2017

The Relationship Between a CFO's Financial Expertise and Firm Profitability

Scott Jeremy Rubin
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Scott J. Rubin

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. John Hannon, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Michael Lavelle, Committee Member, Doctor of Business Administration Faculty

Dr. Matthew Knight, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

The Relationship Between a CFO's Financial Expertise and Firm Profitability

by

Scott J. Rubin

MBA, Cleveland State University, 2000

BA, Case Western Reserve University, 1999

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Abstract

More than 50% of small businesses fail by the 5th year of operation because of lack of economic sustainability. Organizations without a chief financial officer (CFO) with financial expertise may have suboptimal fiscal performance. The purpose of this correlational study was to examine whether there was a relationship between CFO licensure status, CFO age, and firm earnings per share. A sample of 403 small businesses in the United States, taken from the Russell 2000 Index, was used in the study. The theoretical framework for the study was Penrose's resource-based view of the firm. CFO names and firm earnings per share were taken from the 2015 SEC 10-K filings. CPAverify was used to determine specific CFO licensure status. LexisNexis was used to identify CFO age. Multiple linear regression was used to examine the relationship between CFO licensure status, CFO age, and firm earnings per share. A multiple regression model with $F(2, 400) = 3.69$, $p = .03$, $R^2 = .018$ demonstrated a relationship between CFO licensure status, CFO age, and firm earnings per share ratio. Having a CPA license $F(1, 154) = 8.59$, $p = .01$, $R^2 = .053$ revealed a slightly better correlation between licensure status and firm earnings per share. CFO age $F(1, 401) = 3.10$, $p = .08$, $R^2 = .005$ revealed no relationship to firm earnings per share. Small business leaders could use this study's findings as the basis for hiring CFOs with financial expertise. Doing so may help increase the firm's profitability and mitigate the risks of business failure. Positive social change may ensue provided small businesses use this study's findings to improve job retention and the economic viability of a community.

The Relationship Between a CFO's Financial Expertise and Firm Profitability

by

Scott J. Rubin

MBA, Cleveland State University, 2000

BA, Case Western Reserve University, 1999

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Dedication

I dedicate this degree to my wife Mindy S. Rubin, CPA. You have supported me through my endeavors to become a CPA and earn my doctorate. Thank you for spending countless hours being the best editor I could ask for while taking this journey. You are my honorary doctorate for proofreading everything I wrote. I also dedicate this degree to my daughter Norah R. Rubin. I hope my ambition to complete my doctorate demonstrates that you can persevere and complete anything. I learned from an early age to shoot beyond my goals. My role models and parents, Sarah and Ira Rubin, continue to empower me to complete everything I start. Your daily support and encouragement guide me personally and professionally. My grandfather Norman Kasendorf taught me to fight for what I believe in and your spirit lives with me every day. My grandmother Annette Kasendorf is the best cheerleader any grandson needs to navigate life. The spirit of my grandparents Edith and Sam Rubin are evident in the values my father teaches his children and grandchildren. I would not be where I am today without this strong family foundation.

Acknowledgments

I would like to thank the doctoral committee for assistance with this great research study: Chairperson Dr. John Hannon, Second Committee Chairperson Dr. Michael Lavelle, and URR Dr. Matthew Knight. Doc Hannon, this acknowledgement can only begin to describe your invaluable guidance during my doctoral journey. From our first conversation in July 2015 when you convinced me my study was quantitative and not qualitative to you officially becoming my chair in December 2015 when we met at residency in Tampa, I knew I selected the best chairperson. I survived the process through our hundreds of text messages and countless hours of phone conversations. Your dozens of movie analogies helped me understand my journey was “Abby normal” and not abnormal. Thank you, Dr. Mike and Dr. Matt, for knowledge and continued guidance for challenging me to achieve my goal and think beyond the quantitative elements of my study.

Table of Contents

List of Tables

List of Figures

Section 1: Foundation of the Study

Introduction

The survival of a small business (fewer than 500 employees) is a function of the fiscal guidance the business receives from its organizational financial leader (Solomon, Bryant, May, & Perry, 2013). Small businesses make significant societal and economic contributions through job creation and through an infusion of national financial prosperity with the creation of additional corporate revenue (Ayyagari, Demirguc-Kunt, & Maksimovic, 2014). However, more than 50% of small businesses fail within their first 5 years of operation, thus negating any employment or financial contribution (Haltiwanger, Jarmin, & Miranda, 2013). The financial expertise of an organization's fiscal leadership may improve the company's economic sustainability (Proctor, 2014). The purpose of this quantitative correlational study was to examine the relationship between a CFO's professional licensure status and age as a proxy for financial expertise and a firm's profitability.

Background of the Problem

The role of accountants in private industry is that of a business partner and financial leader who necessitates a professional with a broader educational background, such as a certified public accountant (CPA) or advanced academic degree (Fuller & Hargadon, 2008). Organizational financial leaders work alongside their operational peers, making critical business decisions that influence the future of the enterprise. The CFO of a company may oversee broader departmental functions beyond the typical accounting role (Berry, 2015). Appropriate levels of education and experience are increasingly

important as financial stewardship functions shift toward a partnership with corporate executives instead of a CFO's traditional accounting role (Victoravich, 2011). Business leaders may not be aware of the value offered with the additional schooling and certifications of a finance professional. Organizational leaders should understand that the selection of an individual with a CPA license and tenure as a financial leader may help to form an appropriate partnership.

The role of the accounting staff in the private sector is continuously evolving (Eber, Schwer, & Mohammadi, 2013). Financial leaders are perceived to have growing prestige both in a company and for its stakeholders because of the focus on fiscal performance (Hiller, Mahlendorf, & Weber, 2014). The importance of the finance role of an organization also leads to management relationships where the chief executive officer (CEO) and CFO jointly oversee the organization (Han, Zhang, & Han, 2015). As a result of the growth of the financial leadership position, the accounting profession is seeing an increase in CPA candidates seeking prosperity in a stable profession (Nishiyama, Camillo, & Jinkens, 2014). The evolution of accounting leadership roles may necessitate a dynamic CFO who understands the changing landscape of small business.

Problem Statement

Without adequate financial guidance, small businesses without an experienced CFO with a CPA license are at risk of negative economic performance, as measured by earnings per share and business failure (Barbera & Hasso, 2013). More than 50% of small business startups do not survive past their fifth year of operation (U.S. Small Business Administration, Office of Advocacy, 2016). The general business problem was that some

small business executives do not understand that CFOs' credentials may have direct impact on company financial performance. The specific business problem was that some small business executives do not understand the relationship among the qualifications of a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

Purpose Statement

The purpose of this quantitative, correlational study was to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. The two predictor variables were a CFO's CPA licensure status and CFO age. The dependent variable was earnings per share ratio. The data were archival records from small businesses in the United States, as listed in the Russell 2000 Index. This study has implications for positive social change: more small businesses may remain in business and thus employ additional workers who support families with higher disposable incomes.

Nature of the Study

Quantitative methods are used to examine a hypothesized relationship or a trend with statistical values (Yilmaz, 2013). In this study, I used a quantitative method to examine the strength of the relationship among a CFO's CPA licensure status, CFO age, and the earnings per share ratio. A qualitative method was not appropriate because it does not measure the strength of the relationship between variables (Power & Gendron, 2015). A mixed-method study was not appropriate because my intent for the study did not assess both deductive reasoning and inductive methods (Fraser, 2014). Creating an underlying

association between the predictor and dependent variables is an important characteristic of a quantitative research method (Venkatesh, Brown, & Bala, 2013).

As noted in the previous paragraph, I examined the strength of the relationship between two or more variables (Bettany-Saltikov & Whittaker, 2014). Because examining such relationships is its nature, I chose to use a correlational design. A causal-comparative design was not appropriate because a cause-and-effect relationships between the variables was not of interest (Turner, Balmer, & Coverdale, 2013). A quasiexperimental design was not appropriate because there was no treatment or control group (Turner et al., 2013). Since the intent of the study was to determine a relationship between the variables a correlation design was the most appropriate option.

Research Question and Hypotheses

What is the relationship among a CFO's CPA licensure status, CFO age, and the earnings per share ratio?

H_0: There is no significant statistical relationship among a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

H_1: There is a significant statistical relationship among a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

Theoretical Framework

I used the resource-based view (RBV) of firm theory as the theoretical framework for the study. Penrose (1959) developed the RBV theory; Wernerfelt (1984) later extended that work. RBV theory is used to explain the resources an organization uses to achieve a distinct and sustained competitive advantage (Barney, 1991). According to

RBV theory, a firm that has superior resources will be able to achieve market superiority. Barney (1991) defined *resources* as organizational assets, attributes, and capabilities. To achieve a competitive advantage, there are four factors for resource superiority: value, rareness, inimitability, and sustainability. As applied to this study, RBV theory suggests that there would be a statistically significant relationship between the predictor variables and economic performance.

Operational Definitions

Business leader. A business leader is an individual capable of directing a company on a path of sustainable growth or evolving the existing framework to enhance the core foundation (Drew, 2013b).

Certified public accountant (CPA). A CPA is an individual who passes a uniform accounting examination and satisfies professional experience requirements of their respective state and receives a license (Armitage, 2014).

Continuing professional education (CPE). CPE is a series of courses necessary to maintain knowledge, skills, and competencies to ensure accounting practitioners remain current with best practices and industry trends (Tolleson & Guess, 2013).

Earnings per share (EPS). EPS is a measurement of profitability for stakeholders to analyze financial performance, but may not be an indicator of market superiority because the calculation ignores equity investments (Jorgensen, Lee, & Rock, 2014).

Diluted earnings per share (EPS). Diluted EPS is additional stock components, such as treasury stock, employee stock compensation commitments, and other corporate

stock obligations that are additional to the common stock outstanding denominator for the EPS calculation (Doran, 2013).

Operating income. Operating income is a measurement of profitability by calculating sales minus expenses necessary for business operations, including employee salaries, manufacturing costs, and general overhead expenses (Choudhary, Akhtar, & Zaheer, 2013).

Russell 2000 Index. The Russell 2000 Index for small cap stocks is a measurement of stocks ranking between 1,001 and 3,000 in their total market capitalization as of the last business day in June (Boone & White, 2015).

Small cap index. A small cap index is a group of publicly traded stocks that typically have a market capitalization between $300 million and $2 billion (Rodriguez, 2015).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are concepts that researchers acknowledge as being devoid of empirical evidence (Bryman & Bell, 2015). The first assumption was the CFO accurately reports financial and profile information to the United States Securities and Exchange Commission (SEC) database for publicly traded companies including headcount and financial performance measurements (Rashty & O'Shaughnessy, 2014). The second assumption was the LexisNexis Academic database with demographic, professional, and academic credentials of key corporate executives accurately reports the relevant information (Helms & Whitesell, 2013). The third assumption was The National

Association of State Boards of Accountancy database with CPA credential verifications accurately reports the relevant information (Spencer, Usrey, & Webb, 2015).

Limitations

Limitations are the inability to control thoroughly all variables that create data validity risks (Bryman & Bell, 2015). The sample size may not be representative of the entire small business population because of the limited publicly traded constituents. Alternative predictor variables may yield different results that contribute to firm profitability (Boesch, Schwaninger, Weber, & Scholz, 2013). Fiscal performance of measurable firm profitability may not be representative of nonquantifiable measures (Delen, Kuzey, & Uyar, 2013). Finally, past financial performance may not be indicative of future results.

Delimitations

Delimitations are factors and variables that help readers comprehend the intent of the study and analytical review (Kamau, Inanga, & Rwegasira, 2014). The findings of the study may not be generalizable to all small businesses because of profitability issues from other operating factors such as the state of the economy, seasonality, or changes in product demand. Many small businesses exist around the world, but the study was focused on public companies on the Russell 2000 Index with fewer than 500 employees. I studied the relationship of CPA licensure to financial performance, and am not considering other accredited degrees or professional certifications.

Significance of the Study

This section covers the following three significance of the study areas: (a) value to the business, (b) contribution to the business practice, and (c) implications for social change. Small business executives, accounting practitioners, and scholar-practitioners may find the study helpful in understanding effective strategic partnerships with CFOs. These days CFOs involvement is expanding beyond the oversight of financial performance and toward a strategic partnership where she or he is responsible for economic performance (Berry, 2015).

Value to the Business

A company on the Russell 2000 Index with fewer than 500 employees constitutes a small business with a market capitalization that does not qualify among the top 1,000 publicly traded corporations. Small businesses need employees to help operate the company and thus keep the economic cycle flowing. Small business creation is a vital component of a nation's economic health (Carland, Carland, & Stewart, 2015); new businesses are among the greatest contributors to job creation in the United States (Haltiwanger et al., 2013). Small businesses that use an embedded CFO to assist with fiscal management have a higher likelihood of positive economic performance (Barbera & Hasso, 2013). When a small business fails, it has a detrimental impact on other small businesses, their employees and customers.

Contribution to Business Practice

Small business executives may not be aware of the benefits that a CFO with a CPA license could bring to their organizations. CFOs are strategic business partners who

solve problems and identify organizational changes while spending less time in the accounting function (Eber et al., 2013). A CFO is capable of implementing fiscal and operational benefits for an organization (Smith, 2014). Business leaders may gain an understanding of the training an accountant receives during a financial leader's continuing education (Tolleson & Guess, 2013). CFOs with a CPA license and financial expertise receive training in managing the external audit selection process and maintaining the auditor relationship with technical, interpersonal communication (Sarapaivanich & Patterson, 2014). A small business executive may gain a higher awareness level of the benefits of an accountant for their organization (Smith, 2015). Greater knowledge and understanding of a CFO's financial expertise could better equip executives for organizational success.

Implications for Social Change

This study's key implication for constructive social change was the possible reduction of small business failures. Based on the study results, small business executives could gain new insights into preventing organizational failure. Fewer business failures could have a progressive social impact on society because approximately 40% of jobs generated by new small businesses are eliminated by the fifth year of creation when small businesses often fail (Haltiwanger et al., 2013). Reducing the frequency of small business failures yields job retention and adds to the economic stability of a community.

A Review of the Professional and Academic Literature

The synopsis, consolidation, and assessment of the published literature on a topic are the foundation for effective research (Rubin, Rubin, Piele, & Haridakis, 2010). A

thorough examination of the academic and professional literature helps researchers develop relevant analysis of the research topic (Parris & Peachey, 2013). Researchers will assess theoretical constructs to help defend their research position (Hosseini, Zuo, Chileshe, & Baroudi, 2015). The purpose of the quantitative correlation study was to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. The research question guiding the study was: What is the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio? The hypotheses of the study were to identify whether there is a significant statistical relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

In the study, the resource-based view (RBV) of the firm theory was the theoretical framework, which outlines the resources that serve to drive business survival. The theoretical framework section includes a thorough review of the literature relating to the three key RBV theory resources and the alignment of the RBV theory factors for resource superiority. I examined the relationship between the RBV theory and the predictor variables guiding financial expertise, a CPA license and the age of the CFO, and the dependent variable, firm profitability. The literature review included an assessment of the alignment between financial expertise and economic sustainability.

This literature review included international scholarly journals because it incorporated publicly traded international companies with similar financial reporting requirements to the United States (Cheng & Phillips, 2014). The primary sources of this literature review were peer-reviewed journal articles and seminal books. The following

keywords were used: *CPA, CFO, earnings per share, small business, financial expertise, resource superiority, economic value,* and *economic sustainability*. The following databases were used: Google Scholar, EBSCO, Business Source Complete, Emerald Insight, and Science Direct. See Table 1 for a summary of the source materials.

Table 1

Source Material

Sources	Outside of 5-year range (2012 and earlier)	Within 5-year range (2013–2017)	Total of all sources
Peer-reviewed journal articles	11	140	151
Non–peer-reviewed journal articles	0	3	3
Government websites	1	1	2
Books	2	2	4
Total sources by year grouping	14	146	160

Resource-Based View of the Firm Theory

The RBV of the firm theory is the framework that outlines the resources that drive organizational profitability. Penrose (1959) developed the RBV theory. Wernerfelt (1984) later extended the works of Penrose by identifying categories of resources that can increase strategic positioning for a competitive advantage. A resource that a firm may use can be anything that helps achieve profitability. Wernerfelt asserted that a firm could take advantage of a portfolio of resources such as technology advancements and employee experience to attain a competitive advantage. Employees are not the only resource; firms can achieve a competitive advantage with their proprietary technology, contracts, fixed assets, and capital infrastructure (Wernerfelt, 1984). A firm can outline its resources to

help determine how each resource will contribute to the organization. A firm's final output may be their products, but resource diversification, development, and strategic positioning are vital for gaining lead industry placement (Wernerfelt, 1984). Developing and maintaining resources may be critical components of an organization's ability to achieve economic sustainability. Wernerfelt's research is important to this study because of the connection between resources and profitability. Defining a resource as an employee of a firm and the association to economic sustainability is a core concept of this study. A firm strategically obtaining resources may achieve their profitability objectives.

Few studies have examined the relationship between the RBV of the firm theory and the components of financial expertise and economic sustainability of small businesses. Barney (1991) defined resources as the organizational assets, attributes, and capabilities; identifying four organizational resource factors for a firm to achieve a competitive advantage: value, rareness, inimitability, and sustainability. Barney outlined a framework to help users determine the value and contribution of resources. Organizational leaders could attempt to achieve a sustained competitive advantage that will assist the business to sustain long-term success. Barney's research was important to this study because of the identification of specific resource characteristics that can help a firm achieve economic sustainability. A firm's leaders can take full advantage of their resources to help achieve a distinct competitive advantage.

The CFO of an organization is a critical resource who may help solidify economic sustainability. Gambardella, Panico, and Valentini (2015) reported that a firm's financial success is the product of a company strategically investing in their employees as

organizational resources. Hiebl (2013) analyzed the association between the RBV theory of a firm and the CFO's financial expertise qualifications. Hiebl concluded that a CFO's financial expertise is a valuable resource that will advance corporate fiscal objectives. A CFO's financial expertise is the combination of the subject matter expertise they gain as they age, as they obtain professional experience with various career experiences, and with their professional licensure status (Lindquist & Rausch, 2015). Corporate leaders may have an opportunity to help advance the company's fiscal performance by correlating resources and the organization's long-term competitive objectives. Hiebl, as well as Lindquiest and Rausch, help connect components of the RBV theory with a CFO's financial expertise and the impact on firm profitability. Corporate leaders may set fiscal goals that help guide the firm toward a competitive advantage and economic sustainability.

Organizational assets. There has been much research on the causes of small business financial failures; however, few have examined a business's assets and asset management. Jindrichovska (2013) reviewed several studies on small businesses and issues that surround a company's financial expertise leading to a high failure rate because of fiscal deficiencies. A fundamental theme in the studies centered on deficiencies in understanding assets. Asset management is a necessary element for operating a small business. According to Jindrichovska, assets can be physical, such as machinery or equipment, or nontangible cash and commodities. An organization may obtain resources that are tangible and intangible assets in the regular course of business. Jindrichovska noted for a small business to successfully thrive the business owner must be able to plan

and put policies in place that direct the organization's assets. Knowledge and information are critical tools a small business owner can use to guide their company's direction and protect asset investments. Analyzing organizational assets is a necessary function for accounting teams to facilitate interactions with external auditors, tax advisors, and banking institutions (Jindrichovska, 2013). Business leaders have a fiduciary responsibility to protect the organizational assets. Jindrichovska also noted that a small business owner must be able to monitor cash flow and reduce cycle time, which could help improve liquidity. Relationships with financial partners may help ensure long-term success. A CFO as a strategic financial partner may help a firm appropriately manage their assets and avoid business failure.

CFOs can help a firm's organizational assets become valuable commodities to help drive economic sustainability. A CFO's intellectual capital, which evolves from gaining financial experiences through their career, is important to the financial success of an organization (Lerro, Linzalone, & Schiuma, 2014). CFOs as financial practitioners may gain knowledge and expertise through the tenure of their careers as financial leaders and exposure to various business situations. According to Lerro, et al., there is a strategic relationship between management's ability to maximize intellectual capital and creating value for long-term financial success of organizational assets. Yazdanfar (2013) compared the profitability of assets and firm size to examine if a positive relationship exists between economic sustainability and resources in varying firm sizes. Yazdanfar noted that business leaders could apply the RBV theory of a firm to substantiate the investment into organizational intellectual assets to help improve profitability.

Yazdanfar's examination of Swedish small business profitability validates firm financial performance by substantiating the investment into organizational intellectual assets helps improve profitability. A firm's economic success may determine long range business survival. Corporate leaders selecting an operational team may focus on the value, rareness, inimitability, and sustainability properties of the organizational assets.

A CFO's value as a leader who directs the financial performance of the organizational assets may include leadership skills that can help improve economic sustainability through operational efficiencies. Lindquist and Rausch (2015) examined the CFO characteristics of large enterprises and associated tenure and licensure status with financial successful enterprises. Lindquist and Rausch reported that CFOs with technical financial expertise in large organizations could be strategic partners to business leaders. Lindquist and Rausch's examination of CFO financial expertise success factors validate the necessity for business partnerships by asserting that the credentials and qualifications are important for CFOs to become strategic partners. Larger entity organizational successes may be useful for small business leaders to foster future organizational profitability and growth. Small business leaders could emulate their counterparts at larger firms by hiring a CFO with financial expertise to help solidify economic sustainability. Alonso, Merino, and Ayastuy (2015) examined small businesses applying the RBV theory and discovered that companies that recognize the value of the CFO's skills for managing organizational assets have higher balance sheet valuations. In this study, I attempted to establish a relationship between CFOs with financial expertise as members of corporate leadership teams and their ability to help their colleagues

understand the value of the organizational assets. An organization's CFO is the central figure solidifying the value of the assets.

A CFO with financial expertise may help the leadership team understand the fiscal benefits to the rare resources. Capalonga, Diehl, and Zanini (2014) concluded that an organization applying the RBV theory of a firm would seek to hire a CFO who has distinctive qualities of managing the rare assets in comparison to competitors. According to Andersén and Samuelsson (2016), a CFO's organizational influences can be the unique change agent that can help the firm achieve economic sustainability (Andersén & Samuelsson, 2016). Andersén and Samuelsson examined management accounting principles with entrepreneurial management styles for organizational resources and the impact on small business profitability. Small business leaders who implement distinctive operational resource styles may aid their firm in achieving a competitive advantage. Andersén and Samuelsson concluded that the unique accounting leadership qualities of the financial leadership have a direct relationship on firm profitability. A CFO can apply their knowledge from professional licensure and tenure to help maximize financial opportunities of rare assets. The CFO's financial expertise of utilizing rare assets may be a determining factor for an organization's future success.

A CFO may have financial expertise, which an organization can leverage. CFOs can assist the firm to maximize the sustainable qualities of the assets to achieve a distinct competitive advantage. Jafari and Rezaee (2014) examined the association between the impact of sustainable assets and a financial, competitive advantage. Jafari and Rezaee found a positive relationship between a firm's ability to maximize the utilization of their

sustainable assets and financial performance. Jafari and Rezaee's conclusion regarding a correlation between assets and performance aligned to the constructs of this study relating to CFOs as firm resources and their impact on financial performance. CFOs with financial expertise have qualifications that can help organizational leaders understand the fiscal impacts of the sustainable assets.

Organizational attributes. Organizational design and structure are essential components when establishing a company. An identity of an organization is inherent in the value and uniqueness of the structural attributes (Bourne & Jenkins, 2013). A business may evolve and change with the varying landscape and obstacles that challenge the company. Corporate evolution may occur when an organization can be innovative in their business practices. Saviotti and Pyka (2013) reported that a company willing to invest in the future could help increase demand levels, leading to higher levels of employment and economic sustainability (Saviotti & Pyka, 2013). Agarwal et al. (2014) findings on leadership innovation validates firm economic sustainability by affirming that resource selection can increase productivity to create a competitive advantage. Establishing a competitive and innovative company with a focus on organizational design through value creation and attribute development may help solidify corporate core competencies.

Creating an organizational infrastructure is part of the process of establishing the right attributes that will be the foundation of economic sustainability. A CFO with financial expertise may help optimize the organization's competitive advantage potential. CFOs use their strategic skills to maximize the financial potential of an asset's attributes

in helping to increase organizational profitability (Capalonga et al., 2014). Financial leaders may have the capability to help a firm achieve economic sustainability. Lindquist and Rausch (2015) asserted that a CFO's tenure and professional licensure status are attributable to a firm's financial success. Organizational leaders can apply the RBV theory of a firm to their infrastructure by recognizing a CFO's financial expertise attributes (Datta & Iskandar-Datta, 2014). Small business leaders may increase profitability by aligning a CFO's attributes to the organization needs to achieve a competitive adventive. Wu and Chen (2014) reported that firms with superior attributes would have the leadership infrastructure to achieve economic sustainability. Wu and Chen validated the importance of economic sustainability by aligning resource attributes and organizational performance measurement. Corporate leaders selecting an operational team may focus on resource attributes to help improve an organizational competitive advantage.

An organization employing a CFO as a unique resource possessing financial expertise skills and experience may help maximize the company's economic sustainability. A company may seek to employ a CFO with attributes that competitors cannot imitate to help protect the firm's competitive advantage (Hsu, 2013). CFOs with small business financial expertise may have tactical skills relating to firm size. Eber et al. (2013) examined the strategic collaboration of CFOs in small businesses. Small business leaders are less likely to hire a CFO with a professional license (Eber et al., 2013). Hiring a CFO with financial expertise may reduce the risk of business failure associated with small businesses. Managers can continuously assess the attributes of their financial

resources to ensure the company maintains a competitive advantage. Andersén & Samuelsson (2016) reported that a CFO's inimitable managerial skills align to the organizational controlling concepts of the RBV theory of a firm. Andersén & Samuelsson validated the importance of organizational resources by aligning financial expertise and the theoretical constructs of the RBV theory of a firm. An organization's CFO is the central figure solidifying the financial benefit of firm resources.

CFOs with evolving financial expertise attributes and operational skillsets may be a valuable resource for solidifying economic sustainability. Lindquist and Rausch (2015) asserted that CFOs in large organizations could remain sustainable by continuously evolving their skills. Lindquist and Rausch validated economic sustainability with their survey of large organization CFOs and defining common CFO characteristics associated with successful businesses. Small business leaders may benefit from mirroring large companies in the valuation of CFOs as organizational resources. Companies apply the RBV theory of a firm to help ensure all core competencies have coverage to help ensure a competitive advantage (Capalonga et al., 2014). The CFO is an integral member of the team who will help drive economic sustainability. The CFO's financial expertise in managing the fiscal impact of resource sustainability may be a determining factor for an organization's future survival.

Organizational capabilities. Organizational leaders may have the capability to set objectives for the company to achieve a competitive advantage and economic sustainability. Martelo, Barroso, and Cepeda (2013) studied the relationship between the combination of existing and new business capabilities and the effect on market

superiority. Using the resources of the firm enables the organization to maximize their potential to reach an optimal operational capacity (Martelo et al., 2013). Small business leaders can analyze organizational capabilities and collaboration with the CFO to determine the impact on economic sustainability and competitive advantage. Lun et al. (2016) asserted that the capability to remain dynamic and creative in reaching organizational objectives would help solidify economic sustainability. Lun et al. and Martelo et al. validated economic sustainability by establishing a relationship between organizational capabilities and economic sustainability. The capacity to satisfy the operational objectives through resource capabilities may help a firm achieve a competitive advantage.

Organizational leaders may have the capabilities to select the appropriate resources to manage a firm. Hiring the right employees that understand a firm's objectives are the initial steps for managers. Tarasovich and Lyons (2015) interviewed large company leaders to determine the capability requirements for a CFO. CFOs need to be visionary leaders and communicators to help advance a firm's resource capabilities for a competitive advantage (Tarasovich & Lyons, 2015). Small business leaders may need to assess their resource structure to ensure the appropriate functions are active for the firm. Hoitash, Hoitash, and Kurt (2016) studied the relationship between a firm's value and CFOs with financial expertise capabilities including a professional license and practitioner tenure. A positive relationship exists between a CFO's financial expertise capabilities and firm valuation (Hoitash et al., 2016). Small business leaders can analyze the financial impact of a CFO with financial expertise and economic sustainability.

Hoitash et al. validated economic sustainability by affirming CFOs with financial expertise have a positive relationship with corporate fiscal performance. Firm leaders may rely on a CFO to focus on organizational capabilities to help achieve economic sustainability.

CFOs with strategic characteristics may be a resource who can help increase organizational and economic sustainability capabilities. Managers may rely on a CFO with financial expertise to help determine, which rare resources will have the most significant fiscal impact on firm performance. Small business leaders may have an opportunity to integrate a financial leadership structure that can positively contribute to financial performance. According to Andersén and Samuelsson (2016), managing financial resource responsibilities is unique to each organization and can be a determining factor for economic sustainability (Andersén & Samuelsson, 2016). Andersén and Samuelsson validated economic sustainability with their survey of small business manufacturers by affirming a positive relationship between a firm's financial leadership practices and profitability. A CFO applying their financial expertise capabilities may help improve a firm's opportunity for a competitive advantage by helping to improve and sustain organizational financial performance.

A CFO may have financial expertise, which an organization can leverage. CFOs can assist the firm to maximize the sustainable qualities of the resources to achieve a distinct competitive advantage. P. Bansal and DesJardine (2014) noted that business leaders try to demonstrate their sustainability capabilities by continuously evolving their staff dynamics to help maintain a competitive advantage. Small business leaders can

collaborate with CFOs that possess financial expertise to help ensure the firm achieves economic sustainability. Small business leaders that recognize the financial benefits of sustainability may help position the firm for economic sustainability and a competitive advantage. Financial leaders have a responsibility to protect the firm's sustainability interests to prevent an economic loss (Zoni & Pippo, 2017). Companies may implement the concepts of the RBV theory of firm by ensuring a CFO is utilizing their financial expertise capabilities to enhance organizational sustainability. Zoni and Pippo (2017) examined Italian industrial firms to determine the influence of CFOs and their influence on corporate value creation. Zoni and Pippo validates the influence of a CFO on fiscal performance by establishing a relationship between a CFO's age and their influence as strategic partners contributing to economic sustainability. The CFO's financial expertise capabilities in managing the fiscal impact of resource sustainability may be a determining factor for an organization's future survival.

Alternative Theories of a Resource-Based View of the Firm

I could have used several theories to guide this study. The resource-based view of the firm is the most appropriate. The outcome of this study may be an existence of a significant relationship between the financial expertise of a CFO and a firm's profitability. The expectation of the results is a rejection of the null hypothesis, which would indicate that a CFO's licensure status and CFO age can predict a firm's earnings per share ratio.

Relational view theory. A competitive advantage by a single firm may not be relevant in a global economy. Dyer and Singh (1998) proposed the relational view theory.

Two or more firms collaborating can lead to an industry competitive advantage (Dyer & Singh, 1998). Firms establishing relation specific assets, knowledge sharing routines, complementary assets, and effective governance will have a stronger financial performance than a competitor (Dyer & Singh, 1998). Collaborating with complementary organizations versus using internal resources is more effective to achieve economic sustainability (Wieland & Wallenburg, 2013). The basis of the relational view theory is an expansion of the foundations of the resource-based view of the firm theory.

Researchers using the relational view theory will measure a firm's financial strength by the organization's relations with complementary companies. A firm's CFO may not have an impact because the collaborating companies organizational structure and value systems may differ. An individual firm's resources are not relevant, and the capability of collaborating organizations becomes the primary focus when using the relational view theory (Enz & Lambert, 2015). The CFO's licensure status and age would be irrelevant when assessing the various components of the relational view theory.

Knowledge-based view of the firm theory. A firm's collective knowledge base may help the organization achieve organizational superiority versus competitors. Grant (1996) developed the knowledge-based view of the firm theory. A firm can gain a competitive advantage by employees collaborating and strategically using their individual knowledge (Grant, 1996). Individuals possess knowledge in specific business areas helps a firm gain market superiority and economic sustainability (Sydler, Haefliger, & Pruksa, 2014). Employees can strategically collaborate with leaders who possess the relevant knowledge for different segments of business operations (Martin-Rios, 2014). The RBV

theory does not recognize knowledge of the individual employees but focuses on knowledge being a universal firm resource to achieve a competitive advantage.

A CFO's knowledge of a business function may be relevant if the individual is focusing on one element of the organization. CFOs are responsible for organizational oversight across multiple functional areas that can impact financial performance (Berry, 2015). The RBV theory is appropriate when an organization is measuring financial performance because the CFO is a resource who is assisting in multiple business functions (Hiebl, 2013). A CFO has operational responsibility across many business areas to help drive financial performance and establish a competitive advantage.

Dynamic capabilities theory. An organization's ability to adapt to the changing market conditions may impact the firm's economic sustainability. Teece, Pisano, and Shuen (1997) developed the dynamic capabilities theory. Organizational leaders should possess the capability to effectively adapt to the dynamic changes that exist in a business environment to ensure the firm's competitive advantage (Teece et al., 1997). The dynamic capabilities theory constructs focus on organizational leadership's ability to rapidly adapt their firm's resources as business conditions change (Helfat & Peteraf, 2015). Leaders who can quickly shift the organizational focus to the current market conditions will help the firm achieve a competitive advantage and solidify a firm's financial performance (Schilke, 2014). The RBV theory of a firm focuses on an organization's long-term competitive advantage versus the current dynamic business conditions that may be challenging the leadership team.

An organization may encounter inferior short-term financial performance, but a focus on long-term success may be an effective approach for maintaining economic sustainability. A CFO focusing on long-term financial stability versus short-term changing business conditions will be a more valuable resource to help a firm achieve a competitive advantage (Sydler et al., 2014). A firm that can retain resources with the capability of strategically managing short-term and long-term business conditions can maximize the organization's profitability (P. Bansal & DesJardine, 2014). A CFO has the responsibility to ensure financial integrity regardless of the changing business conditions to establish a competitive advantage.

CFOs' CPA Licensure Status

A CFO may gain financial expertise by completing an accounting program at a university, sitting for the CPA exam, or gaining knowledge with professional experience. Academic training and professional experience may increase a CFO's financial expertise. Some small businesses may not understand the value a CFO with financial expertise can deliver to an organization. Hiebl (2013) analyzed small businesses not utilizing a CFO with financial expertise as a strategic partner. Some small businesses may not consider the CFO as a strategic partner. Hiebl discovered a lack of value perception by small business leaders is a factor of CFOs not in strategic partnership roles contributing to the long-term financial performance of the organization. Strategic partnerships with senior executives are important criterion for a successful finance leader. Chang, Ittner, and Paz (2014) asserted that strategic partnerships between financial and nonfinancial leaders increase operational performance. Heibel and Chang et al. validate a CFO's influence on

operational performance establishing a connection between financial expertise with strategic partnering and organizational performance. Organizations may be more effective when their CFO with financial expertise is capable of strategically collaborating with senior organizational leadership.

University education. A student may enter the accounting profession by obtaining a university education with core curriculum foundation and practitioner training. University educators steer the instructional materials toward preparing students for the CPA exam and fulfilling the educational requirements for the licensure test (Singer & Wiesner, 2013). Accounting specific training may prepare a practitioner for future success as a financial leader. Bunney, Sharplin and Howitt (2015) asserted that universities with multidisciplinary curriculums are helping accounting students gain financial expertise to assist organizations beyond quantitative services. The assertions by Bunney et al. are important because of the potential value for future financial leaders to become strategic partners driving organizational fiscal performance. A student graduating with an accounting degree will have the base knowledge to practice their trade, but ongoing training will enable the professional to evolve their career to become an effective strategic partner.

University educators have a core responsibility to educate accounting students to graduate, pass the CPA exam, and become financial leaders strategically guiding businesses toward economic sustainability. Burke and Gandolfi (2014) examined the necessity to align educational credentials and the role of the financial professional within a private sector business. Requirements to take the CPA exam typically require higher

educational demands than an undergraduate degree (Demagalhaes & Wilde, 2013). Advanced educational requirements may help a future practitioner gain additional financial expertise while preparing for the CPA exam. Demagalhaes and Wilde (2013) surveyed practitioners regarding the advanced educational requirements for the taking the CPA exam and their relationship with enhancing professional acuity. Haen et al. (2014) rejected hypotheses that suggest a requirement of 150 university credit hours increases CPA exam pass rates. Advanced educational requirements may help practitioners in their future career endeavors, but may have a near term gain by increasing their odds of passing the CPA exam. Small businesses may benefit from the additional education CPA candidates are receiving to help improve economic sustainability when students enter their professional careers.

CPA licensure. Accounting practitioners have various professional options to enhance their career opportunities. A practitioner can enhance their career development by completing an advanced academic degree or by qualifying for a professional license. Armitage (2014) outlined the requirements to obtain a CPA license. Armitage reported that students must achieve specific academic and work experience credentials to authenticate their ability and demonstrate their competency in providing professional accounting support (Armitage, 2014). Obtaining the appropriate education and experience may not prepare students for all future endeavors. Burke and Gandolfi (2014) examined curriculum opportunities, such as small business accounting, for future CPAs to help enhance their knowledge. Accountants will continue to expand their knowledge base with lifelong learning using continuing education curriculums expanding on best

practices and specialty subjects. Aligning education and professional experience may help business leaders understand the educational background of their staff and help enhance organizational knowledge.

Inconsistencies in educational requirements to obtain a CPA license may create complications for business leaders to understand the additional education a CPA licensee possesses. As of 2013, 54 of the 55 states and territory jurisdictions in the United States require 150 credit hours to satisfy the academic requirements for a CPA license (Demagalhaes & Wilde, 2013). Various states have differing policies that allow students to begin taking the exam before completing the education requirement. Jurisdictions vary in accounting-specific credit hours that are necessary to satisfy the licensure requirements (Demagalhaes & Wilde, 2014). A universal alignment of requirements may help business leaders outside the accounting profession understand the core requirements for obtaining a CPA license. Accounting practitioners favor the 150 credit hour rule and two years of professional working experience for new CPA applicants (Demagalhaes & Wilde, 2013). The support of accounting practitioners to align educational prerequisites may help jurisdictional leaders agree on a universal approach for academic requirements. A consistent application of CPA license academic prerequisites may help alleviate any ambiguity of the professional licensure requirements.

CPA specific training. The training a CPA receives may be at a higher level than university educational credentials. CPAs receive continuing education with jurisdictional requirements to remain current in best practices (Smith, 2014). Organizational leaders may recognize that a financial leader with a CPA license can deliver a higher degree of

efficiency and productivity to the fiscal operations. CPAs can change at a faster pace with the changing economic climate versus counterparts without a professional license who do not have a continuing education requirement (Smith, 2014). CPAs can help organizations integrate financial reports with sustainability, tax, and government requirements (Roth, 2014). Fiscal reporting requirements continuously change and organizational financial leaders need the appropriate training to ensure their organization complies with regulatory obligations. Ahmed and Duellman (2013) reported that an inherent conservatism of accounting practitioners may assist in ensuring the reporting requirements are accurate and relevant while aligning to the overall financial goals and actual results. A combination of a CPAs' technical skills and risk averse behavior may help ensure and organization in their financial reporting requirements. Accurate financial reporting may help an organization demonstrate their economic sustainability. The technical knowledge of a CPA may make the accounting practitioner a strong financial and organizational leader.

CPA continuing education. Lifelong education may help an accounting practitioner enhance their skillset and become a valuable resource for an organization. The American Institute of Certified Professional Accountants (AICPA) along with the local jurisdictions mandate continuing professional education for the CPA licensure (Tolleson & Guess, 2013). CPAs may receive continuing education relating to technical accounting, financial reporting, professional ethics, and other business topics (Roth, 2014). Goretzki Strauss, and Weber (2013) reported that accountants who participate in continuing education and network with colleagues are gaining a greater perspective on

organizational best practices (Goretzki et al., 2013). Mastracchio Jr. and Lively (2015) asserted that participating in continuing education enables a CPA to understand the evolution and changing landscape of the accounting profession. Tolleson and Guess (2013), Goretzki et al. (2013), and Mastracchio Jr. and Lively (2015) agree that continuing education has a beneficial impact on an accounting practitioner's skills and on organizational performance for the company they support. A CPA may have a professional competitive advantage over their counterparts because of the continuing education requirements. A CPA can leverage their lifelong education and help an organization achieve a competitive advantage and economic sustainability.

Organizational impact of CPA licensure. A CFO with a CPA license may be a beneficial contributor to a firm's financial and operational performance. Li, Tseng, and Chen (2016) examined the earnings of Taiwanese firms and the relationship with management's advanced degrees and CPA licensure status. Li et al. found a positive relationship between a management team member possessing their CPA license and a firm's earnings. Bailey, Dickens, and Scarlata (2013) surveyed members of the Fortune 1000 and found 60% of respondents possess a CPA license. Eber et al. (2013) examined small businesses in Chicago and found more than 50% of CFOs possess a CPA license and are actively collaborating with organizational leaders on strategic business matters. The presence of a CFO with a CPA licenses may suggest that some business leaders understand the possibility of a benefit on organizational performance. Li et al. (2016), Bailey et al. (2013), and Eber et al. (2013) concur with their analysis of CFOs with a CPA license and the potential strategic benefits to organizational leaders. CFOs

contributing as a strategic partner may help an organization achieve economic sustainability.

CFO Age as a Proxy for Financial Expertise

Employee age may be a proxy for professional experience. An executive's chronological age may be a determining factor in strategic decision making. The seminal work on age as a proxy for experience by Taylor (1975) reported that executives over 40 can methodically review corporate decisions and use diagnostic strategies to reach strategic recommendations. Lindquist and Rausch (2015) examined Fortune 500 companies utilizing age as a proxy for professional experience. Lindquist and Rausch found that 49% of Fortune 500 CFOs had strategic and international finance experience to form a foundation of financial expertise. Demographical characteristics may be a determinant for a CFO's ability to be a strategic partner (Han et al., 2015). Lindquist and Rausch (2015) and Han et al. (2015) have examined aspects of CFO credentials to determine that age can be a determining factor as a proxy for financial expertise. CFOs continuing to progress through their career may attain additional levels of financial expertise that can assist in becoming a strategic partner.

A CFO's tenure is a potential contributing factor to gaining financial expertise. Barsky and Catanach (2013) found over 80% of the Wall Street Journal's top CFO list are over the age of 50 and 85% possess an advanced education or professional license. Barsky and Catanach validate the necessity for a professional license by affirming CFO attributes at large organizations. Small business leaders can emulate larger firms in their CFO selection criteria to help replicate the success of their bigger counterparts. A CFO's

financial expertise attributes can help create organizational value for a firm to achieve a competitive advantage (Beattie & Smith, 2013). Creating an organizational value from the CFO is an attribute of the RBV theory of a firm (Wu & Chen, 2014). In this study, I attempted to establish a relationship between a CFO applying the value attributes and improvements in a firm's opportunity for achieving a competitive advantage.

CFOs may gain financial expertise by dedicating their career to advancing their professional foundation, which may help organizational performance. Sun, Johnson, and Rahman (2015) reported that s CFO working in accounting for the length of their career gains additional knowledge as they chronologically age (Sun et al., 2015). CFOs over the age of 40 have a higher likelihood of being a strategic business partner and developing innovative accounting concepts (Han et al., 2015; Mahlendorf, 2014). Financial oversight advancements may help an organization achieve economic sustainability. Brunzell, Liljeblom, and Vaihekoski (2013) found that CFOs over the age of 50 have a higher likelihood of making strategic investment and operational decisions that may impact a firm's financial performance. Sun et al. (2015), Han et al. (2015), and Mahlendorf (2014) agree that as a CFO ages they gain additional business insights and financial expertise skills to form a stronger strategic relationship with their business partners. CFOs gaining financial expertise are accumulating knowledge to guide fiscal leadership, reporting, budgeting, and operational oversight.

CFO leadership skills. A CFO as an organizational leader may help additional validity to an organization's financial performance. Sun et al. (2015) measured stakeholder perception of corporate governance relating to CFOs' financial expertise. Sun

et al. found that stakeholders demonstrate less concern regarding organizational governance infrastructure when the company employs a CFO with financial expertise. Han et al. (2015) studied the changing role of a CFO beyond the traditional financial role and into an organizational leader and strategic partner with organizational senior leadership. Tarasovich and Lyons (2015) asserted that an organization's leadership needs a team with a strong financial expertise foundation. Sun et al. (2015), Han et al. (2015), and Tarasovich and Lyons (2015) concur that financial expertise is an important quality to help add value and create a foundation for future economic sustainability. A partnership between CFO and organizational leadership may create a scenario where an organization can maximize its visionary goals, which achieving financial success.

CFO financial reporting. A CFO has a fiduciary responsibility to report the organizational fiscal performance the organization's stakeholders. Bedard, Hoitash, and Hoitash (2014) reported that a CFO with financial expertise in an internal leadership position has superior fiscal reporting credibility because of the CFO's financial expertise. Carrahera and Van Auken (2013) studied the utilization and integrity in financial reporting for small businesses. An interpretation of financial data may present a challenge for a leader who is unfamiliar with how to understand the results. Carraher and Van Auken asserted that organizations make better fiscal decisions when the organizational leadership comprehends the reporting and trusts the skillset of the CFO. Improvements in organization leadership decision making may help the company gain a competitive advantage and solidify economic sustainability. Small business executives may place a higher reliance on fiscal data if the internal financial team possesses the qualifications to

prepare accurate financial reports. Bedard et al. (2014) and Carraher and Van Auken (2013) agree that an organization can make better fiscal decisions with a finance leadership team that has a solid financial expertise foundation. Organizational stakeholders may rely on their CFO to accurately report and interpret fiscal data to help guide the organization toward economic sustainability.

CFO financial budgeting. The importance of creating a fiscal budget may not be apparent to operational leaders, which may increase the need for a CFO with financial expertise. Kramer and Hartmann (2014) analyzed the fiscal responsibility deficiencies of small business executives not understanding the different budgeting methods and the impact of their visionary direction (Kramer & Hartmann, 2014). Organizational leaders that omit financial planning may stifle their company from reaching economic sustainability. Sandalgaard and Bukh (2014) asserted that organizational leaders collaborating with a CFO with financial expertise will have the appropriate tools to help the organization attain visionary goals. Zeller and Metzger (2013) examined the value a CFO preparing comprehensive fiscal plans and the operational value organizational leaders receiving. An alignment of a financial leader as a business partner may help drive the adoption of fiscal planning processes. Kramer and Hartmann (2014), Sandalgaard and Bukh (2014), and Zeller and Metzger (2013) concur that an organization employing a CFO with financial expertise may help improve the accuracy of fiscal projections to enable the company to solidify a competitive advantage. Forecasting goals are to provide clear and concise data for stakeholders to analyze the past results and project future corporate performance.

CFO operational oversight. A CFO may have additional operating responsibilities beyond traditional fiscal oversight. CFOs may utilize their financial expertise to operationalize other departments to maximize productivity and improve economic sustainability. Knese (2013) asserted that the strategic input an organization receives from a CFO as a strategic business partner is vital in decision making beyond the traditional role of preparing financial statements. Berry (2015) outlined additional business functions CFOs have increasing involvement with, including operations, IT, human resources, and sourcing. Hagel (2014) examined the expanded roles CFOs are accepting to help drive organizational growth by maximizing the fiscal potential beyond traditional financial operations. Hagel found that 35% of CFOs with a CPA license are managing departments outside of accounting to drive operational performance. Hagel validated the importance of the operational value of a CFO with financial expertise. The functionality expansion may help an organization achieve a competitive advantage by maximizing operational productivity. The interpretation of the information may enable the executive team to make appropriate and timely decisions.

Small Business Earnings Per Share

CFOs may have an impact on small business survival by applying acceptable accounting principles for the company. Ng, Harrison, and Akroyd (2013) performed a case study on a fast food restaurant to explore profitability characteristics for a small business. Ng et al. discovered that a comprehensive accounting solution could help ensure long-term small business survival and lead to positive economic sustainability. An appropriate level of financial leadership may help an organizational leader make

necessary strategic decisions that can enhance economic sustainability. Barbera and Hasso (2013) determined that firms can decrease the probability of failure by 29% and increases sales by 8.1% by implementing a financial infrastructure to aid with decision making. Barbera and Hasso (2013), as well as Ng et al. (2013) concur that a firm's potential for economic sustainability by affirming financial leadership can help increase profitability. Small businesses may have an elevated risk of failure, but a corporate leader may be able to mitigate the risk by developing a strong corporate foundation.

Small business design. Small business profits are important to a country's economic output by keeping the business cycle alive and citizens employed as productive members of society. Brines, Shepherd, and Woods (2013) analyzing small businesses in New Zealand to determine the influence of organizational resources on corporate design. Brines et al. found that minimizing corporate bureaucracy helps small firms innovate and grow with flexibility to the evolving market conditions and positioning for long-term success. Conversely, Vahter, Love, and Roper (2014) found that small businesses tend to become less innovative in the corporate lifecycle. A reduction in productivity initiatives may prevent company leaders from leveraging efficiencies that an organization can gain from innovations. Haltiwanger et al. (2013) affirmed that regardless of the decrease in innovative organization designs, small businesses remain a significant provider to a nation's economic prosperity by employing citizens and contributing to the overall financial wellbeing (Haltiwanger et al., 2013). Small business profits may help the national economy when organizations can maintain economic sustainability. Vahter et al. (2014) contradicts Brines et al. and Haltiwanger et al. (2013), which may necessitate

additional research to determine the impact of organizational design and the long-term impact on corporate economic sustainability.

Small business operational performance. Operational performance may include the actions of the corporate leaders, financial measurement, or employee measurement. A key metric to a firm's operational performance is fiscal performance. Kumar and Zattoni (2013) examined the relationship between corporate leaders and corporate fiscal performance when imparting a leader's personal processes upon the operational management team. Kumar and Zattoni noted a connection between an organizational leader's financial expertise and the accuracy of corporate earnings projections. de Brito and de Oliveira (2016) analyzed the relationship between human resource metrics and organizational performance indicators including corporate fiscal results. de Brito and de Oliveira found a positive relationship between resource management and organizational performance with an impact on corporate profitability. de Brito and de Oliveira validated firm economic sustainability by affirming a relationship between organizational resources and firm profitability. The performance components of organizational structure, financial performance, and resource measurement are all contributing factors to a firm's operating and fiscal outcome.

Small business survival. A company that embeds or dedicates a financial leader within the organization may gain additional strategies for long-term survival. Parry (2015) asserted that some small businesses exists do not seek to grow and have satisfaction with remaining at their present size. Parry found that small businesses can

remain successful by employing a CFO with financial expertise to help the organization improve their efficiency and profitability while remaining at the same sales volume.

Some small businesses do not have the financial leverage to hire a CFO with financial expertise. Small business leaders may not understand that a CFO with financial expertise can help the organization survive and achieve future growth. Barbera and Hasso (2013) found that younger firms without sufficient fiscal leverage are reluctant to employ a financial leader internally or hire an external advisor, creating a higher risk for failure. A business that uses an accountant to oversee the organizational financial performance decreases the probability of business failure by 29% and increases sales by 8.1% (Barbera & Hasso, 2013). A CFO may be able to assist a business with their initial survival and future growth. Barbera and Hasso validated business survival factors by asserting business failure statistics and the relationship to the organization employing a CFO with financial expertise. Small businesses have unique needs, which may require a CFO adapting to the operational demands to help stimulate economic sustainability.

Financial Expertise and Economic Sustainability Measurement

Becoming a financial leader necessitates understanding various business components that can impact organizational success. Formulating the definition for a financial leader requires the inclusion of skills such as communication, risk assessment, crisis management, and financial literacy (Trappl, Pichler, & Zehetner, 2013). The financial literacy skill is inherent in many CFOs who assume the role. Beyond the technical accounting skills, CFOs may need exposure to situations to learn and enhance their abilities (Trappl et al., 2013). A financial leader should have the capacity to guide

the organization strategically toward economic sustainability. A CFO may not be able to avoid a crisis but can help guide the executive leadership team out of the crisis. Appropriate planning can help mitigate the negative impact of an economic crisis (Trappl et al., 2013). Companies with a CFO possessing the appropriate skills may have the capability to navigate business conditions that can adversely impact the organization. Companies should evaluate hiring a CFO with the training and expertise to have a significant organizational impact.

Small business executives may not be aware of the benefits that a CFO with a CPA license can bring to their company. CFOs are strategic business partners who are solving problems and identifying organizational changes while spending less time in the accounting function, and business leaders are identifying CFOs as the organization's COO (Eber et al., 2013). A strategic partnership linking financials and operations is a critical linkage to business success (Frazer, 2015). Small business executives should hire CFOs with accounting and strategic partnership experience to help the organization solidify a foundation for the future (Eber et al., 2013). Higher levels of cross functionality may help firms optimize the operational efficiencies. CFOs as financial experts can be problem solvers and a significant benefit to an organization's future performance.

Methodologies

EPS is a ratio variable and frequently appears as a dependent variable in quantitative research studies. Statistically analyzing business profitability relationships is a common method in scholarly research (Mazzarol, 2014). A firm's profit or loss is the numerator in an EPS calculation and can also be a quantitative measurement of an

organization's performance (Jorgensen et al., 2014). A quantitative method with a secondary dataset was used to study Australian small business survival and sales growth when a firm uses an embedded accountant (Barbera & Hasso, 2013). Companies may measure success by quantifying revenue growth or by improving their earnings per share as a measurement of profitability. Arkan (2016) analyzed financial ratios including EPS to establish a significant positive relationship with predicting stock price trends. N. Bansal, Strauss, and Nasseh (2015) used EPS forecasts as a dependent variable to validate a positive relationship with stock market performance predictions. Azeez (2015) found a positive relationship between EPS and a firm's corporate governance structure, including the size of the board and the segregation of duties. A quantitative method may be the best analytic for EPS data research.

Incorporating financial ratios with qualitative or mixed-methods research is not as prevalent as using a quantitative method. Qualitative financial ratio research may focus on employee or public perception of the quantitative data. Researchers performing mixed-methods studies can incorporate their quantitative findings when analyzing the qualitative results (Fraser, 2014). Combining quantitative and qualitative methods may broaden the research scope, but a singular method could still add validity for a researcher's findings. Khan, Burton, and Power (2013) explored financial performance in an emerging market to gain an understanding of the impact on a firm's public perception. Muheki et al. (2015) performed a case study to explore the changes in financial reporting and disclosures when a bank's financial performance deteriorates during a fiscal crisis. Gerschewski and Xiao (2015) explored the connection between operational performance

factors such as product innovation to understand the impact on financial performance. Gerschewski and Xiao used mixed-methods research to compare interview results with surveys to determine other variables that can impact a firm's financial performance. A quantitative method may be the predominant tool to analyze financial performance indicators, but qualitative or mixed-methods approaches may be relevant in some circumstances.

Summary and Transition

Section 1 of the study included foundational materials that help establish the necessity of an examination of the relationship between financial expertise and firm profitability. I introduced a research problem, purpose, nature, and theoretical framework that provide a solid foundation for the study. A review of the professional and academic literature included an analysis of the theoretical framework and the relationship between the dependent and predictor variables for the study. I could overcome a lack of studies exploring a relationship between CFO financial expertise and firm profitability by providing an analytical overview of the professional and academic resources that establish a significance of the fundamental variables.

Section 2 covers the following topics: analysis of the role of the researcher, characteristics of the research participants, selection of the research method and design, supporting analysis for the population and sampling techniques, ethical research procedures, data collection instruments, analytical techniques, and study validity. Section 3 will include the results of the study findings and the application for professional and implications for social change.

Section 2: The Project

In Section 2 I cover the following topics: foundations of the study, role of the researcher, characteristics of the research participants, selection of the research method and design, supporting analysis for the population and sampling techniques, ethical research procedures, data collection instruments, analytical techniques, and study validity.

Purpose Statement

The purpose of this quantitative, correlational study was to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. The two predictor variables were a CFO's CPA licensure status and CFO age. The dependent variable was earnings per share ratio. The data were archival records from small businesses in the United States, as listed in the Russell 2000 Index. This study has implications for positive social change: more small businesses may remain in business and thus employ additional workers who support families with higher disposable incomes.

Role of the Researcher

Scholarly research originates from an individual or group of researchers. A researcher's role consists of many components, including assessing the common objectives, formulating appropriate research questions, data collection, sharing the study results, and monitoring ethical concerns (Nelson, London, & Strobel, 2015). Throughout my career, I have had varying financial leadership roles in public and private firms. I am an actively-licensed CPA in the state of New Jersey, and I possess an MBA degree from

Cleveland State University. My professional position, licensure status, and advanced academic degree did not conflict with the data collection process. There was neither a personal or professional relationship between myself and the topic or the participants. The use of secondary financial information can help minimize unintentional analytical bias because of the lack of direct contact with the participants (Kim & Henderson, 2015).

Given that I used secondary data, there was no risk of harming human participants. I adhered to the relevant guidelines in my role as a scholarly researcher. Maintaining respect for participants and minimizing any potential risks are the *Belmont Report* stipulations and guidelines for ethical research (Guerrero, Madrigal, & Minkler, 2014). As the researcher, I complied with all the rules and regulations including: obtaining participation consent, respectful participant interactions, and minimizing harm.

Participants

The eligibility requirements for the data set in this study were two: a small business in the United States that was listed in the Russell 2000 Index. I cross-referenced the Russell 2000 Index for small cap stocks with the SEC database to confirm employment levels and the names of the CFOs (Boone & White, 2015; Helms & Whitesell, 2013). Verification of the CPA licensure status of the CFOs was from the National Association of State Boards of Accountancy database (Spencer et al., 2015). I obtained the demographic information of the CFOs from the Lexis-Nexis Academic database. There was no direct contact with human participants. Secondary financial data from publicly traded companies was verified by external auditors, which enhanced reliability and aligned with the research question (Bar-Lev, Geri, & Raban, 2015).

Research Method and Design

I used a quantitative research method and a correlational design to conduct the study. The following section includes a discussion of the study method and design.

Research Method

I used a quantitative method to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. Categorizing research methods as quantitative, qualitative, or mixed-methods helps facilitate an analytical review of variables (Venkatesh et al., 2013). Deductive reasoning with numerical values to statistically predict or analyze a relationship among unique variables are key attributes of a quantitative method (Yilmaz, 2013). Statistically testing small business profitability relationships is a common quantitative method in scholarly research (Mazzarol, 2014).

A quantitative method was appropriate because the purpose of the study was to examine and not explore the relationship between the predictor and dependent variables. Conducting a qualitative research study will help develop new constructs instead of establishing a relationship among variables (Power & Gendron, 2015). Researchers using a qualitative research method apply inductive reasoning to explain a research problem narratively and to strengthen the comprehension of a subject (Turner et al., 2013). Selecting qualitative methods were not appropriate because the objective of the study was to examine the relationship of variables. Performing statistical analyses were necessary to test the hypotheses of the study and did not use observation and experience. A focus on the relationship of variables rather than an exploration of the subject matter in the

research question supports the decision to use a quantitative versus a qualitative method for this study.

Using a mixed-method approach combines the aspects of quantitative and qualitative deductive and inductive reasoning with theoretical triangulation (Zachariadis, Scott, & Barrett, 2013). Performing a mixed-method research study was not relevant because an examination of variables helped establish a relationship and did not introduce new theories that require statistical analysis (Zachariadis et al., 2013). Using mixed methods was not appropriate because of the purpose of the study was not to introduce new theoretical constructs that would necessitate triangulation. While the use of mixed methods may enhance the research findings, the necessity for extensive data collection and analysis would be a time constraining prohibitive factor (Fraser, 2014). A focus on the relationship of variables rather than an exploration of the subject matter in the research question supported the decision to use a quantitative versus a mixed method for this study.

Research Design

I used a correlational design for this study to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. Quantitative research designs consist of two primary forms: experimental and nonexperimental (Johnson, 2001). Researchers can subdivide an experimental design to include quasiexperimental research (Turner et al., 2013). In true experimental designs, researchers measure the impact of manipulating variables to determine the cause and effect in controlled situations (Imai, Tingley, & Yamamoto, 2013). In quasiexperimental

research designs, researchers commonly include a control group without variable randomization (Turner et al., 2013). Researchers seeking to determine causation or relationships will employ nonexperimental research designs (Bettany-Saltikov & Whittaker, 2014). In a causal-comparative design, also known as an ex post facto design, researchers examine the cause and effect relationships between variables (Turner et al., 2013). Researchers will attempt to explain the differences among variables retrospectively using a causal-comparative research design (Massey, Aitken, & Chaboyer, 2015). In a correlational research design, researchers are attempting to identify relationships among variables by establishing a principle that one variable has a positive or negative association with other variables (Donaldson, Qiu, & Luo, 2013).

A correlational nonexperimental design was the best choice because of the use of secondary data and the inability to manipulate or control variables (Rockers, Røttingen, Shemilt, Tugwell, & Bärnighausen, 2015). Establishing a cause and effect relationship among different groups to identify the relationship between economic performances were not appropriate. A correlation design will measure the strength of the relationship between two or more variables (Bettany-Saltikov & Whittaker, 2014). Since the intent of this study was to determine a relationship between the variables, a correlational nonexperimental design was the most appropriate option.

Population and Sampling

Investigating small business economic performance necessitated an analysis of historical data available on academic and public databases. The sample population for this study was publicly traded companies from the United States of America with a listing

on the Russell 2000 Index for small cap stocks fitting the United States Small Business Administration (SBA) employee headcount definition. The SBA defines a small business as having fewer than 500 employees (U.S. Small Business Administration, Office of Advocacy, 2016). Previous small business research focusing on CFO credentials and qualifications concentrated on members of the S&P Small Cap 600 Index (Sun et al., 2015). Researchers evaluated CFOs with a CPA license and CFO age as a proxy for financial expertise and the relationship with corporate governance ratings (Sun et al., 2015). The focus of another study was 7,034 publicly traded companies of various sizes and the relationship between the CFO credentials and qualifications with firm performance, and with CFOs serving on the corporate board of directors (Bedard et al., 2014). A correlational study tests the significance of relationships between prior informational variables. The population of previous research varied among studies and was dependent on the purpose of the study.

The overall sample population of this study covered a broad range of corporations fitting the small business criteria set by the SBA. The Russell 2000 Index for small cap stocks is a listing of publicly traded companies. The names of the CFOs were in the proxy filings for publicly traded companies. Academic and professional databases identify professional licensures and demographic information of the CFOs. Earnings per share data calculations were available in published industrial stock trading sources. To help minimize the fluctuations in stock market outstanding common stock reporting, the diluted earnings per share calculation from the 2015 SEC annual filing served as the

economic performance indicator (Reddy, Agrawal, & Nangia, 2013). Capturing the relevant information completed the sample collection process.

I used a nonprobabilistic sampling method to address the overarching research question. Researchers choose a probabilistic or nonprobabilistic sample selection method depending on their research study method, design, or questions (Uprichard, 2013). The availability of financial and leadership credential information from publicly traded companies were representative of the population. The participant selection process was not a random probabilistic sampling process. Participants met criteria for inclusion in the dataset. Nonprobabilistic sampling is purposeful to identify participants who can help accept or reject the hypothesis (Uprichard, 2013). Minimizing potential ethical dilemmas of segregating the dataset was necessary by remaining predictor of the participants. A nonprobabilistic sampling method was the best approach for analyzing the data set because the samples were from a stock index. It was necessary to remove samples that did not meet the small business criteria.

The sample population consisted of the entire Russell 2000 Index participants, including the removal of constituents that did not qualify for the SBAs small business definition of fewer than 500 employees. The G*Power 3.1.9.2 software was the calculation tool for determining the number of required participants for the data set. Researchers use a statistical test with a multiple linear regression to analyze one dependent variable with multiple predictor variables (Faul, Erdfelder, Buchner, & Lang, 2009). An A priori power analysis, assuming a medium effect size ($f^2 = .15$) and $\alpha = .05$, indicated a sample size of 107 participants. The sample size of 68 nets a power of 0.8 and

a sample size of 107 nets a power of 0.95 as displayed in Figure 1. The actual sample size of 403 increased the power to 0.99.

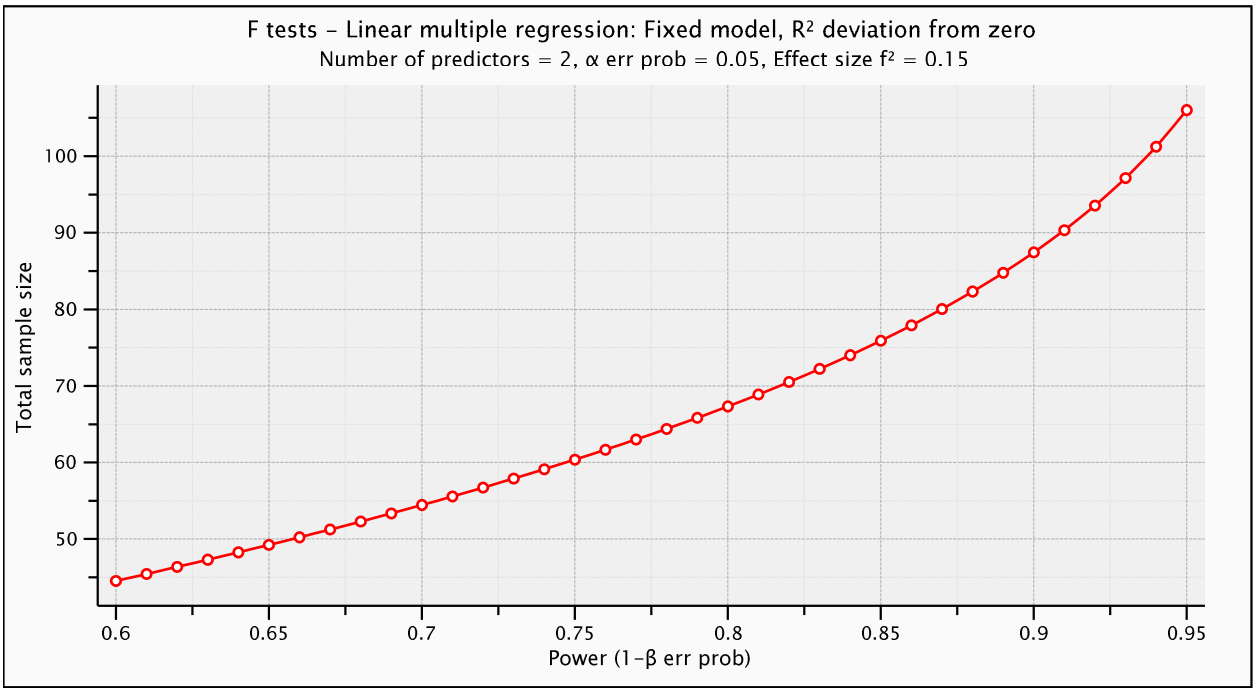

Figure 1. Power as a function of sample size.

Ethical Research

Researchers using secondary data sets may not require specific participation agreements. The participant pool was publicly available, and written consent was not necessary. A participant withdrawal procedure was unnecessary because the data existed in a public database. Participants did not receive tangible or intangible incentives. I protected participant data on a password-protected computer to ensure adequate ethical protection for the participants. The use of a secondary data set did not necessitate any written agreement documentation between the researcher and participants. Before

collection data, I attained approval number from the Walden University's Institutional Review Board (09-13-17-0560817).

Existing corporations were the participants for this study, and the information was publicly available; therefore, there were no individual participants in this study, so a consent format was not necessary. I will maintain all the data I gather and analyze for this study for 5 years on a password-protected computer with an additional copy in a digital cloud storage service. The computer and cloud storage password protection will ensure the study data set will remain confidential and aid in reducing the risk of unauthorized disclosure. At that time, destroying the data will take place in compliance with Walden University policy.

Data Collection Instruments

Secondary data from the SEC, academic, and professional databases were the information sources. The Russell 2000 Index for small cap stocks were the initial source of data. Researchers using prior studies with stock index data sets help establish a procedure for analyzing variables in publicly traded firms. Boone and White (2015) used the Russell 1000 Index and Russell 2000 Index to analyze the impact of institutional stock ownership on corporate financial disclosure methods. Sun and Rakhman (2013) established a relationship between CFO expertise and corporate social responsibility with the S&P 600 stock index. The following is an analysis of the study variables and the data instrumentation procedures.

A specific data collection instrument, such as a survey, was not relevant to this study. The data for this study was the SEC 10-K 2015 filing for the data set. A

company's 10-K included their diluted EPS ratio calculation and the name of the CFO. A validation of the CFO's professional credentials and age demographics were readily available in the National Association of State Boards of Accountancy (NASBA) and LexisNexis. The use of the various databases constitutes a secondary data set.

Using secondary data can be advantageous for research efficiency and data authentication. Reducing the data collection time helps a researcher to quickly deliver tactical information for business leaders to develop actionable strategies (Cheng & Phillips, 2014). Publicly traded companies are subject to an external audit before publishing SEC requisite data (Drew, 2013a). Auditors complying with the control testing standards of attestation can help increase the reliability of the fiscal reporting data testing (Titera, 2013). Advantages of secondary data help maximize research efficiencies but may require careful monitoring for potential risks.

Inherent risks exist when using secondary data for a research study. Using secondary data can be disadvantageous because of the risk of misinterpreting the original data source results (Cheng & Phillips, 2014). Secondary data is subject to sampling error through manipulation when a researcher attempts to analyze complex components of information (Atici, Kansa, Lev-Tov, & Kansa, 2013). The use of secondary data in the study did not necessitate the traditional instrumentation validity strategies. Monitoring for the source of potential errors is necessary to increase the reliability and validity procedures. The disadvantages of secondary data requiring additional validity have inherent risks but may not invalidate the data.

In this study, the data table was an Excel spreadsheet. The raw data included hundreds of data fields, which were too copious to reproduce in an appendix. There was a preservation of the data on a password-protected computer with a duplicate copy on a remote cloud storage service. The data components were readily available, if necessary, in public databases. Changes to the instrumentation were unlikely in the study. Financial data originated from the audited 10-K SEC filings. A CPA's licensure status may change if an individual fails to meet their respective state licensing guidelines. The validation of the licensure status was at the time of data collection. An individual's age was a demographic calculation and not subject to change.

CFOs' CPA Licensure Status

A CFO's licensure status was an ordinal predictor variable for the study. NASBA was the source for obtaining information to validate the CPA licensure status for CFOs. With a CPA license is a credential that increases the financial expertise stature of a CFO (Sun et al., 2015). A CPA license enhances the comprehension of specific financial and accounting technical knowledge (Smith, 2014).

CFO Age

The age of the CFO was a ratio predictor variable for the study. LexisNexis was the source for obtaining the CFO's age by cross-referencing the CFO's name in the database. The CFO's demographic characteristics can have an impact on establishing financial expertise (Mendes-Da-Silva & Saito, 2014).

Earnings Per Share

The dependent variable, earnings per share (EPS), was a ratio variable that was available in the Securities and Exchange Commission (SEC) filings for public companies. An entity's EPS reporting is in the financial statement following net income and before comprehensive income (Jordan & Clark, 2014). Public companies file quarterly and annual requisite documentation to the SEC relating to financial and nonfinancial metrics (Rashty & O'Shaughnessy, 2014). The SEC maintains the EDGAR filing system, a publicly available repository of all historical public company disclosures (Monterio, 2016).

Firms calculate basic EPS by dividing the net income from the financial statement as the numerator by the average number of common shares outstanding during the reporting period as the denominator (Jordan & Clark, 2014). The diluted EPS calculation is an expansion of basic EPS. The diluted EPS ratio is a measurement for corporations with complex capital structures (Jordan, McNeely, & Clark, 2002). The Financial Accounting Standards Board (FASB) defined diluted EPS in 1996 in their FAS 128 Codification (Financial Accounting Standards Board, 1997, pp. 11–35). Firms calculate diluted EPS by calculating the number of shares that would be outstanding if all sources convert, such as employee stock incentives, convertible bonds, and preferred stock (Rashty & O'Shaughnessy, 2014). The diluted EPS formula increases the denominator by adding the dilutive shares to the average number of common shares outstanding. Diluted EPS calculations help investors understand the economic value of the firm.

Financial firm performance is a measurement of economic sustainability. The EPS calculation is an appropriate measure to analyze the economic performance of publicly traded companies. EPS is a measurement of profitability for stakeholders to analyze financial performance, but may not be an indicator of market superiority because the calculation ignores equity investments (Jorgensen et al., 2014). The consistency of EPS representation between firms helps strengthen construct validity threats because of the uniformity in the calculation of the instrument (Christensen, 2014). Financial ratios are common measurement variables in financial studies to help assess economic positioning. Katchova and Sierra (2013) used EPS data to help analyze agribusiness firm performance during a 50-year time span. N. Bansal et al. (2015) used EPS forecasts to analyze firm forecasting accuracy and stock market performance predictions.

Data Collection Technique

Collecting data from existing academic and financial databases will be the data collection technique for the study. A compilation of public companies in the small capitalization category is components of the Russell 2000 Index for small cap stocks (Boone & White, 2015). An Excel spreadsheet was the compilation document for the company listings following the Q2 annual Russell 2000 Index refresh. The SEC Edgar 10-K annual filings contained employee headcount, the names of the CFOs, and diluted earnings per share data for each company. The companies with fewer than 500 employees per the 2015 10-K filing comprised the data set. LexisNexis Academic was be the source for compiling demographic, and licensure information for the CFOs of the data set companies. The National Association of State Boards of Accountancy CPAVerify

database had jurisdictional data to validate the licensure status of the corporate CFOs. An entry of the company name, employee headcount, CFO name, CFO ago, diluted EPS, and CPA licensure status of the CFO was in an Excel spreadsheet and a transfer of the data to SPSS for analysis.

Secondary data collection is a common technique researchers use in academic research (Johnston, 2014). Secondary data collection is advantageous because of the speed and efficiency in completing the research process (Schlomer & Copp, 2014). The disadvantages of secondary data are the unawareness of potential errors from the information sources and the possibility of omitting a data point because of a source database lapse (Cheng & Phillips, 2014). Using secondary data is the optimal solution for the study to help quickly deliver tactical information for business leaders to increase their economic sustainability.

Data Analysis

The data collection processing from the SEC, LexisNexis, and NASBA databases underwent multiple regression analyses relating to the research question and hypotheses. The research question for the study was as follows:

What is the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio?

The null hypothesis and alternative hypothesis for the study were as follows:

H_0: There is no significant statistical relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

H_1: There is a significant statistical relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio.

Examining quantitative relationships necessitate data analysis of the study variables (Reale, 2014). I selected the multiple regression statistical analysis for the study. Researchers can use multiple regression analysis with large data sets and more than one ordinal or ratio variable (Gilstrap, 2013). A CFO's licensure status and the CFO's age were the predictor variables for the study, which were ordinal and ratio, respectively. The earnings per share dependent variable for the study was a ratio. A researcher can assess the association between the variables to analyze the impact of a statistically significant relationship (Nimon & Oswald, 2013). Multiple regression was the most appropriate test for analyzing the relationship between the variables in the study (Moeyaert, Ugille, Ferron, Beretvas, & Noortgate, 2014).

Alternative statistical analysis procedures were not appropriate for the study, including Pearson product-moment correlation coefficient, partial correlations, bivariate linear regression, and discriminant analysis. The Pearson product-moment correlation is appropriate for normal distribution data and if the variables are interval or ratio (Bettany-Saltikov & Whittaker, 2014). Selecting Pearson's was not appropriate because there was an ordinal variable in this study. Partial correlations and bivariate linear regression are appropriate for studies with two variables. Selecting partial correlation or bivariate linear regression was not appropriate because there were more than two variables in this study. Discriminant analysis is appropriate when identifying a linear discriminant function in normal data distributions and groupings (Green & Salkind, 2014). Selecting discriminant

analysis was not appropriate because there were no groupings in this study. Multiple regression was the most appropriate data analysis procedure for the variables in this study.

Publicly traded companies in the Russell 2000 Index for small cap stocks have a SEC data filing requirement that necessitates an external audit to validate the data quality (Monterio, 2016). The use of secondary data from governmental and academic databases will require minimal data cleansing (Johnston, 2014). Removal of company records from the data set was necessary before performing statistical analysis if any components are missing.

IBM SPSS Statistics Version 23 was the software for the data analysis in this study. Interpretation of the inferential results will help determine if a statistically significant relationship exists between the variables (Mash & Ogunbanjo, 2014). Examining the relationship between the variables helped guide the decision to accept or reject the null and alternative hypotheses.

Assumptions

Using multiple regression analysis necessitates the assessment of several primary assumptions including linearity, independence of residuals, homoscedasticity, multicollinearity, and normality (Cuff, Fann, Bombardier, Graves, & Kalpakjian, 2014). This section describes each assumption, the testing process for the assumptions, and actions in the event of an assumption violation. Using SPSS was necessary to test the multiple regression assumptions.

Linearity. The linearity assumption in multiple regression data analysis is the assumption that the dependent variable has a linear relationship to the predictor variables (Williams, Gómez Grajales, & Kurkiewicz, 2013). The existence of a categorical or nominal variable eliminates the risk of violating the linearity assumption (Casson & Farmer, 2014). An assessment of linearity was not necessary because in the study, one of the predictor variables were nominal, and there was no risk of a linearity assumption violation.

Independence of residuals. Demonstrating randomness among the residuals of a normal distribution is a necessary multiple regression assumption (Casson & Farmer, 2014). Using SPSS to assess is appropriate to test for the independence of residuals with a scatterplot to analyze the randomness and lack of a pattern (Casson & Farmer, 2014). Bootstrapping is a statistical sampling procedure used to combat assumption violations (Casson & Farmer, 2014). In the event of an assumption violation for independence of residuals, bootstrapping would have been necessary.

Homoscedasticity. The homoscedasticity assumption refers to an equal distribution of errors among the predictor variables (Williams et al., 2013). Using SPSS is appropriate to assess homoscedasticity with a scatterplot to visually inspect an equal distribution of errors (Williams et al., 2013). In the event of an assumption violation for homoscedasticity, bootstrapping would have been necessary.

Multicollinearity. A relationship between two or more predictor variables could create the existence of multicollinearity or collinearity (Williams et al., 2013). Using SPSS is appropriate to assess for the existence of multicollinearity or collinearity by

evaluating the variance inflation factor (García, García, López Martín, & Salmerón, 2015). Larger sample sizes help reduce multicollinearity assumption violations (Williams et al., 2013). The sample size may be larger than the power analysis minimum requirements for multiple regression. However, I removed variables as appropriate if multicollinearity was evident and impacted the analysis outcome.

Normality. The predictor and dependent variables in multiple regression should have a normal distribution along a plot curve (Casson & Farmer, 2014). Using SPSS is appropriate to assess for the existence by analyzing the curvature of the plot line (Casson & Farmer, 2014). Larger sample sizes help reduce normality assumption violations (Williams et al., 2013). The sample size may be larger than the power analysis minimum requirements for multiple regression. In the event of an assumption violation for normality, bootstrapping would have been necessary.

Study Validity

This doctoral study was a nonexperimental quantitative correlation design. Conducting experimental research was not necessary. There was a reliance on archival data from secondary sources. The data set from the academic and governmental sources contains data from mandatory annual reporting for publicly traded companies (Monterio, 2016). Using the appropriate reference materials helped minimize validity threats in the instrumentation, assumptions, or sample size selection.

Validity of the instrument. A specific data collection instrument, such as a survey, was not relevant to this study. The lack of a specific instrument with secondary data minimizes the threat to instrumentation validity (Reio, 2016). The original

instrument and measurement of the data undergo a data validation to ensure the results are factual (Obeid et al., 2013). A validation procedure occurred during the collection process in the academic and governmental databases.

Validity of the data assumptions. There was an assumption the data in the academic and governmental databases were true. Attempting to avoid data assumption validity threats in the data processing will help appropriately identify the acceptance or rejection of the null hypothesis (Murayama, Pekrun, & Fiedler, 2014). A data validity risk exists when the information a company supplies to the government is incorrect (Gao, Ritter, & Zhu, 2013). Attempting to minimize data assumption validity risks by using a large sample size helped to mitigate concerns of data inaccuracies.

Validity of the sample size. Ensuring an acceptable sample size in the dataset can help minimize the risks of sample size validity (Bishara & Hittner, 2015). A sample size validity threat impacts the Type I error rate to process the data adequately and reach a reasonable conclusion (Schlomer & Copp, 2014). Software solutions such as G*Power can help researchers determine a minimum sample size requirement (Faul et al., 2009). A calculation from G*Power (Version 3.1.9.2) for this study indicated the sample size of 107 nets a power of 0.95.

Validity of the generalization to larger populations. An external validity threat may exist if the sample originates from a specific population or a larger demographic (Evans & Popova, 2016). The population in this study was not specific to an industry and was generalizable. The Russell 2000 Index is specific to companies within a market capitalization ranking and includes various industries (Boone & White, 2015). There was

an exclusion of companies from the Russell 2000 Index that did not have an annual financial filing with the United States SEC. A generalization does not exist to populations that did not comply with the United States SEC filing requirements. Additional research beyond the data set for this study may yield alternate results.

Summary and Transition

In Section 2, I discussed my role as the researcher and reviewed the rationale for selecting a quantitative correlational study instead of qualitative or mixed methods and experimental or quasiexperimental designs. In Section 2, I also discussed the rationale for creating a data set by selecting sample firms from the Russell 2000 Index. This section included a description of the instrumentation, data collection procedures, the justification for selecting multiple regression as an analytical procedure, and information on the validity of the study. The components this section tied back to the overarching research question of the study and hypotheses.

In Section 3, I present the findings, application to professional practice, implications for social change, statistical analysis of the significance of the study, summarize the recommendations further research and discuss the conclusions.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this quantitative correlational study was to examine the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio. The specific business problem was whether some small business executives do not understand the relationship between the financial expertise qualifications of a CFO's CPA licensure status, CFO age, and the earnings per share ratio. This study involved examining the relationship between a CFO's financial expertise and a firm's economic sustainability. A multiple regression analysis was used to examine the financial data of 403 small businesses and the CFO's licensure status and demographics from their 2015 SEC 10-K filings. The sole research question addressed in this study was as follows: What is the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio? I hypothesized that if small business leaders hired CFOs with financial expertise, the firm's economic sustainability might be improved. I rejected the null hypothesis and concluded that there is a statistically significant relationship between a CFO's financial expertise and firm profitability. In Section 3 I cover the following topics: a description of the study, present the findings, discuss the applicability of the findings to the professional practice in business, provide recommendations and implications for social change, recommendations for further study, a summary, and conclusions.

Presentation of the Findings

In this section I cover the following topics: testing of assumptions, the multiple regression analysis, descriptive statistics, discuss my findings, and conclude with a summary and recommendations for further research. To address the possible influence of assumption violations, I used bootstrapping with a sample of 2,000 and, where appropriate, presented the bootstrapping 95% interval.

For the statistical test for the variables, I used multiple regression to address the research question. The predictor variables were a CFO's CPA licensure status and CFO age. The dependent variable was earnings per share. As the sample size was large, there was a linear relationship, and there was a normal distribution among the variables; therefore, the multiple regression statistical analysis was the correct choice for analysis of the hypothesis.

Descriptive Statistics

From a total of 2,006 firms on the Russell 2000 Index, 1,603 were eliminated due to missing data or a lack of qualification criteria. Thus, 403 U.S. small businesses were included in the descriptive statistics. The null hypothesis was that there was no significant statistical relationship between a small business hiring a CFO with CPA licensure status, CFO age, and the earnings per share ratio. The alternative hypothesis was that there was a significant statistical relationship between a small business hiring a CFO with CPA licensure status, CFO age, and the earnings per share ratio. A CFO's licensure status is an ordinal value and represented as an actively-licensed CPA or a CFO who has never possessed a CPA license. CFO ages ranged from 29 to 71 years old, with a mean

observation of 51 (*SD* = 8.0). Earnings per share ranged from negative $8.04 to positive $13.19 with a mean observation of $0.23 (*SD* = $1.98). See Table 2 for the descriptive statistics of the data set.

Table 2

*Means and Standard Deviations for the Data Set (*N = *403)*

		Statistic	Bootstrap			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
EPS	Mean	$0.23	$0.00	$0.10	$0.04	$0.43
	Std. Deviation	$1.98	$-0.01	$0.16	$1.67	$2.31
CPA	Mean	.39	.00	.02	.34	.44
	Std. Deviation	.49	.00	.01	.48	.50
CFO Age	Mean	51	.00	.40	50	52
	Std. Deviation	8.04	-.14	.24	7.6	8.50

Note. Bootstrap results are based on 2,000 bootstrap samples

Test of Assumptions

Using a multiple regression analysis necessitated the assessment of several primary assumptions including independence of residuals, homoscedasticity, multicollinearity, and normality (Cuff et al., 2014). Bootstrapping, using 2,000 samples, mitigates the influence of assumption violations. All assumptions were met, and no serious violations were evident.

Linearity, normality, and homoscedasticity. Using preliminary analyses, I assessed for assumptions of linearity, normality, and homoscedasticity. The histogram (Figure 2) is a display of the regression-standardized residuals. The P-P plot (Figure 3) is a display of the regression-standardized residual. The histogram of standard residuals indicated the data were normally distributed. The normal P-P plot of standardized

residuals displayed points within proximity to the normal distribution line. The visual examination of the histogram and P-P plot did not reveal any major violations of assumptions.

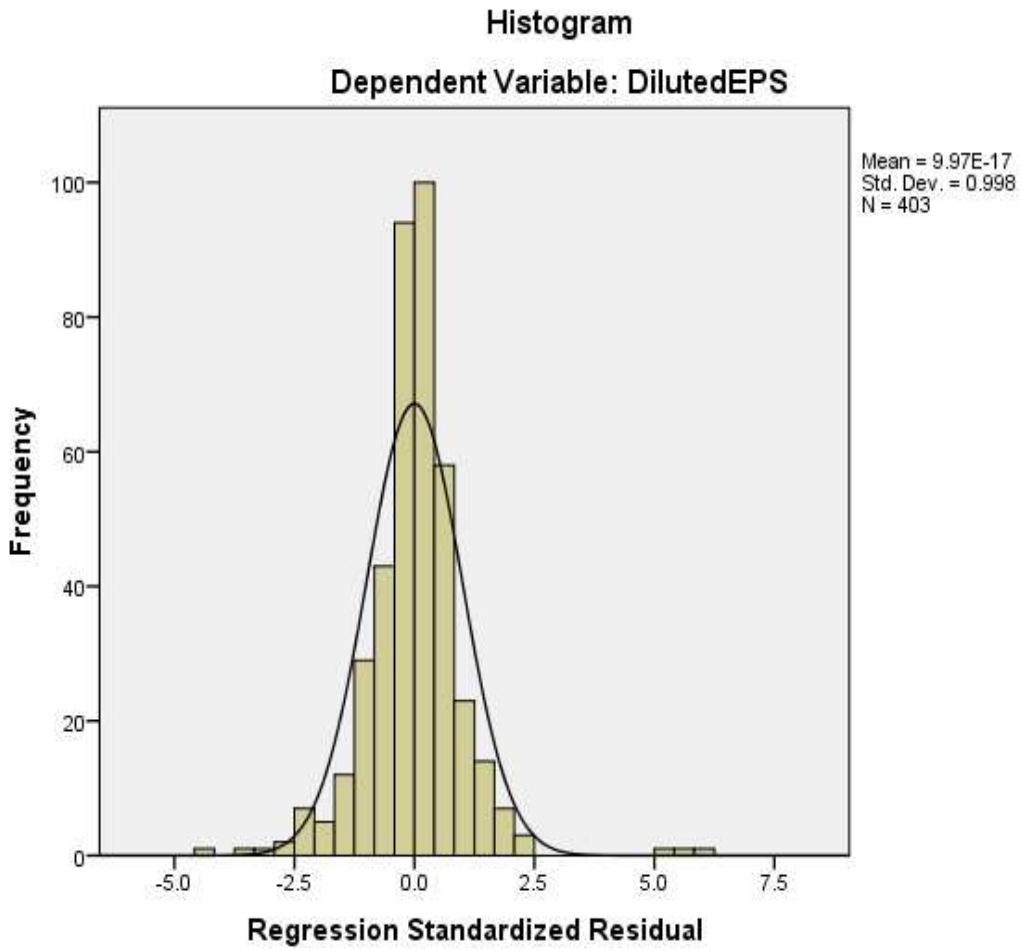

Figure 2. Histogram of the regression-standardized residual.

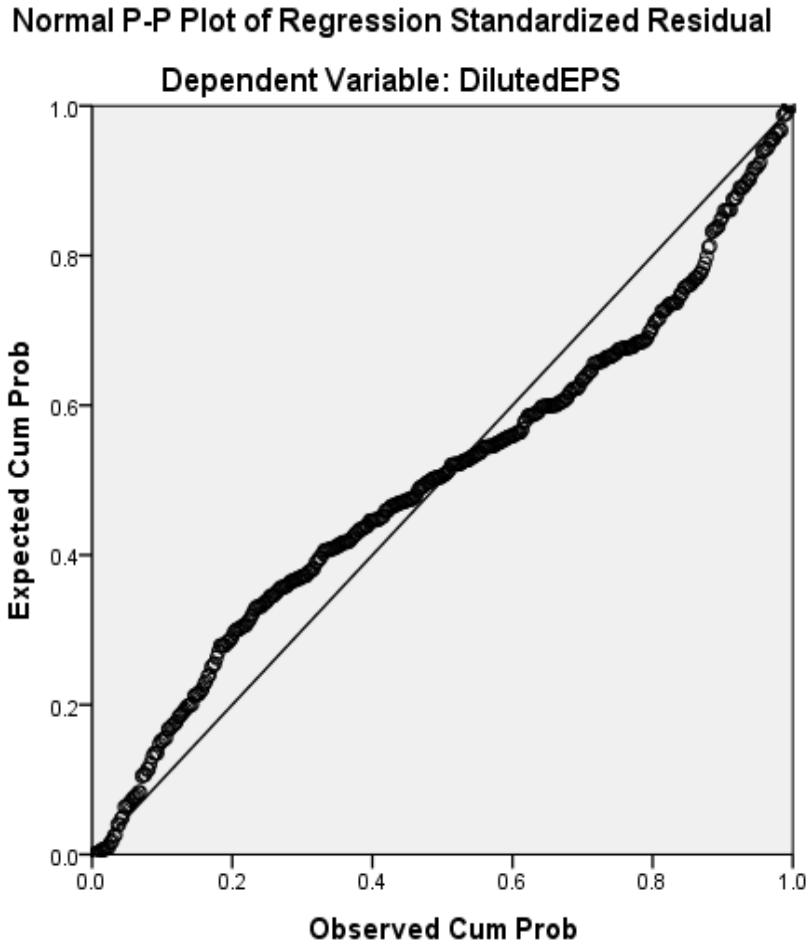

Figure 3. Normal P-P plot of regression.

Multicollinearity and independence of residuals. A multicollinearity and independence of residuals evaluation were completed by viewing the correlation coefficients among the predictor variables. The Durbin-Watson value = 1.76 satisfied the assumption of predictor errors. There were no major violations of the assumptions.

Inferential Statistics

To approach the research question: *What is the relationship between a CFO's CPA licensure status, CFO age, and the earnings per share ratio;* standard multiple

linear regression, α = .05 (two-tailed), was used to calculate the significance that a CFO's licensure status and CFO age would predict a firm's earnings per share. A CFO's licensure status and CFO age were statistically significant predictors as evidenced by the multiple linear regression model (p = .03). Preliminary analyses conducted to assess whether the assumptions of multicollinearity, linearity, normality, homoscedasticity, and independence of residuals were met; no serious violations were noted. A CFO's licensure status and CFO age might contribute to a firm's earnings per share as evidenced by the regression model. Based on the findings, the null hypothesis was rejected. Rejecting the null hypothesis may indicate that a CFO's licensure status and CFO age can contribute to a firm's earnings per share. A statistically significant output indicates that the predictor variables may predict earnings per share at the .05 level, $F(2, 400) = 3.69$, $p = .03$, $R^2 = .018$ (Table 3 and Table 4).

Table 3

*Model Summary (*N = *403)*

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Durbin-Watson
1	.135	.018	.013	$1.97	1.757

Table 4

ANOVA[a] *(*N = *403)*

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	28.630	2	14.315	3.691	.026[b]
	residual	1551.375	400	3.878		
	total	1580.005	402			

[a.] Dependent variable: earnings per share.
[b.] Predictors: (constant), CPA licensure status, CFO age.

I ran 2,000 bootstrapping samples to adjust for any violations of assumptions. With 2,000 samples in this bootstrapping analysis, the predictor variable, CPA licensure status, was a statistically significant predictor (p = .04) of a firm's earnings per share. CFO age was not statistically significant (p = .11) and did not provide a variation in a firm's earnings per share (Table 5).

Table 5

*Regression Analysis Summary for the Predictor Variables (*N = *403)*

Model		Unstandardized coefficients		Standardized coefficients	Bootstrap		
		B	Std. Error	Beta	Sig. (2-tailed)	95% Confidence Interval	
						Lower	Upper
1	(Constant)	-1.133	.641		.138	-2.734	.306
	CPA	.417	.202	.103	.044	.032	.853
	CFO age	.024	.012	.096	.107	-.004	.053

Note. Bootstrap results are based on 2,000 bootstrap samples.

Age as a moderator. To assess the effect of age as a moderator of the relationship between a CFO's licensure status and a firm's earnings per share, I conducted a hierarchal regression with a CFO's licensure status and age in step one and

the interaction between the two variables added into the model in step two. In step one, there was a significant relationship, suggesting that a CFO's licensure stated and CFO age predicted a firm's earnings per share when combined into a linear regression equation ($F(2, 400) = 3.69$, $p = .03$). In step two, the interaction term was entered into the model, resulting a final regression equations ($F(1, 399) = 6.36$, $p = .01$). Because the results were significant, I assessed the individual predictors, focusing on the interaction term. The interaction between a CFO's licensure status and CFO age was not a significant predictor ($t = 2.52$, $p = .012$), suggesting that age is a moderator to the relationship between a CFO's licensure status and a firm's earnings per share (Table 6).

Table 6

Results of Moderation Analysis for CFO Age on a CFO's Licensure status and a Firm's Earnings Per Share

Source	Unstandardized coefficients		Standardized coefficients			
	B	Std. Error	Beta	*t*	*p*	R^2
Step 1					.026	.018
CPA	.417	.202	.103	2.064	.040	
CFO age	.024	.012	.096	1.930	.054	
Step 2					.012	.034
CPA	-2.819	1.299	-.693	-2.170	.031	
CFO age	.001	.015	.004	.058	.954	
CPA*CFO Age	.064	.025	.803	2.522	.012	

CFOs with a CPA license. Controlling for CFOs with a CPA license, the regression coefficient $B = .07$, 95% C.I. (.02, .11) $p = .00$ associated with CFO age suggests that with each additional year of age, the firm's earnings per share increases by

approximately $0.07. The R2 value of 0.05 associated with this regression model suggests that CFO age accounts for 5% of the variation in a firm's earnings per share, which means that 95% of the variation in profitability cannot be explained by CFO age alone. The confidence interval associated with the regression analysis does not contain 0, which means the null hypothesis can be rejected, and there is an association between CFO age and a firm's earnings per share when the CFO possesses a CPA license.

CFOs without a CPA license. Controlling for CFOs without a CPA license, the regression coefficient B = .00, 95% C.I. (-.03, .03) p = .95 associated with CFO age suggests that with each additional year of age, the firm's earnings per share does not change. The R2 value of 0.00 associated with this regression model suggests that CFO age accounts for less than 1% of the variation in a firm's earnings per share, which means that 99% of the variation in profitability cannot be explained by CFO age alone. The confidence interval associated with the regression analysis does contain 0, which means the null hypothesis cannot be rejected, and there is no association between CFO age and a firm's earnings per share when the CFO does not possess a CPA license.

Firm Profitability Effect

Predicting a firm's earnings per share relationship to business components is reliant on numerous financial variables and intangible assets (N. Bansal et al., 2015). Previous research did not posit a relationship between a CFO's licensure status, CFO age, and a firm's earnings per share. Given the possible correlation between intangible assets and firm profitability, I replicated components of other studies that evaluate a CFO's professional credentials and demographic identifiers. An evaluation of 25 large firms

using licensure, education, and age as predictor variables resulted in licensure status not having a significant impact on profitability, although CFO age did impact financial performance (Barsky & Catanach, 2013). In a second study, a positive relationship exists between a CFO's licensure status and a firm's economic sustainability, but the researchers did not evaluate CFO age as a predictor variable (Hoitash et al., 2016). Including additional CFO characteristic or demographic variables may strengthen the statistical relationship of a firm's organizational performance. Sun et al. (2015) and Sun and Rakhman (2013) use a CFO's licensure status and CFO age as predictor variables to establish a relationship with varying dependent variables including corporate governance ratings and corporate social responsibility. Future researches may want to use other characteristics or demographic variables that may have an impact on a firm's financial performance, and yield alternative findings.

The theoretical framework used to underpin the research question was Penrose's (1959) resource-based view of the firm theory. The RBV theory is used to explain the resources an organization uses to achieve a distinct and sustained competitive advantage (Barney, 1991). Barney (1991) defined resources as organizational assets, attributes, and capabilities. Yazdanfar (2013) affirmed a firm's profitability has a positive relationship with resource variables using the RBV theory as the theoretical framework. Alonso et al. (2015) used the RBV theory to support their findings for the value intangible assets create and their relationship to a firm's financial performance. The positive relationship between a firm's profitability and intangible assets from prior studies aligns to the correlationally-based findings in this research effort.

Applications to Professional Practice

The purpose of this quantitative research study involved measuring the relationship between a CFO's licensure status, CFO age, and earnings per share by examining the 2015 annual SEC filings of 403 publicly traded small businesses. A firm's earnings per share is a measurement of financial performance in the year before the SEC filing. The results of the study indicated a statistically significant relationship between a CFO's licensure status, CFO age, and earnings per share.

The statistically significant relationship between a CFO's licensure status, CFO age, and earnings per share is relevant given the business sector mix of firms that were part of the sample used to conduct the study. The strong correlation between the predictor variables and earnings per share is evidence that the financial expertise of the CFO can have a material impact on a firm's profitability. Small business leaders can evaluate the statistical relationship results to help determine CFO staffing decisions. The positive relationship between a CFO's financial expertise and firm profitability can help small business leaders make long-term decisions that can help improve the organization's competitive advantage. Some small business leaders already understand the positive relationship of a CFO with financial expertise, which is evident in the sample companies in this study. Financial ratios can be relevant indicators of a firm's economic sustainability that help drive organizational success.

A key construct of the RBV theory of a firm is the relationship between an organization's resources and the company's competitive advantage. For this study, a CFO's financial expertise is the firm's resource and the earnings per share ratio is a

representation of the organization's competitive advantage. Small business leaders who make staffing decisions based on an employee's financial expertise may help the firm's economic sustainability. Li et al. (2016) noted that a CFO's financial expertise could have a direct impact on a firm's profitability. Small business leaders should understand the correlation between financial expertise and the firm's competitive advantage. The examination of relationships between a CFO's financial expertise and the firm's economic sustainability in this study helps demonstrate the positive fiscal impact of an organization's resources.

Implications for Social Change

The implication for positive social change is the potential to reduce small business failures. The possibility of economic prosperity through fewer small business insolvencies will result in job retention and add to community economic stability for catalyzing positive social change. As evidenced in this study, a small business that employs a CFO with financial expertise has a strong relationship with economic sustainability. This may aid the small business so that they can remain in operation and have a positive social implication on generating jobs that help foster local and national economic growth.

Recommendations for Action

Evaluating the research findings provided an opportunity to recommend actions for small business leaders and accounting practitioners. As evidenced in this study, a firm's resources are relevant in ensuring a company's financial success. Small business leaders should be aware that the financial leadership talent recruitment process should

include a candidate's licensure status and their financial expertise. Accounting practitioners can have statistical evidence that their professional credentials and financial proficiency have a relationship to a firm's profitability. Additional knowledge of economic sustainability and a firm's competitive advantage may have an impact on the business community. Publishing the results of this study will distribute the findings to a larger audience outside of the academic community.

Sharing these study results with small business organizations and professional accounting associations will be the initial objective. To share the results with small business leaders, I would offer to present the findings to the National Small Business Association leadership and members during their annual congress. Presenting the findings to the AICPA executive leaders may help the organization educate accounting practitioners. I would offer to present the findings at the annual AICPA CFO Conference. Finally, I can share these results through scholarly small business or accounting publications.

Recommendations for Further Research

There were four limitations identified in Section 1 of this study. The first limitation was the sample size may not be representative of the entire small business population, and the findings of the study may not be generalizable because of other operating factors that could impact profitability. The second limitation was that alternative predictor variables may yield different results that contribute to firm profitability. The third limitation was that fiscal performance of measurable firm

profitability may not be representative of nonquantifiable measures. The fourth limitation was that past financial performance may not be indicative of future results.

The data collected in the study was from publicly traded small businesses. The results may not be generalizable to privately held small businesses. Future researchers could conduct a similar study with the same variables, but using a population of firms that are not public. An alternative study may yield different results due to operating factors and regulations that do not exist in privately held small businesses.

A CFO's licensure status and age may not be the only variables that impact the relationship between financial expertise and economic sustainability. Future researchers could conduct a study using alternative predictor variables that could impact financial expertise. Researchers conducting a study using educational achievements of a CFO may not obtain the same findings as in this study. The addition of an education variable, as in Sun et al. (2015) study, could benefit future research since it adds additional financial expertise criteria.

A firm's profitability is a quantifiable measurement of organizational performance. Organizational performance may exist in nonquantifiable measurements that can impact economic sustainability. Firm performance variables such as customer retention programs and intellectual capital may impact profitability. Future researchers could analyze the impact of nonquantifiable measures and their relationship to firm profitability. A company's financial performance may yield alternative results in a study that includes nonquantifiable measurement variables.

A researcher conducting a longitudinal study may provide additional support of a relationship between a CFO's financial expertise and firm profitability. I used SEC data based on a firm's 2015 filing publication. Future researchers could expand the timeframe to include additional fiscal years that may yield an alternative relationship pattern. A longitudinal study could add further evidence or eliminate abnormal profitability trends that could have impacted the results of this study.

Reflections

The DBA program at Walden University has been one of growth and persistence. I had to develop a time management strategy to balance work, life, and school while ensuring I kept up with my family and work requirements. In my career development, I recognized an opportunity and necessity to advance as an accounting practitioner. The Walden University program afforded me a chance to perform interesting and challenging research in the field of financial leadership and business management.

I appreciate the opportunity to work with my committee on completing this study. The doctoral study process affirmed my core fundamentals that hard work and dedication to the educational and licensure opportunities in my profession might lead to superior professional achievements. I gained a deeper understanding and appreciation for the research and detailed analysis that scholars undertake to ensure reliable and measurable data is available for the professional community. As an actively-licensed CPA, I look forward to sharing my new doctoral foundation with my peers and business leaders to help foster financial success in the companies I support.

Summary and Conclusions

The purpose of this study was to examine the relationship between a CFO's financial expertise and a firm's profitability. The research question was whether a CFO's licensure status and CFO age had an impact on a firm's earnings per share. Use of a quantitative correlational study design allowed assessment of the research question through multiple linear regression. The predictor variables were a CFO's licensure status and CFO age. The dependent variable was a firm's earnings per share.

From the results of the study, the conclusion was that a CFO's financial expertise has an impact on a firm's earnings per share. A statistically significant relationship exists among a CFO's licensure status, CFO age, and a firm's earnings per share. When controlling for CFO's with a CPA license, a statistically significant relationship still exists and indicates that firms could increase their earnings per share with each incremental year in CFO age. However, when examining CFOs without a CPA license, a statistical association indicated that a firm's earnings per share would remain unchanged with each incremental year in CFO age. The findings related to CFO financial expertise from this study are consistent with prior research by Sun et al. (2015) and Sun & Rakhman (2013). Small business leaders can evaluate the research findings to determine how to implement organizational change to help improve their economic sustainability.

Private industry and publicly traded firm CFOs have a professional responsibility to report accurate financial results for their respective organizations regardless of the actual outcome. A CFO who can help improve a company's fiscal performance through organizational improvements and efficiencies is a resource firms desire. However, some

business leaders may not understand a CFO's contributions that relate to organizational profitability. The purpose of this study was to examine the relationship of criteria that improve a CFO's financial expertise. The results from the research presented the need for small business leaders to consider employing a CFO with financial expertise qualities such as practitioner experience and a CPA license. Finally, I recommended opportunities for further research.

References

Agarwal, R., Brown, P. J., Green, R., Randhawa, K., & Tan, H. (2014). Management practices of Australian manufacturing firms: Why are some firms more innovative? *International Journal of Production Research*, *52*, 6496–6517. https://dx.doi.org/10.1080/00207543.2014.949362

Ahmed, A. S., & Duellman, S. (2013). Managerial overconfidence and accounting conservatism. *Journal of Accounting Research*, *51*(1), 1–30. https://dx.doi.org /10.1111/j.1475-679X.2012.00467.x

Alonso, B. V., Merino, J. D. G., & Ayastuy, G. A. (2015). Motives for financial valuation of intangibles and business performance in SMEs. *Revista Innovar*, *25*, 113–127. https://dx.doi.org/10.15446/innovar.v25n56.48994

Andersén, J., & Samuelsson, J. (2016). Resource organization and firm performance: How entrepreneurial orientation and management accounting influence the profitability of growing and non-growing SMEs. *International Journal of Entrepreneurial Behavior & Research*, *22*, 466–484. https://dx.doi.org /10.1108/IJEBR-11-2015-0250

Arkan, T. (2016). The importance of financial ratios in predicting stock price trends: A case study in emerging markets. *Finanse, Rynki Finansowe, Ubezpieczenia*, *79*, 13–26. https://dx.doi.org/10.18276/frfu.2016.79-01

Armitage, J. (2014). The experience requirement for CPA licensure. *CPA Journal*, *84*(2), 61–67. Retrieved from http://www.cpajournal.com/

Atici, L., Kansa, S. W., Lev-Tov, J., & Kansa, E. C. (2013). Other people's data: A demonstration of the imperative of publishing primary data. *Journal of Archaeological Method & Theory*, *20*, 663–681. https://dx.doi.org/10.1007/s10816-012-9132-9

Ayyagari, M., Demirguc-Kunt, A., & Maksimovic, V. (2014). Who creates jobs in developing countries? *Small Business Economics*, *43*(1), 75–99. https://dx.doi.org/10.1007/s11187-014-9549-5

Azeez, A. A. (2015). Corporate governance and firm performance: Evidence from Sri Lanka. *Journal of Finance and Bank Management*, *3*, 180–189. https://dx.doi.org/10.15640/jfbm.v3n1a16

Bailey, R., Dickins, D., & Scarlata, A. (2013). Success in industry-based accounting careers. *CPA Journal*, *83*(1), 63–65. Retrieved from http://www.cpajournal.com/

Bansal, N., Strauss, J., & Nasseh, A. (2015). Can we consistently forecast a firm's earnings? Using combination forecast methods to predict the EPS of Dow firms. *Journal of Economics & Finance*, *39*(1), 1–22. https://dx.doi.org/10.1007/s12197-012-9234-y

Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic Organization*, *12*, 70–78. https://dx.doi.org/10.1177/1476127013520265

Barbera, F., & Hasso, T. (2013). Do we need to use an accountant? The sales growth and survival benefits to family SMEs. *Family Business Review*, *26*, 271–292. https://dx.doi.org/10.1177/0894486513487198

Bar-Lev, R., Geri, N., & Raban, D. R. (2015). Developing a financial statement-based effectiveness measure of interorganizational systems' contribution. *The Journal of Computer Information Systems*, *56*(1), 62–69. https://dx.doi.org/10.1080/08874417.2015.11645802

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*, 99–120. https://dx.doi.org/10.1177/014920639101700108

Barsky, N. P., & Catanach, A. H. (2013). What makes a CFO "the best"? *Strategic Finance*, *94*, 29–34. Retrieved from http://sfmagazine.com/

Beattie, V., & Smith, S. J. (2013). Value creation and business models: Refocusing the intellectual capital debate. *The British Accounting Review*, *45*, 243–254. https://dx.doi.org/10.1016/j.bar.2013.06.001

Bedard, J. C., Hoitash, R., & Hoitash, U. (2014). Chief financial officers as inside directors. *Contemporary Accounting Research*, *31*, 787–817. https://dx.doi.org/10.1111/1911-3846.12045

Berry, S. (2015). What CFOs won't be doing in 2015. *Corporate Finance Review*, *19*(4), 11–13. Retrieved from http://store.tax.thomsonreuters.com/accounting/Finance/Financial-Management-and-Controllership/p/100200682

Bettany-Saltikov, J., & Whittaker, V. J. (2014). Selecting the most appropriate inferential statistical test for your quantitative research study. *Journal of Clinical Nursing*, *23*, 1520–1531. https://dx.doi.org/10.1111/jocn.12343

Bishara, A. J., & Hittner, J. B. (2015). Reducing bias and error in the correlation coefficient due to nonnormality. *Educational and Psychological Measurement*, *75*, 785–804. https://dx.doi.org/10.1177/0013164414557639

Boesch, I., Schwaninger, M., Weber, M., & Scholz, R. (2013). Enhancing validity and reliability through feedback-driven exploration: A study in the context of conjoint analysis. *Systemic Practice & Action Research*, *26*, 217–238. https://dx.doi.org /10.1007/s11213-012-9248-6

Boone, A. L., & White, J. T. (2015). The effect of institutional ownership on firm transparency and information production. *Journal of Financial Economics*, *117*, 508–533. https://dx.doi.org/10.1016/j.jfineco.2015.05.008

Bourne, H., & Jenkins, M. (2013). Organizational values: A dynamic perspective. *Organization Studies*, *34*, 495–514. https://dx.doi.org/10.1177 /0170840612467155

Brines, S., Shepherd, D., & Woods, C. (2013). SME family business innovation: Exploring new combinations. *Journal of Family Business Management*, *3*, 117–135. https://dx.doi.org/10.1108/jfbm-01-2012-0002

Brunzell, T., Liljeblom, E., & Vaihekoski, M. (2013). Determinants of capital budgeting methods and hurdle rates in Nordic firms. *Accounting & Finance*, *53*(1), 85–110. https://dx.doi.org/10.1111/j.1467-629X.2011.00462.x

Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford, UK: Oxford University Press.

Bunney, D., Sharplin, E., & Howitt, C. (2015). Generic skills for graduate accountants: The bigger picture, a social and economic imperative in the new knowledge economy. *Higher Education Research & Development*, *34*, 256–269. https://dx.doi.org/10.1080/07294360.2014.956700

Burke, M. M., & Gandolfi, W. R. (2014). U.S. accounting education: Misalignment with the needs of small and medium companies. *American Journal of Business Education*, *7*, 339–348. https://dx.doi.org/10.19030/ajbe.v7i4.8813

Capalonga, G., Diehl, C. A., & Zanini, F. A. M. (2014). Perceived strategies under the focus of strategic positioning theory, resource based-view, strategic mission and organizational typology: A study of companies in southern Brazil. *Brazilian Business Review*, *11*, 28–52. https://dx.doi.org/10.15728/bbr.2014.11.3.2

Carland, J. C., Carland, J. W., & Stewart, W. H. (2015). Seeing what's not there: The enigma of entrepreneurship. *Journal of Small Business Strategy*, *7*(1), 1–20. Retrieved from http://www.jsbs.org/

Carrahera, S., & Van Auken, H. (2013). The use of financial statements for decision making by small firms. *Journal of Small Business and Entrepreneurship*, *26*, 323–336. https://dx.doi.org/10.1080/08276331.2013.803676

Casson, R. J., & Farmer, L. D. M. (2014). Understanding and checking the assumptions of linear regression: A primer for medical researchers. *Clinical & Experimental Ophthalmology*, *42*, 590–596. https://dx.doi.org/10.1111/ceo.12358

Chang, H., Ittner, C. D., & Paz, M. T. (2014). The multiple roles of the finance organization: Determinants, effectiveness, and the moderating influence of information system integration. *Journal of Management Accounting Research*, *26*(2), 1–32. https://dx.doi.org/10.2308/jmar-50802

Cheng, H. G., & Phillips, M. R. (2014). Secondary analysis of existing data: Opportunities and implementation. *Shanghai Archives of Psychiatry*, *26*, 371–375. https://dx.doi.org/10.11919/j.issn.1002-0829.214171

Choudhary, A., Akhtar, S., & Zaheer, A. (2013). Impact of transformational and servant leadership on organizational performance: A comparative analysis. *Journal of Business Ethics*, *116*, 433–440. https://dx.doi.org/10.1007/s10551-012-1470-8

Christensen, M. (2014). Communication as a strategic tool in change processes. *International Journal of Business Communication*, *51*, 359–385. https://dx.doi.org/10.1177/2329488414525442

Cuff, L., Fann, J. R., Bombardier, C. H., Graves, D. E., & Kalpakjian, C. Z. (2014). Depression, pain intensity, and interference in acute spinal cord injury. *Topics in Spinal Cord Injury Rehabilitation*, *20*(1), 32–39. https://dx.doi.org/10.1310/sci2001-32

Datta, S., & Iskandar-Datta, M. (2014). Upper-echelon executive human capital and compensation: Generalist vs specialist skills. *Strategic Management Journal*, *35*, 1853–1866. https://dx.doi.org/10.1002/smj.2267

de Brito, R. P., & de Oliveira, L. B. (2016). The relationship between human resource management and organizational performance. *Brazilian Business Review*, *13*(3), 90–110. https://dx.doi.org/10.15728/bbr.2016.13.3.5

Delen, D., Kuzey, C., & Uyar, A. (2013). Measuring firm performance using financial ratios: A decision tree approach. *Expert Systems with Applications*, *40*, 3970–3983. https://dx.doi.org/10.1016/j.eswa.2013.01.012

Demagalhaes, R., & Wilde, H. (2013). Practitioners' views of the education and experience requirements for CPA licensure: A survey study of CPAs in the Dakotas. *Journal of Accounting and Finance*, *13*, 168–177. Retrieved from http://www.na-businesspress.com/jafopen.html

Demagalhaes, R., & Wilde, H. (2014). Practitioners' views of the requirements for CPA licensure: An exploratory study of CPAs in Colorado, Florida, Maine, Oklahoma, and Vermont. *Journal of Higher Education Theory and Practice*, *14*(2), 78–88. Retrieved from http://www.na-businesspress.com/jhetpopen.html

Donaldson, L., Qiu, J., & Luo, B. N. (2013). For rigour in organizational management theory research. *Journal of Management Studies*, *50*, 153–172. https://dx.doi.org/10.1111/j.1467-6486.2012.01069.x

Doran, D. T. (2013). Diluted earnings per share overstatement bias: Including unrecognized employee compensation in proceeds from assumed exercise of employee stock options under the treasury stock method. *Journal of Applied Business Research*, *29*, 1657–1664. https://dx.doi.org/10.19030/jabr.v29i6.8204

Drew, J. (2013a). From “write-up” to right profitable. *Journal of Accountancy*, *215*(4), 24–30. Retrieved from http://www.journalofaccountancy.com/

Drew, J. (2013b). The 10 C’s of great leaders. *Journal of Accountancy*, *215*(6), 33–35. Retrieved from http://www.journalofaccountancy.com/

Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, *23*, 660–679. https://dx.doi.org/10.5465/AMR.1998.1255632

Eber, J. E., Schwer, P. M., & Mohammadi, H. (2013). Small company CFOs: Strategic partners or scorekeepers? *Strategic Finance*, *95*(6), 35, 37–41. Retrieved from http://sfmagazine.com/

Enz, M. G., & Lambert, D. M. (2015). Measuring the financial benefits of cross-functional integration influences management’s behavior. *Journal of Business Logistics*, *36*(1), 25–48. https://dx.doi.org/10.1111/jbl.12068

Evans, D. K., & Popova, A. (2016). Cost-effectiveness analysis in development: Accounting for local costs and noisy impacts. *World Development*, *77*, 262–276. https://dx.doi.org/10.1016/j.worlddev.2015.08.020

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–60. https://dx.doi.org/10.3758/brm.41.4.1149

Financial Accounting Standards Board. (1997). *Earnings per share (FAS 128)*. Retrieved from http://www.fasb.org

Fraser, K. (2014). Position paper: Defeating the "paradigm wars" in accounting: A mixed-methods approach is needed in the education of PhD scholars. *International Journal of Multiple Research Approaches*, *8*, 49–62. https://dx.doi.org/10.5172/mra.2014.8.1.49

Frazer, L. (2015). Failure to launch. *CPA Journal*, *85*(5), 34–36. Retrieved from http://www.cpajournal.com/

Fuller, L. R., & Hargadon, J. M. (2008). MBA, CMA, and CPA: Natural partners in the 150-hour requirement. *Management Accounting Quarterly*, *9*(2), 39–49. Retrieved from http://www.imanet.org/insights-and-trends /management-accounting-quarterly

Gambardella, A., Panico, C., & Valentini, G. (2015). Strategic incentives to human capital. *Strategic Management Journal*, *36*(1), 37–52. https://dx.doi.org/10.1002 /smj.2200

Gao, X., Ritter, J. R., & Zhu, Z. (2013). Where have all the IPOs gone? *Journal of Financial & Quantitative Analysis*, *48*, 1663–1692. https://dx.doi.org/10.1017 /S0022109014000015

García, C. b., García, J., López Martín, M. m., & Salmerón, R. (2015). Collinearity: Revisiting the variance inflation factor in ridge regression. *Journal of Applied Statistics*, *42*, 648–661. https://dx.doi.org/10.1080/02664763.2014.980789

Gerschewski, S., & Xiao, S. S. (2015). Beyond financial indicators: An assessment of the measurement of performance for international new ventures. *International Business Review*, *24*, 615–629. https://dx.doi.org/10.1016/j.ibusrev.2014.11.003

Gilstrap, D. L. (2013). Quantitative research methods in chaos and complexity: From probability to post hoc regression analyses. *Complicity*, *10*(1/2), 57–70. Retrieved from http://ejournals.library.ualberta.ca/index.php/complicity

Goretzki, L., Strauss, E., & Weber, J. (2013). An institutional perspective on the changes in management accountants' professional role. *Management Accounting Research*, *24*(1), 41–63. https://dx.doi.org/10.1016/j.mar.2012.11.002

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, *17*, 109–122. https://dx.doi.org/10.1002/smj.4250171110

Green, S. B., & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed). Boston, MA: Pearson.

Guerrero, J., Madrigal, D. S., & Minkler, M. (2014). What is . . . ? A research ethics Jeopardy(TM) game to help community partners understand human subjects protections and their importance. *Progress in Community Health Partnerships*, *8*, 405–411. https://dx.doi.org/10.1353/cpr.2014.0042

Haen, J., Spielbauer-Vandenberg, A., Bloniarz, A., & Diestler, A. (2014). The relationship between 150-credit hours, accounting credit hours and CPA pass rates. *Journal of Finance and Accountancy*, *16*, 1–12. Retrieved from http://www.aabri.com/jfa.html

Hagel, J. (2014). Expanded role requires expanded skills. *Journal of Accountancy*, *218*(4), 20–21. Retrieved from http://www.journalofaccountancy.com/

Haltiwanger, J., Jarmin, R. S., & Miranda, J. (2013). Who creates jobs? Small versus large versus young. *Review of Economics & Statistics*, *95*, 347–361. https://dx.doi.org/10.1162/REST_a_00288

Han, J., Zhang, J., & Han, J. (2015). CFO as a strategic partner of the CEO: Relational demography and firm financial performance. *Journal of Business and Management*, *21*(1), 59–76. Retrieved from https://www.chapman.edu/business/faculty-research/journals-and-essays/jbm-online.aspx

Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, *36*, 831–850. https://dx.doi.org/10.1002/smj.2247

Helms, M. M., & Whitesell, M. (2013). Transitioning to the embedded librarian model and improving the senior capstone business strategy course. *The Journal of Academic Librarianship*, *39*, 401–413. https://dx.doi.org/10.1016/j.acalib.2013.03.015

Hiebl, M. R. W. (2013). Bean counter or strategist? Differences in the role of the CFO in family and non-family businesses. *Journal of Family Business Strategy*, *4*, 147–161. https://dx.doi.org/10.1016/j.jfbs.2013.02.003

Hiller, K., Mahlendorf, M. D., & Weber, J. (2014). Management accountants' occupational prestige within the company: A social identity theory perspective. *European Accounting Review*, *23*, 671–691. https://dx.doi.org/10.1080/09638180.2013.849204

Hoitash, R., Hoitash, U., & Kurt, A. C. (2016). Do accountants make better chief financial officers? *Journal of Accounting and Economics*, *61*, 414–432. https://dx.doi.org/10.1016/j.jacceco.2016.03.002

Hosseini, M. R., Zuo, J., Chileshe, N., & Baroudi, B. (2015). Evaluating virtuality in teams: A conceptual model. *Technology Analysis & Strategic Management*, *27*, 385–404. https://dx.doi.org/10.1080/09537325.2014.1003206

Hsu, P.-F. (2013). Commodity or competitive advantage? Analysis of the ERP value paradox. *Electronic Commerce Research and Applications*, *12*, 412–424. https://dx.doi.org/10.1016/j.elerap.2013.06.004

Imai, K., Tingley, D., & Yamamoto, T. (2013). Experimental designs for identifying causal mechanisms. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, *176*(1), 5–51. https://dx.doi.org/10.1111/j.1467-985X.2012.01032.x

Jafari, M., & Rezaee, F. (2014). The effect of resource based view on sustainable capability advantage. *Management Science Letters*, *4*, 2537–2554. https://dx.doi.org/10.5267/j.msl.2014.11.002

Jindrichovska, I. (2013). Financial management in SMEs. *European Research Studies*, *16*(4), 79–95. Retrieved from http://www.ersj.eu/

Johnson, B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational Researcher*, *30*(2), 3–13. https://dx.doi.org/10.3102/0013189X030002003

Johnston, M. P. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, *3*, 619–626. Retrieved from http://www.qqml.net/

Jordan, C. E., & Clark, S. J. (2014). Reporting preferences under the comprehensive income standard. *CPA Journal*, *84*(5), 34–39. Retrieved from http://www.cpajournal.com/

Jordan, C. E., McNeely, K. K., & Clark, S. J. (2002). FAS 128: Did It make a difference in reporting EPS? *Journal of Corporate Accounting & Finance*, *13*, 65–72. https://dx.doi.org/10.1002/jcaf.1225

Jorgensen, B. N., Lee, Y. G., & Rock, S. (2014). The shapes of scaled earnings histograms are not due to scaling and sample selection: Evidence from distributions of reported earnings per share. *Contemporary Accounting Research*, *31*, 498–521. https://dx.doi.org/10.1111/1911-3846.12020

Kamau, P., Inanga, E., & Rwegasira, K. (2014). Size and currency derivatives usage by multilateral banks. *Journal of Advances in Management Research*, *11*, 272–257. https://dx.doi.org/10.1108/jamr-10-2013-0061

Katchova, A. L., & Enlow, S. J. (2013). Financial performance of publicly-traded agribusinesses. *Agricultural Finance Review*, *73*(1), 58–73. https://dx.doi.org /10.1108/00021461311321311

Khan, N., Burton, B., & Power, D. (2013). The signalling effect of dividends in Pakistan: Executive and analyst perspectives. *Journal of Accounting in Emerging Economies*, *3*, 47–64. https://dx.doi.org/10.1108/20440831311287691

Kim, Y. H., & Henderson, D. (2015). Financial benefits and risks of dependency in triadic supply chain relationships. *Journal of Operations Management*, *36*, 115–129. https://dx.doi.org/10.1016/j.jom.2015.04.001

Knese, W. F. (2013). Management accounting is important. *Strategic Finance*, *95*(1), 6, 61. Retrieved from http://sfmagazine.com/

Kramer, S., & Hartmann, F. (2014). How top-down and bottom-up budgeting affect budget slack and performance through social and economic exchange. *Abacus*, *50*, 314–340. https://dx.doi.org/10.1111/abac.12032

Kumar, P., & Zattoni, A. (2013). Corporate governance, board of directors, and firm performance. *Corporate Governance: An International Review*, *21*, 311–313. https://dx.doi.org/10.1111/corg.12032

Lerro, A., Linzalone, R., & Schiuma, G. (2014). Managing intellectual capital dimensions for organizational value creation. *Journal of Intellectual Capital*, *15*, 350–361. https://dx.doi.org/10.1108/JIC-05-2014-0063

Li, C., Tseng, Y., & Chen, T.-K. (2016). Top management team expertise and corporate real earnings management activities. *Advances in Accounting*, *34*, 117–132. https://dx.doi.org/10.1016/j.adiac.2016.07.007

Lin, Y., & Wu, L.-Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, *67*, 407–413. https://dx.doi.org/10.1016/j.jbusres.2012.12.019

Lindquist, T. M., & Rausch, A. (2015). So you want to be a CFO? *CPA Journal*, *85*, 38–45. Retrieved from http://www.cpajournal.com/

Lun, Y. H. V., Shang, K., Lai, K., & Cheng, T. C. E. (2016). Examining the influence of organizational capability in innovative business operations and the mediation of profitability on customer satisfaction: An application in intermodal transport operators in Taiwan. *International Journal of Production Economics*, *171*, 179–188. https://dx.doi.org/10.1016/j.ijpe.2015.02.019

Mahlendorf, M. D. (2014). The multiple roles of the finance organization: Determinants, effectiveness, and the moderating influence of information system integration. *Journal of Management Accounting Research*, *26*(2), 33–42. https://dx.doi.org /10.2308/jmar-10407

Martelo, S., Barroso, C., & Cepeda, G. (2013). The use of organizational capabilities to increase customer value. *Journal of Business Research*, *66*, 2042–2050. https://dx.doi.org/10.1016/j.jbusres.2013.02.030

Martin-Rios, C. (2014). Why do firms seek to share human resource management knowledge? The importance of inter-firm networks. *Journal of Business Research*, *67*, 190–199. https://dx.doi.org/10.1016/j.jbusres.2012.10.004

Mash, B., & Ogunbanjo, G. A. (2014). African primary care research: Quantitative analysis and presentation of results. *African Journal of Primary Health Care & Family Medicine*, *6*, 646–650. https://dx.doi.org/10.4102/phcfm.v6i1.646

Massey, D., Aitken, L. M., & Chaboyer, W. (2015). The impact of a nurse led rapid response system on adverse, major adverse events and activation of the medical emergency team. *Intensive and Critical Care Nursing*, *31*(2), 83–90. https://dx.doi.org/10.1016/j.iccn.2014.11.005

Mastracchio Jr., N. J., & Lively, H. (2015). How to provide terrific practice development, receive CPE credit, and save money. *CPA Journal*, *85*(8), 26–27. Retrieved from http://www.cpajournal.com/

Mazzarol, T. (2014). Research review: A review of the latest research in the field of small business and entrepreneurship: Financial management in SMEs. *Small Enterprise Research*, *21*(1), 2–13. https://dx.doi.org/10.5172/ser.2014.21.1.2

Mendes-Da-Silva, W., & Saito, R. (2014). Stock exchange listing induces sophistication of capital budgeting. *Revista de Administração de Empresas*, *54*, 560–574. https://dx.doi.org/10.1590/S0034-759020140509

Moeyaert, M., Ugille, M., Ferron, J. M., Beretvas, S. N., & Noortgate, W. V. den. (2014). The influence of the design matrix on treatment effect estimates in the quantitative analyses of single-subject experimental design research. *Behavior Modification*, *38*, 665–704. https://dx.doi.org/10.1177/0145445514535243

Monterio, B. J. (2016). Improving data quality: People, process, and technology. *Strategic Finance*, *97*(10), 62–63. Retrieved from http://sfmagazine.com/

Muheki, M. K., Lueg, K., Lueg, R., & Schmaltz, C. (2015). How business reporting changed during the financial crisis: A comparative case study of two large US banks. *Problems and Perspectives in Management*, *12*, 191–208. Retrieved from https://businessperspectives.org/component/option,com_journals/task,journal/id,3/Itemid,74/

Murayama, K., Pekrun, R., & Fiedler, K. (2014). Research practices that can prevent an inflation of false-positive rates. *Personality and Social Psychology Review*, *18*(2), 107–118. https://dx.doi.org/10.1177/1088868313496330

Nelson, I. A., London, R. A., & Strobel, K. R. (2015). Reinventing the role of the university researcher. *Educational Researcher*, *44*(1), 17–26. https://dx.doi.org /10.3102/0013189X15570387

Ng, F., Harrison, J. A., & Akroyd, C. (2013). A revenue management perspective of management accounting practice in small businesses. *Meditari Accountancy Research*, *21*(2), 92–116. https://dx.doi.org/10.1108/medar-07-2012-0023

Nimon, K. F., & Oswald, F. L. (2013). Understanding the results of multiple linear regression beyond standardized regression coefficients. *Organizational Research Methods*, *16*, 650–674. https://dx.doi.org/10.1177/1094428113493929

Nishiyama, Y., Camillo, A. A., & Jinkens, R. C. (2014). Gender and motives for accountancy. *Journal of Applied Accounting Research*, *15*, 175–196. https://dx.doi.org/10.1108/jaar-02-2013-0013

Obeid, J. S., McGraw, C. A., Minor, B. L., Conde, J. G., Pawluk, R., Lin, M., … Harris, P. A. (2013). Procurement of shared data instruments for research electronic data capture (REDCap). *Journal of Biomedical Informatics*, *46*, 259–265. https://dx.doi.org/10.1016/j.jbi.2012.10.006

Parris, D., & Peachey, J. (2013). A systematic literature review of servant leadership theory in organizational contexts. *Journal of Business Ethics*, *113*, 377–393. https://dx.doi.org/10.1007/s10551-012-1322-6

Parry, S. N. (2015). The influence of neoliberal economics on small business accounting research: A critical evaluation of agendas and methodologies. *International Small Business Journal*, 1–22. https://dx.doi.org/10.1177/0266242615600508

Penrose, E. (1959). *The theory of the growth of the firm*. Oxford, UK: Basil Blackwell.

Power, M. K., & Gendron, Y. (2015). Qualitative research in auditing: A methodological roadmap. *Auditing: A Journal of Practice & Theory*, *34*, 147–165. https://dx.doi.org/10.2308/ajpt-10423

Proctor, B. (2014). The changing role of the CFO: New demands require new fundamentals. *Financial Executive*, *30*(2), 18–19. Retrieved from http://www.financialexecutivemag.com/

Rashty, J., & O'Shaughnessy, J. (2014). Reporting and disclosures using Non-GAAP financial measures. *CPA Journal*, *84*(3), 36–39. Retrieved from http://www.cpajournal.com/

Reale, E. (2014). Challenges in higher education research: The use of quantitative tools in comparative analyses. *Higher Education*, *67*, 409–422. https://dx.doi.org/10.1007/s10734-013-9680-2

Reddy, K. S., Agrawal, R., & Nangia, V. K. (2013). Reengineering, crafting and comparing business valuation models - The advisory exemplar. *International Journal of Commerce & Management*, *23*, 216–241. https://dx.doi.org/10.1108/ijcoma-07-2011-0018

Reio, T. G. (2016). Nonexperimental research: Strengths, weaknesses and issues of precision. *European Journal of Training and Development*, *40*, 676–690. https://dx.doi.org/10.1108/EJTD-07-2015-0058

Rockers, P. C., Røttingen, J.-A., Shemilt, I., Tugwell, P., & Bärnighausen, T. (2015). Inclusion of quasi-experimental studies in systematic reviews of health systems research. *Health Policy*, *119*, 511–521. https://dx.doi.org/10.1016 /j.healthpol.2014.10.006

Rodriguez, J. (2015). Are micro-cap mutual funds indeed riskier? *Review of Accounting and Finance*, *14*, 352–362. https://dx.doi.org/10.1108/RAF-03-2015-0045

Roth, H. P. (2014). Is integrated reporting in the future? *CPA Journal*, *84*(3), 62–67. Retrieved from http://www.cpajournal.com/

Rubin, R. B., Rubin, A. M., Piele, L. J., & Haridakis, P. M. (2010). *Communication research: Strategies and sources* (7th ed). Belmont, CA: Wadsworth Cengage Learning.

Sandalgaard, N., & Bukh, P. N. (2014). Beyond budgeting and change: A case study. *Journal of Accounting & Organizational Change*, *10*, 409–423. https://dx.doi.org /10.1108/JAOC-05-2012-0032

Sarapaivanich, N., & Patterson, P. G. (2014). The role of interpersonal communication in developing small-medium size enterprise (SME) client loyalty toward an audit firm. *International Small Business Journal*, *33*, 882–900. https://dx.doi.org /10.1177/0266242614524259

Saviotti, P. P., & Pyka, A. (2013). The co-evolution of innovation, demand and growth. *Economics of Innovation and New Technology*, *22*, 461–482. https://dx.doi.org/10.1080/10438599.2013.768492

Schilke, O. (2014). On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, *35*, 179–203. https://dx.doi.org/10.1002/smj.2099

Schlomer, B. J., & Copp, H. L. (2014). Secondary data analysis of large data sets in urology: Successes and errors to avoid. *The Journal of Urology*, *191*, 587–596. https://dx.doi.org/10.1016/j.juro.2013.09.091

Singer, R. A., & Wiesner, T. (2013). The future of undergraduate accounting programs and curricula. *Management Accounting Quarterly*, *14*(4), 22–31. Retrieved from http://www.imanet.org/insights-and-trends/management-accounting-quarterly

Smith, S. S. (2014). The expanding role of CPAs in a changing business environment. *CPA Journal*, *84*(6), 13–14. Retrieved from http://www.cpajournal.com/

Smith, S. S. (2015). Accounting, integrated financial reporting, and the future of finance. *Journal of Accounting and Finance*, *15*(2), 11–15. Retrieved from http://www.na-businesspress.com/jafopen.html

Solomon, G. T., Bryant, A., May, K., & Perry, V. (2013). Survival of the fittest: Technical assistance, survival and growth of small businesses and implications for public policy. *Technovation*, *33*, 292–301. https://dx.doi.org/10.1016/j.technovation.2013.06.002

Spencer, A. W., Usrey, S. C., & Webb, T. Z. (2015). The disclosure of CPA disciplinary action. *CPA Journal*, *85*(3), 60–63. Retrieved from http://www.cpajournal.com/

Sun, L., Johnson, G., & Rahman, F. (2015). CFO financial expertise and corporate governance concerns: Evidence from S&P SmallCap 600 index. *International Journal of Law and Management*, *57*, 573–581. https://dx.doi.org/10.1108/IJLMA-08-2014-0048

Sun, L., & Rakhman, F. (2013). CFO financial expertise and corporate social responsibility. *International Journal of Law and Management*, *55*, 161–172. https://dx.doi.org/10.1108/17542431311327619

Sydler, R., Haefliger, S., & Pruksa, R. (2014). Measuring intellectual capital with financial figures: Can we predict firm profitability? *European Management Journal*, *32*, 244–259. https://dx.doi.org/10.1016/j.emj.2013.01.008

Tarasovich, B., & Lyons, B. (2015). What's in your leadership toolbox? *Strategic Finance*, *96*(9), 40–47. Retrieved from http://sfmagazine.com/

Taylor, R. N. (1975). Age and experience as determinants of managerial information processing and decision making performance. *Academy of Management Journal*, *18*, 74–81. https://dx.doi.org/10.2307/255626

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*, 509–533. https://dx.doi.org/10.1002/(sici)1097-0266(199708)18:7<509::aid-smj882>3.0.co;2-z

Titera, W. R. (2013). Updating audit standard--Enabling audit data analysis. *Journal of Information Systems*, *27*, 325–331. https://dx.doi.org/10.2308/isys-50427

Tolleson, T. D., & Guess, A. K. (2013). Perceptions of mandatory continuing professional education: Some evidence from Florida and Texas CPAs. *Journal of Accounting and Finance*, *13*(1), 11–21. Retrieved from http://www.na-businesspress.com/jafopen.html

Trappl, S., Pichler, R., & Zehetner, K. (2013). The impact of financial leadership on the succes of SMEs in the management of crisis. *International Journal of Arts & Sciences*, *6*, 293–304. Retrieved from https://www.internationaljournal.org/

Turner, T. L., Balmer, D. F., & Coverdale, J. H. (2013). Methodologies and study designs relevant to medical education research. *International Review of Psychiatry*, *25*, 301–310. https://dx.doi.org/10.3109/09540261.2013.790310

Uprichard, E. (2013). Sampling: Bridging probability and non-probability designs. *International Journal of Social Research Methodology*, *16*(1), 1–11. https://dx.doi.org/10.1080/13645579.2011.633391

U.S. Small Business Administration, Office of Advocacy. (2016). *Frequently asked questions about small business*. Washington, DC. Retrieved from https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf

Vahter, P., Love, J. H., & Roper, S. (2014). Openness and innovation performance: Are small firms different? *Industry and Innovation*, *21*, 553–573. https://dx.doi.org /10.1080/13662716.2015.1012825

Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly*, *37*, 21–54. Retrieved from http://www.misq.org/

Victoravich, L. M. (2011). Do management accountants perform decision analysis better than accounting students? *Management Accounting Quarterly*, *12*(3), 28–35. Retrieved from http://www.imanet.org/insights-and-trends/management-accounting-quarterly

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*, 171–180. https://dx.doi.org/10.1002/smj.4250050207

Wieland, A., & Wallenburg, C. M. (2013). The influence of relational competencies on supply chain resilience: A relational view. *International Journal of Physical Distribution & Logistics Management*, *43*, 300–320. https://dx.doi.org/10.1108/IJPDLM-08-2012-0243

Williams, M. N., Gómez Grajales, C. A., & Kurkiewicz, D. (2013). Assumptions of multiple regression: Correcting two misconceptions. *Practical Assessment, Research & Evaluation*, *18*(11), 1–14. Retrieved from http://www.pareonline.net/

Wu, I.-L., & Chen, J.-L. (2014). Knowledge management driven firm performance: The roles of business process capabilities and organizational learning. *Journal of Knowledge Management*, *18*, 1141–1164. https://dx.doi.org/10.1108/JKM-05-2014-0192

Yazdanfar, D. (2013). Profitability determinants among micro firms: Evidence from Swedish data. *International Journal of Managerial Finance*, *9*, 151–160. https://dx.doi.org/10.1108/17439131311307565

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, *48*, 311–325. https://dx.doi.org/10.1111/ejed.12014

Zachariadis, M., Scott, S., & Barrett, M. (2013). Methodological implications of critical realism for mixed-methods research. *MIS Quarterly*, *37*, 855–879. Retrieved from http://www.misq.org/

Zeller, T. L., & Metzger, L. M. (2013). Good bye traditional budgeting, hello rolling forecast: Has the time come? *American Journal of Business Education*, *6*, 299–310. https://dx.doi.org/10.19030/ajbe.v6i3.7810

Zoni, L., & Pippo, F. (2017). CFO and finance function: What matters in value creation. *Journal of Accounting & Organizational Change*, *13*(2), 1–26. https://dx.doi.org/10.1108/JAOC-12-2014-0059