2	(14.37)	12.89	6.90	7.20	3.89	209.60	5.99	(13.16)	(12.08)	0.92	(2.55)	1.30	(2.66)	(17.66)	1.68	(10.14)
3	10.52	14.10	11.13	9.58	2.72	10.58	(13.99)	9.23	4.75	1.06	1.22	1.95	1.51	0.69	1.68	0.15
4	8.80	13.02	10.63	8.84	12.61	53.02	7.85	4.84	5.41	1.00	1.10	2.14	(172.08)	7.80	0.72	2.31
5	26.81	13.26	9.16	8.90	(14.46)	5.50	7.57	6.50	5.10	1.08	1.07	0.06	(21.01)	4.05	0.99	1.97
6	15.12	8.55	11.01	8.50	(5.72)	14.16	9.73	7.65	5.04	0.55	1.05	0.83	(4.89)	6.60	1.10	2.84
7	9.09	10.27	12.67	7.33	14.97	11.32	9.64	8.75	2.92	0.84	1.09	0.79	15.66	4.33	0.90	3.68
8	12.94	7.47	12.62	9.58	13.59	(20.65)	8.29	12.26	3.84	0.71	1.03	0.87	3.66	(1.81)	1.01	4.27
9	13.09	11.17	11.03	9.33	6.08	(33.44)	7.86	12.13	4.94	1.13	0.86	0.84	2.88	(9.38)	1.20	5.47
10	12.56	8.20	7.71	7.47	9.24	11.24	5.03	8.71	2.45	0.69	0.81	0.70	0.56	5.85	4.53	3.26