

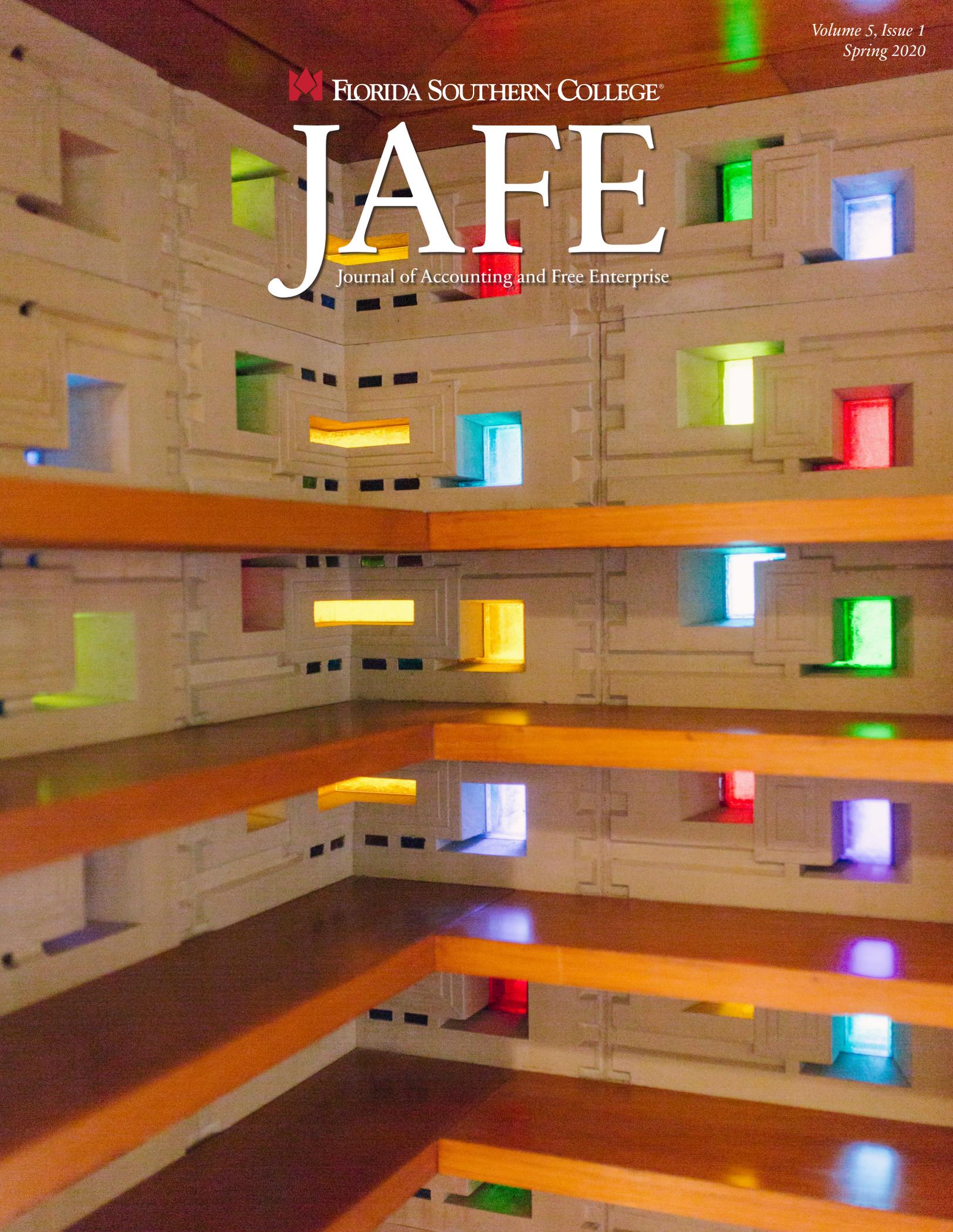
Volume 5, Issue 1
Spring 2020



FLORIDA SOUTHERN COLLEGE®

JAFE

Journal of Accounting and Free Enterprise



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The mission of the *Journal of Accounting and Free Enterprise (JAFE)* is to publish research articles that address important issues in accounting as they relate to free enterprise in the following areas: financial accounting, forensic accounting, income taxation, management accounting, accounting information systems, auditing, the public interest, and the development of accounting thought as to policies and institutions.

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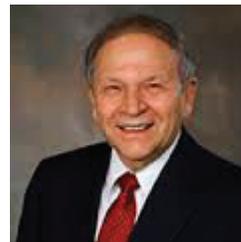
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Integrated Sustainability Reporting and External Assurance: Evidence from the Global Reporting Initiative

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ABSTRACT

This study examines data from the Global Reporting Initiative (GRI) Sustainability Disclosure Database and identifies variables of companies likely to provide an integrated sustainability report (SR), seek external assurance of the integrated SR, and select an accounting firm as the assurance provider. Companies listed on a stock exchange, operating in the financial sector, and located in Africa are more likely to produce integrated SRs. Private companies (non-government owned) are more likely to produce nonintegrated SRs. Larger companies, listed companies, and those in the financial sector are more likely to seek external assurance of integrated SRs, while private and African companies and most other regions are less likely than European companies to seek external assurance. European and listed companies, and those disclosing the International Standard on Assurance Engagements (ISAE) 3000 standard are more likely to choose an accounting firm as the assurance provider. These results have important implications concerning the future development of both integrated SR and the assurance market by identifying the pioneers of integrated SR reporting who are likely to set benchmarks for the assurance of integrated SRs in the future. In a world where free enterprise rewards profit, it is important to consider how SRs create value and reward beyond the standard financial report. The findings of this study may benefit corporations considering the integration and assurance of SRs as well as assurance providers entering this market. This multi-year international study of companies preparing and submitting integrated SRs to the GRI is one of the first studies to focus specifically on integrated SRs and assurance. The inclusivity of this study allows companies of all types and sizes, from all sectors, and all regions to be included in the analysis. Given the consensus that integrated SRs should be externally assured to be credible and the debate on who can best provide that assurance, it is important to explore the characteristics of these pioneer companies.

Keywords: Sustainability Report, Integrated, Assurance

Introduction

Companies have been concerned with social responsibility for many years. In the early 1900s, discussions focused on the wellbeing of employees, social audits, intellectual capital, and environmental issues (Owen 2008; Simnett et al. 2009; Morf et al. 2013) followed by a shift in the mid-1990s toward “sustainability” and the “triple bottom line” incorporating the three Ps—people, profit, and planet (Elkington 2006). Sustainability reporting (SR) has been referred to as the “non-financial equivalent to general-purpose financial reports” (Simnett et al. 2009), and studies have identified requests for SRs to be integrated with annual financial reports (KPMG and Sustainability 2008). Studies also indicate that social and environmental reporting provides links to the early development of integrated reporting (de Villiers et al. 2014). Although the field of SR is in its infancy when

compared to financial reporting, significant growth in the number of companies publishing SRs and seeking external assurance has occurred (Birkey et al. 2016). de Villiers et al. (2014) note that evidence on integrated reporting is not yet widely available, and the purpose of this study is to identify descriptive characteristics of companies that have pioneered integrated SRs.

In addition, it has become much more common for integrated SRs to have external assurance. In recent years, certain countries and/or stock exchanges began requiring SRs, and some require the reports to be integrated as well as have external assurance. A growing number of organizations also voluntarily seek external third-party assurance of their integrated SRs, although that number remains small when compared with the number of integrated SRs issued. Although South Africa generates the majority of integrated SRs, assurance of these reports is limited (Cheng et al. 2014).

Assurance of integrated SRs introduces liability concerns to accounting firms (Eccles et al. 2012), and debates surround the concern for a framework appropriate for the assurance of these reports (Cheng et al. 2014). Cheng et al. (2014) identify other challenges to the assurance of integrated SRs and anticipate that assurance will trail the actual reporting practice by several reporting cycles.

Prior research attempts to answer questions concerning SRs such as why organizations voluntarily seek external assurance of their SRs, whether the assurance provides a return to the organization, who is the most capable of providing the assurance, whether stakeholders perceive external assurance from certain professions as being more credible, which standards should be followed in providing assurance, whether to issue an integrated SR, and how integration and assurance of the report intersect (Wallage 2000; Lambertson 2005; O'Dwyer and Owen 2005; Park and Brorson 2005; Ballou et al. 2006; Mock et al. 2007; Simnett et al. 2009; Jones and Solomon 2010; Borkowski et al. 2011; Huggins et al. 2011; Pflugrath et al. 2011; Mock et al. 2013; Cho et al. 2014; Darus et al. 2014; Mori et al. 2014; Wong and Millington 2014; Casey and Grenier 2015; Cohen and Simnett 2015; Kend 2015; Peters and Romi 2015; Simnett and Huggins 2015; Birkey et al. 2016; Rezaee 2016; Zhou et al. 2016). Prior integrated reporting research recommends addressing whether companies choose assurance, the role for assurers, and the drivers for assurance (Cheng et al. 2014). This study addresses some of these issues in an exploratory study identifying characteristics of companies that prepare an integrated SR, seek assurance of the integrated SR, and select an accounting firm as the assurance provider. This results in three important contributions to the literature.

First, this is a multi-year international study of companies preparing and submitting an integrated SR to the GRI. A key contribution of this study is that all companies in the GRI database have the potential to be included, thus allowing an analysis of companies of all sizes, types, and reporting techniques, various industries, and multiple countries. Given the almost unanimous voice of major worldwide bodies such as the International Integrated Reporting Council (IIRC), among others, of the importance of following GRI standards (Simnett et al. 2009; Dilling 2010; Gomes et al. 2015; and Kend 2015), this database provides a wealth of information about companies' SR techniques. This study specifically examines characteristics of companies submitting integrated SRs to the GRI and seeking external assurance of these reports by an accounting firm. Several studies identify the largest companies or companies receiving awards for excellence in SR as the starting point for data collection (Houghton and Ikin 2001; Kolk 2010; Kolk and Perego 2010; Cho et al.

2014; Mori et al. 2014). Prior prominent SR studies examined specific industries expected to generate great social and environmental risks and the need for enhanced credibility of SRs (Casey and Grenier 2015 and Simnett et al. 2009). However, neither of these studies analyzed integrated SRs. Second, this is one of the first studies to focus specifically on integrated SRs and assurance of these reports. Current research addresses the legitimacy of integrated reports, but this study is one of the first to address the legitimacy and credibility of the assurance of integrated SR. Following the release of the IIRC Integrated Reporting (IR) Framework in 2013 and its subsequent endorsement by the International Corporate Governance Network (ICGN) and the Corporate Leadership Group on integrated reporting (CLGir), as well as the requirement by the Johannesburg Securities Exchange (JSE) that all companies listed on this exchange prepare an integrated report with assurance or explain why not, the focus on integrated SRs is timely and important (Institute of Directors in Southern Africa 2009; International Integrated Reporting Council 2013; International Corporate Governance Network 2014; Global Reporting Initiative 2016). Third, given the consensus that SRs should be externally assured to be credible and the debate on who can best provide that assurance, it is important to explore the characteristics of companies selecting an accounting firm as the provider of external assurance for their integrated SRs (Institute of Directors in Southern Africa 2009; American Institute of Certified Public Accountants 2013, 2014; International Integrated Reporting Council 2014, 2015; AICPA Assurance Services Executive Committee Sustainability Task Force 2015; International Auditing and Assurance Standards Board Integrated Reporting Working Group 2016).

The remainder of this study is organized as follows: The literature review includes the major developments in integrated reporting and SR. The theory and development section introduces the research questions. The methodology section presents the results. The conclusion includes a summary of the findings, limitations, and suggestions for future research.

Literature Review

Sustainability Reporting

The GRI defines an SR as “a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities,” which reveals the relationship between the company's values, strategy, and governance and “commitment to a sustainable global economy” (Global Reporting Initiative 2017). However, the SR origins can be traced back to social reporting and accountability in the early 1900s as documented in the 1913 annual report of

AT&T (Morf et al. 2013). References were minimal before the increased focus on “green” or “environmental” accounting in the 1970s (Parker 1971; American Accounting Association 1973; Bauer and Fenn 1973; Accounting Standards Steering Committee 1975; Epstein et al. 1976; Estes 1976; Medawar 1976; Ramanathan 1976; Ullmann 1976; American Institute of Certified Public Accountants 1977; Dierkes and Preston 1977; Lessem 1977; Brockoff 1979). While the 1980s saw a shift almost entirely to the environmental aspect of social accounting, the mid-1990s saw the focus shift toward “sustainability” and the “triple bottom line”. Companies create value with economic, social, and environmental performance; triple bottom line aims to reflect the value added by each of these activities. It involves the three Ps—people, profit, and planet (Elkington 2006). With additional emphasis on the bottom line and stock price value, new research began to indicate that SRs should be audited (Gray et al., 1986). While great strides have been made in SR over the past 30 years, the vast majority of reports remain unaudited, and a uniform set of auditing standards for SR does not exist.

The Global Reporting Initiative

Although not uniform in nature, various frameworks and standards for SR, and more recently for integrated SR, have developed. The initial GRI Sustainability Guidelines, which included social economic and governance issues, represented the first global framework for comprehensive SR and made real progress in addressing SR as it is known today (Albareda 2013; Global Reporting Initiative, GRI’s history 2016). The GRI launched a database in 2011, which now contains the largest repository of integrated SRs. The fourth generation of GRI Guidelines, G4, released in 2013, attempted to make SR more objective and comparable to financial reporting. The GRI Content Index Model in the G4 Guidelines has been recognized for improving the transparency, understandability, trust and credibility of the SR (Junior and Best, 2017). The GRI released the GRI Sustainability Reporting Standards in 2016, another important step toward positioning the GRI Standards on equal footing with the Financial Accounting Standards Codification. However, the SR framework is in its infancy when compared with the financial reporting frameworks (Global Reporting Initiative, GRI Standards 2016).

The GRI is firmly rooted as a world leader on SR, as evidenced by partnerships with several global organizations and numerous references in the academic literature to the GRI Guidelines (Fraser 2005; Park and Brorson 2005; Ballou et al. 2006; Deegan et al. 2006a, b; Moneva et al. 2006; Brown et al. 2009; Isaksson and Steimle 2009; Borglund et al. 2010; Roca and Searcy 2012; Albareda 2013; Daizy and Das 2013; Darus et al. 2014; KPMG 2015). A coalition of investment firms

recommend that companies follow the GRI Guidelines when reporting on social responsibility, and the JSE in South Africa requires all listed companies to follow these Guidelines (Baue 2004). Of the world’s largest 250 corporations, 92 percent report on their sustainability performance, and 74 percent of these use GRI Guidelines to do so (Global Reporting Initiative, GRI and Sustainability Reporting 2016). KPMG (2015) notes that sixty percent of companies including data in their annual report reference the GRI. In addition, many other companies follow GRI guidelines when issuing SRs but do not submit these reports to GRI. Because of its prominence and promising future, the GRI database was chosen as the source of archival data for this exploratory study.

Integrated Reporting

Over the past few decades, thinking has shifted to concerns that traditional financial statement reporting does not provide enough information to understand the total economic value of organizations or of their ability to create future value (Global Reporting Initiative 2016). In 2013, in response to this need, the IIRC released the IR Framework, which defines an integrated report as a “concise communication about how an organization’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term” (International Integrated Reporting Council 2013). The ICGN, an investor-led organization of governance professionals who support integrated reporting, describes an integrated report in a similar way to the IR Framework (International Corporate Governance Network 2014). Haller and van Staden (2014) note the “clutter” and “unconnected silos” presented when standalone reporting is used and deem it logical for companies to report in an integrated manner. Despite the fact that the IR Framework clearly states that integrated reporting is expected to become the “corporate reporting norm,” (International Integrated Reporting Council 2013), early critique of the IR Framework deems the “meaning and design” of integrated reporting as unstable (Brown and Dillard 2014) and documents a lack of appropriate reporting tools, instruments, and specific data to incorporate the central ideas of integrated reporting on a widespread basis (Haller and van Staden 2014).

Some sustainability managers of companies electing early adoption of integrated reporting expressed concern that the large GRI checklist of requirements will hinder the process of moving toward fully integrated reporting (Stubbs and Higgins 2014). The narrow focus of the standards issued by the Sustainability Accounting Standards Board (SASB) may assist in this process by alleviating the perceived need for companies to check every box of the GRI requirements. The

SASB, a U.S. based organization, issues unique industry-specific SR standards in line with the IR Guidelines, which address the reporting of a company's ability to generate sustainable value. Approximately 80 percent of the metrics addressed in the SASB standards are quantitative in nature, which may address the uncertainty of measurement suggested in the IR Framework (Herz 2016). While commonalities exist among industries, companies in different industries simply do not have the same environmental and social concerns.

Haller and van Staden (2014) propose that including a "value-added statement" (VAS), in addition to the traditional financial statements, would operationalize the principles-based integrated reporting guidance given in the IR Framework. The concept of "value-added" (VA) is understood internationally although current use is sparse. Presentation of a VAS would allow the focus of integrated reporting to broaden from investors as the primary audience (International Integrated Reporting Council 2013) to include all major stakeholders (stakeholder theory) and tie back to the GRI's use of the terms "direct economic value generated and distributed" as an economic indicator (Haller and van Staden 2014).

As companies adopt the practice of integrated reporting in an attempt to ensure credibility and legitimacy, the practice may become institutionalised. Higgins et al. (2014) denote the importance of examining this process of institutionalisation. Two main narratives emerge from in-depth interviews with sustainability managers or the equivalent in Australian companies that are early adopters of integrated reporting. The overwhelming narrative is that integrated reporting is about telling the story of the company with all the challenges of accomplishing this goal. However, meeting expectations that are not clearly defined currently is an important, concurrent, competing narrative that creates tension. Resolution of this tension will have implications for the future of integrated reporting. Managers favor either a "time will tell" resolution where companies wait to see how external expectations will change, a "responsible, sustainable strategy" approach where managers believe they are acting in a sustainable manner such that no tension exists between telling the company's story and meeting expectations, or a "let's just talk about it" approach that involves discussions between stakeholders and sustainability committees to reach a resolution. Stubbs and Higgins (2014) did not find evidence of "second-order change" affecting the DNA of companies who are early integrated reporting adopters but did find evidence of small steps indicating "first-order change." A key question is whether these managers have the ability to influence organizational change toward true "integrated thinking" as desired by the IIRC (Higgins et al. 2014). Another key question involves the resolution of the "multiplicity of views" on integrated

reporting and how to reconcile these rationales (social orders of worth) before integrated reporting can become a legitimate practice (van Bommel 2014).

Early adopter findings of first-order changes (Stubbs and Higgins 2014), symbolic management changes (Setia et al. 2015), and the tensions in the orders of worth (van Bommel 2014) may be indications of minimal change solely to meet reporting requirements for legitimacy. Perhaps additional time, reporting, and research will indicate whether integrated reporting generates significant discussions and implementation of true second-order changes in sustainable management and integrated thinking.

External Assurance of Integrated Sustainability Reporting

With the push for integrated reporting, the credibility of the integrated SR and whether the report has any form of assurance become important topics. Numerous studies have shown benefits either in the form of enhanced credibility or lower cost of equity capital to companies who seek external assurance of their SRs (Suchman 1995; Park and Brorson 2005; Hodge et al. 2009; Simnett et al. 2009; Jones and Solomon 2010; Kolk and Perego 2010; O'Dwyer et al. 2011; Pflugrath et al. 2011; Sierra et al. 2013; Casey and Grenier 2015; Michelon et al. 2015; Birkey et al. 2016). Although the primary focus of the IIRC is not the area of assurance, the primary audience for integrated reporting has been identified as investors, and the IIRC believes the integrated report should contain "investment grade" information or information that is credible and trusted to assist in investor decision making. The IIRC refers to the common definition of assurance but further simplifies assurance in terms of integrated reporting to be, "an independent conclusion on whether an organization's integrated report presents its strategy, governance, performance and prospects in accordance with the Framework" (International Integrated Reporting Council 2014). Consensus from an International Integrated Reporting Council (2014) discussion paper noted that priority should be placed on the development of the integrated reporting assurance field and that assurance on integrated reporting will need to evolve with the practice of integrated reporting itself. The IIRC recognized the International Auditing and Assurance Standards Board (IAASB) as being the key assurance leader (International Integrated Reporting Council, 2015). The ICGN also confirms that sustainability disclosures should be strengthened by assurance following established disclosure standards (International Corporate Governance Network 2014).

The IIRC discussion paper noted that existing assurance principles and methodologies should not be rejected and argued for

the use of current assurance standards and frameworks (International Integrated Reporting Council 2015). The ISAE3000 and AA1000 Assurance Standard (AA1000AS) are by far the most widely used. The IAASB International Framework for Assurance Engagements provides the International Federation of Accountants ISAE3000 Standard (Assurance Engagements Other than Audits or Reviews of Historical Financial Information). This assurance standard, while not written specifically for sustainability, is broad-based guidance to be used for all assurance engagements of nonfinancial information and has been widely used by the accounting profession for sustainability assurance engagements (International Auditing and Assurance Standards Board Integrated Reporting Working Group 2016). KPMG (2015) found that ISAE3000 or a national equivalent standard was used in almost all sustainability assurance engagements when the assurance provider was from the accounting profession. AccountAbility, a global consulting and standards firm that works with organizations in the area of sustainability, provides the AA1000 Series of Standards. The AA1000AS is used in sustainability-related assurance engagements to evaluate the reliability of an organization's sustainability processes, but it does not provide accreditation or a "pass mark." AA1000AS supports and integrates the GRI Standards and is used almost exclusively by non-accounting assurance providers, who often provide more detailed information about the organization's sustainability practices but do not utilize the rigorous risk-based audit/assurance process required of accounting professionals (AccountAbility). The GRI Database reports the use of ISAE 3000, AA1000AS, or "other" general or national standards, providing an opportunity to analyze the use of different standards associated with the audit of integrated SR.

The lack of a consistent assurance standard is one of the largest impediments to the advancement of external assurance for integrated SRs. Until a legitimate method of operationalizing integrated reporting, as envisioned by the IR Framework, is developed, legitimate and credible external assurance will be elusive. Early adopters, as analyzed in this exploratory study of the GRI database, provide insight into the types of companies pioneering the field of integrated SR, developing the future of integrated SR, electing to seek external assurance, and opting for an accounting firm as the provider of external assurance.

External Assurance Providers for Integrated Sustainability Reporting

The marketplace demands high-quality, decision making information, from the auditing profession, and Elliott (1997) supports the potential for the accounting profession to use its knowledge and expertise to deliver this assurance in new areas such as SR. Accountants can draw upon years of experience

in performing financial statement audits to provide independent, unbiased, substantiated assurance of integrated SRs while utilizing a healthy dose of professional skepticism. Accountants also know the process of providing assurance well and may be in the best position to provide high-quality SR assurance (Power 1997; Gray 2000; Wallage 2000; Knechel et al. 2006; Manetti and Becatti 2009; Jones and Solomon 2010; Huggins et al. 2011; O'Dwyer 2011; Pflugrath et al. 2011) through the methodical use and disclosure of auditing procedures (Mock, et al. 2013; Peters and Romi 2015). A criticism of non-accounting assurers is that their opinion may be considered unsubstantiated, based on subjective evaluation of information in the SR, and in consultation with the company's management but not on tests and verification of information (Ackers and Eccles 2015). Others criticize accountants and contend that they do not have the necessary subject-matter expertise and may lack independence because of the already established relationship with the accounting firm providing the financial statement audit (Owen and O'Dwyer 2004; O'Dwyer and Owen 2007; Ackers 2009; Simnett et al. 2009; O'Dwyer et al. 2011; Wong and Millington 2014).

These differences in opinion are evident in prior research that fails to show a preference for accounting firms as the provider of that assurance (Ball et al. 2000; Hasan et al. 2005; O'Dwyer and Owen 2005; Deegan et al. 2006a, 2006b; Simnett et al. 2009; O'Dwyer et al. 2011; Wong and Millington 2014; Cohen and Simnett 2015). However, studies focusing on the U.S. have shown a preference for accounting firms over non-accounting firms (Ackers 2009; Manetti and Becatti 2009; Marx and van Dyk 2011; Pflugrath et al. 2011; Perego and Kolk 2012). The 2015 "KPMG Survey of Corporate Responsibility Reporting" found that major accounting firms provide 70 percent of the assurance for G250 companies and 67 percent of the assurance for N100 companies, indicating that larger companies are selecting accounting firms as the providers of assurance (KPMG 2015). The GRI database identifies companies providing integrated SRs, their assurance providers, the scope and level of assurance, and the standards utilized, which allows for a detailed analysis of these variables by business type, sector, and region.

Theory and Development of Research Questions

Stakeholder theory has been applied to the unique nature of the sustainability literature because of its application of the stakeholder concept to "nontraditional stakeholder groups" with more emphasis on the public, the community or the employees rather than shareholders (Freeman 2010). Freeman, in his 1984 book, developed a Framework approach to Stakeholder Theory after realizing little fit with the organi-

zation theory literature, strategic planning literature, systems theory, and SR literature. Freeman's Stakeholder Theory is defined as "a view of capitalism that stresses the interconnected relationships between a business, its customers, suppliers, employees, investors, communities and others who have a stake in the organization" (Freeman 2010). Gray et al. (1996), Owen (2008), Isaksson and Steimle (2009), Kolk and Perego (2010), Srivastava et al. (2012), Wong and Millington (2014), and Kend (2015) employed Stakeholder Theory in their SR research, representing a shift, particularly in the last decade toward companies' obligations to all stakeholders, not just the shareholders of the company. The push toward international integrated reporting facilitates decision-making by different stakeholders (Garcia-Sanchez et al. 2013) and introduces different cultural conditions and value systems among stakeholders that impact accountability (Carroll 1979; Bustamante 2011). In contrast to traditional financial statements created principally for shareholders, the integrated report incorporates stakeholder theory by adding value for all participants (Garcia-Sanchez, et al. 2013), even though the IIRC has identified investors as the primary audience (International Integrated Reporting Council 2013).

Lindblom (1994) relied on the organizational legitimacy framework provided by Dowling and Pfeffer (1975) when suggesting that an implied "social contract" exists between organizations and society such that the value systems of the two are congruent. If incongruence of the value systems occurs, society will react and penalize organizations such that their long-term existence depends on achieving continued agreement with "society's value system" (Deegan 2002). Therefore, the behavior of an organization, with respect to SR as well as other types of reporting, will reflect its attempt to "enhance credibility" or maintain "organizational legitimacy" (Suchman 1995; O'Donovan 2002; Palazzo and Scherer 2006). In an analysis of companies listed on the JSE making the change between voluntary vs required integrated reporting, Setia et al. (2015) find that legitimacy theory was followed, and assurance of integrated SRs may provide a method of enhancing credibility and maintaining legitimacy. After excluding U.S. companies from the study, Simnett et al. (2009) found the real driver of the choice to seek assurance to be a need for enhanced credibility rather than Stakeholder Theory as originally believed. Birkey et al. (2016) note this finding is consistent with Park and Brorson (2005) and was later confirmed by Kolk and Perego (2010). Legitimacy Theory has been one of the most commonly cited theories (Morimoto et al. 2005; Bebbington et al. 2008; Hodge et al. 2009; Jones and Solomon 2010; Kolk 2010; Pflugrath et al. 2011; Ackers and Eccles 2015). However, other studies propose that Stakeholder Theory and Legitimacy Theory should be viewed as

complementary to each other within the assumptions of a political economy (Adams and Whelan 2009; Gray et al. 1995).

Casey and Grenier (2015) followed Simnett et al. (2009) in using a "meta-theoretical perspective" that encompassed "most theoretical perspectives on SR reporting decisions," specifically citing that "firms obtain SR assurance when they have a need to enhance the credibility of their SR with society in general (e.g., legitimacy theory), key stakeholder groups (e.g., stakeholder theory), or shareholders (e.g., economic perspective)." Other authors have likewise acknowledged the multiple motivations and theories driving SR and assurance (Deegan 2002; Ackers and Eccles 2015; Rezaee 2016). This study follows Casey and Grenier (2015) and Simnett et al. (2009) in using a "meta-theoretical perspective" specifically encompassing Stakeholder Theory, Legitimacy Theory, and Political Economy Theory. Interconnected relationships do exist between the users and consumers of SRs (stakeholder). The assurance of these reports can be supported by the enhanced credibility of such assurance (legitimacy). These reports should be analyzed within the framework in which they occur and within the relationships of those in that framework (political economy). Stakeholders may vary within each theoretical perspective and may impact assurance depending on the economic or political environment of the organization. As companies move toward truly integrated thinking and decision making, their motivations for doing business and reporting both financial and non-financial information will evolve and can be better explained with more than one theory.

Research Questions

The purpose of this exploratory research is to first identify characteristics that indicate a company's likelihood to publish an integrated SR, secondly the likelihood that the company will obtain external assurance on that report, and finally the likelihood that the assurance provider will be an accounting firm. Traditional financial reporting no longer conveys enough information to understand the total economic value of organizations or of their ability to create value over time (American Institute of Certified Public Accountants 2013). Following the meta-theoretical perspective, companies should adopt a "holistic approach to economic, social and environmental issues in their core business strategy" and integrate this information into the financial reporting to meet the information needs of investors and other stakeholders (International Integrated Reporting Council 2013). Integrated reporting should emphasize the "connectivity of information" on how value is created over time, which should lead to integrated thinking and integrated decision making (International Integrated Reporting Council 2013). Numerous global and local groups including the IIRC, GRI, ICGN, American In-

stitute of Certified Public Accountants (AICPA), Chartered Institute of Management Accountants, Integrated Reporting Working Group, and World Business Council for Sustainable Development have endorsed integrated reporting. The GRI database is voluntarily populated by companies who declare the completion of SRs, whether the SRs are integrated, and whether they follow the GRI standards. This study utilizes companies and variables from the GRI database to identify characteristics of companies most likely to file an integrated SR. This leads to the first research question.

RQ1: Are the size, organization type, listed company status, region, and sector variables in the GRI database significant indicators of companies that are more likely to provide integrated SRs?

With investors expected to be the primary audience for the integrated report, which is to concisely communicate how a company's strategy, governance, performance and prospects create value over time, it is important to consider how these users value the reliability and credibility of such information. The IIRC believes the integrated report should contain "investment grade" information if the goals of integrated reporting are to be met. The IAASB has also been involved in exploring the integrated reporting field and determining the issues with obtaining assurance with particular interest in whether the International Standards are adequate and how the IAASB can best respond with new standards or non-authoritative guidance. Responses to the IIRC discussion paper on integrated reporting indicate consensus that priority should be placed on the development of the integrated reporting assurance field (International Integrated Reporting Council 2015). In some regions, the government and/or stock exchanges have required external assurance of SRs, but many companies choose to voluntarily seek assurance. Legitimacy theory suggests that companies seek external assurance to lend credibility to the SR. Several studies have shown benefits either in the form of enhanced credibility or lower cost of equity capital to companies with external assurance of their SRs (Suchman 1995; Park and Brorson 2005; Hodge et al. 2009; Simnett et al. 2009; Jones and Solomon 2010; Kolk and Perego 2010; O'Dwyer et al. 2011; Pflugrath et al. 2011; Sierra et al. 2013; Casey and Grenier 2015; Michelon et al. 2015; Birkey et al. 2016). These benefits to companies seeking assurance on their SR highlight the importance of finding answers to the second research question.

RQ2: Are the size, organization type, listed company status, region, and sector variables in the GRI database significant indicators of companies that are more likely to seek external assurance of their integrated SRs?

Engineering firms and small consultancy firms, often with specific SR expertise, are the assurance providers for companies who do not engage accounting firms for this purpose. The reliability and credibility of SR assurance is of paramount importance, or such assurance could become nothing more than another management report similar to Management Discussion and Analysis (MD&A). The application of the meta-theoretical perspective impacts the decision of provider choice to enhance the credibility of the integrated SR among diverse users such as society, diverse stakeholders, and shareholders. Non-accounting assurers base their conclusion on the SR using evidence obtained from management or the assurer's observation and subject-matter expertise, whereas accounting professionals perform rigorous auditing procedures that involve substantive testing and utilize a defined framework and standards (Ackers and Eccles 2015). These authors note the work of non-accounting assurers could be regarded as unsubstantiated as a result of the subjective evaluation. Users of SR information should have confidence in the information and should be able to benchmark one company's report against another. It is crucial that accountants are engaged in the process of setting assurance standards for SR and in the emerging field of integrated reporting and that accountants market their SR assurance services well. This leads to the third research question.

RQ3: Are the size, organization type, listed company status, region, scope of assurance, level of assurance, and auditing standard variables in the GRI database significant indicators of companies that are more likely to select an accounting firm as the provider of external assurance for their integrated SRs?

Methodology

This study utilizes GRI data from the 2012 to 2015 reporting period and includes SR submissions through June 1, 2016. The research begins with 2012 as the first year of the study because this was the first year GRI reported whether a company obtained external assurance on SR. The GRI received 20,294 submissions during this four-year period from companies in six regions (105 countries) and across 12 industries as defined by the Global Industrial Classification System (GICS). Table One provides a summary of the number of companies by region reporting in the GRI database with Europe and Asia providing the largest number of SRs. Table Two provides a summary of the number of companies by sector reporting in the GRI database with the industrial, financial and materials sectors providing the largest number of SRs.

Table I
Number of Companies by Region Reporting in the GRI Database

Countries	2012	2013	2014	2015	Total
<i>Europe</i>	1,645	1,751	2,006	1,931	7,333
<i>Asia</i>	1,57	1,339	1,453	1,575	5,524
<i>Latin America & the Caribbean</i>	552	685	730	804	2,771
<i>North America</i>	589	640	679	693	2,601
<i>Africa</i>	340	343	342	297	1,322
<i>Oceania</i>	173	192	198	180	743
Grand Total	4,456	4,950	5,408	5,480	20,294

Table II
Number of Companies by Sector Reporting in the GRI Database

Sector by GIC Code	2012	2013	2014	2015	Total
<i>Industrials</i>	712	812	893	897	3,314
<i>Financials</i>	661	775	852	878	3,166
<i>Materials</i>	645	685	716	735	2,781
<i>Consumer Discretionary</i>	504	545	584	606	2,239
<i>Consumer Staples</i>	382	403	470	483	1,738
<i>Other</i>	377	395	424	445	1,641
<i>Energy</i>	283	332	349	369	1,333
<i>Utilities</i>	252	274	278	261	1,065
<i>Information Technology</i>	160	197	231	246	834
<i>Nonprofit and Public Agency</i>	186	200	231	201	818
<i>Health Care</i>	154	181	218	209	762
<i>Telecommunication Services</i>	140	151	162	150	603
Grand Total	4,456	4,950	5,408	5,480	20,294

This study incorporates a three-stage sequential logistic regression model due to the sequential notion of the decisions considered in the model. First, companies decide to produce an integrated SR. Second, companies producing an integrated SR must decide whether to obtain external assurance. And third, companies producing an integrated SR and obtaining external assurance must select an assurance provider. Simnett et al. (2009) also use a sequential model to analyze a sequence of independent models.

Companies may document their integrated SRs every year, which can generate sticky reporting or heterogeneity. To avoid repeated disclosure, this study analyzes each year separately. The segregated reporting does reduce the power of the model, but it improves the fit of the data, reduces potential heterogeneity, and identifies trends in data over the four-year period.

The Exp(B) Odds Ratio for the independent variables indicates the likelihood that a company with that characteristic will prepare an integrated SR, seek external assurance, or obtain assurance from an accounting firm. For ease of interpretation, the inversion of the odds ratio has been calculated for any odds ratios less than 1 in each model. The inversion of the odds ratio for the independent variables in each model

indicates the likelihood that a company with that particular characteristic will prepare an SR that is not integrated, will not seek external assurance, or will not receive assurance from an accounting firm.

Tables Three through Five provide descriptives of the companies integrating, obtaining assurance, and receiving assurance from accountants. The first sequence of this study identifies companies that self-declare the submission of an integrated SR, defined by GRI as an SR including both non-financial and financial disclosures, beyond basic economic information (Global Reporting Initiative, 2015). Of the potential 20,294 sample companies (Tables I and II), 18,371 companies indicated whether their SR was integrated (Table III) with 2,432 actually preparing an integrated SR. During the 2012-2015 reporting period, 2,426 of the 2,432 integrated filers indicated whether external assurance was obtained on their integrated SR (Table IV). More specifically, six companies (711-705) reporting in 2012 did not document external assurance. Of the potential 910 companies who obtained external assurance on their integrated SR, 908 companies identified the type of assurance provider (Table V).

Table III
Integrated SRs Identified in the GRI Database

Integrated	2012	2013	2014	2015	Total
No	3,331	4,059	4,380	4,169	15,939
Yes	711	599	506	616	2,432
Grand Total	4,042	4,658	4,886	4,785	18,371
% Integrated Reports	18%	13%	10%	13%	13%

Table IV
Integrated SRs with External Assurance in the GRI Database

External Assurance	2012	2013	2014	2015	Total
No	462	392	307	355	1,516
Yes	243	207	199	261	910
Grand Total	705	599	506	616	2,426
% External Assurance	34%	35%	39%	42%	38%

Table V
Assurance Provider for Integrated SRs in the GRI Database

Assurance Provider	2012	2013	2014	2015	Total
<i>Other</i>	73	58	46	59	236
<i>Accountant</i>	168	149	153	202	672
<i>Grand Total</i>	241	207	199	261	908
<i>% Accountants</i>	70%	72%	77%	77%	74%

The first sequence of this research examines the potential characteristics of companies that choose to prepare an integrated SR. After eliminating companies with missing data, the sample includes 18,140 companies in the GRI database who indicated whether their SR was integrated. The model

utilizes a binary dependent variable (INTEGRATED). Variables added to the model include size, organization type, listed vs. non-listed companies, regions, and sectors. Please see Table Six for a description of all variables.

Table VI
Variable Definitions

Variable	Definition
Integrated	A 1/0 indicator variable where 1 identifies the sample company's CSR report as integrated, which is defined by GRI as including both non-financial and financial disclosures, beyond basic economic information
ExtAssur	A 1/0 indicator variable where 1 identifies the sample company's CSR report as externally assured
TypeAssurProv	A 1/0 indicator variable where 1 identifies the sample company's CSR report as externally assured by an accounting firm
OrgType	A 1/0 indicator variable where 1 identifies the sample company as a private company (owned either by a non-governmental organization or by a number of stakeholders), a subsidiary, or a partnership
Listed	A 1/0 indicator variable where 1 identifies the sample company as listed on a stock exchange
*Europe	A 1/0 indicator variable where 1 identifies the sample company as located in the European region
*Africa	A 1/0 indicator variable where 1 identifies the sample company as located in the African region
*NorthernAmerica	A 1/0 indicator variable where 1 identifies the sample company as located in the North American region
*LatinAmericaCaribbean	A 1/0 indicator variable where 1 identifies the sample company as located in the Latin America/Caribbean region
*Asia	A 1/0 indicator variable where 1 identifies the sample company as located in the Asian region
*Oceania	A 1/0 indicator variable where 1 identifies the sample company as located in the Oceanic region
**Financial	A 1/0 indicator variable where 1 identifies the sample company as belonging to the financial sector
**Energy	A 1/0 indicator variable where 1 identifies the sample company as belonging to the energy sector
**Materials	A 1/0 indicator variable where 1 identifies the sample company as belonging to the materials sector
**Industrials	A 1/0 indicator variable where 1 identifies the sample company as belonging to the industrials sector
**ConsumerDiscretionary	A 1/0 indicator variable where 1 identifies the sample company as belonging to the consumer discretionary sector
**ConsumerStaples	A 1/0 indicator variable where 1 identifies the sample company as belonging to the consumer staples sector
**Healthcare	A 1/0 indicator variable where 1 identifies the sample company as belonging to the healthcare sector
**InformationTechnology	A 1/0 indicator variable where 1 identifies the sample company as belonging to the information technology sector
**Telecommunications	A 1/0 indicator variable where 1 identifies the sample company as belonging to the telecommunications services sector
**Utilities	A 1/0 indicator variable where 1 identifies the sample company as belonging to the utilities sector
**Nonprofit&PublicAgency	A 1/0 indicator variable where 1 identifies the sample company as belonging to the nonprofit and public agency sector
**Other	A 1/0 indicator variable where 1 identifies the sample company as not belonging to any of the other 11 sectors
AssurScope	A 1/0 indicator variable where 1 identifies the sample company as obtaining assurance on the entire sustainability report
LevelofAssur	A 1/0 indicator variable where 1 identifies the sample company as obtaining a reasonable/high level of assurance on its CSR report
AssurStdAA1000AS	A 1/0 indicator variable where 1 identifies the sample company as disclosing in its external assurance statement the application of the AccountAbility AA 1000 Assurance Standard (AA1000AS)
AssurStdISAE3000	A 1/0 indicator variable where 1 identifies the sample company as disclosing in its external assurance statement the application of the International Standard on Assurance Engagements (ISAE) 3000
AssurStdNtlGeneral	A 1/0 indicator variable where 1 identifies the sample company as disclosing in its external assurance statement the application of a general national assurance standard
AssurStdNtlSustain	A 1/0 indicator variable where 1 identifies the sample company as disclosing in its external assurance statement the application of a sustainability (non-financial) specific national assurance standard

Note: *Dummy coded variables were used representing the different regions. The European region was held out for comparison.

**Dummy coded variables were used representing the different sectors. The financial sector was held out for comparison. The 37 sectors reported by GRI were mapped into 10 Global Industrial Classification System sectors. In addition, the sectors Non-profit/services and public agency were combined into one sector Nonprofit&PublicAgency. The Other sector reported by GRI was also included in the model.

The model for the second sequence examines the potential characteristics of companies that choose to obtain external assurance of their integrated SR. After eliminating companies with missing data, the sample includes 2,399 companies in the GRI Database who indicated whether their integrated SR was externally assured. The model utilizes a binary dependent variable external assurance (EXTASSUR). Variables added to the model once again include size, organization type, listed vs. non-listed companies, regions, and sectors.

The model for the third sequence examines the potential characteristics of companies that choose an accounting firm as the provider of external assurance for their externally assured integrated SR. After eliminating companies, which are miss-

ing data for any of the variables in this model, along with the regions with insufficient data (North American and Oceania), the sample includes 691 companies in the GRI Database who indicated the type of external assurance provider for their integrated SR. The model utilizes a binary dependent variable type of assurance provider (TYPEASSURPROV). Variables added to the model include size, organization type, listed vs. non-listed companies, region, assurance scope, level of assurance, and assurance standard referenced in the external assurance report. Simnett et al. (2009) indicate that sectors did not have a significant impact on the choice of accounting provider. Therefore, sectors have been excluded from this model.

Table VII

Model 1 Binary Logistic Regression Results

Dependent Variable = INTEGRATED

Variable	2012		Inversion of Odds	2013	
	Exp (B)	Odds Ratio		Exp (B)	Odds Ratio
Constant	0.269	0.000	3.717	0.234	0.000
OrgType	0.780	0.073	1.282	0.557	0.000
Listed	1.334	0.008	n/a	1.704	0.000
Africa	11.303	0.000	n/a	17.546	0.000
NorthernAmerica	0.229	0.000	4.367	0.172	0.000
LatinAmericaCaribbean	0.447	0.000	2.237	0.621	0.003
Asia	0.440	0.000	2.273	0.234	0.000
Oceania	2.085	0.000	n/a	0.693	0.153
Energy	0.760	0.223	1.316	0.808	0.360
Materials	0.680	0.024	1.471	0.732	0.088
Industrials	1.043	0.796	n/a	0.754	0.113
Consumer Discretionary	0.612	0.010	1.634	0.573	0.007
Consumer Staples	0.686	0.069	1.458	0.527	0.007
Healthcare	0.936	0.817	1.068	1.004	0.990
InformationTechnology	0.508	0.041	1.969	0.418	0.022
Telecommunications	0.684	0.181	1.462	0.828	0.525
Utilities	1.284	0.225	n/a	1.097	0.687
Nonprofit&PublicAgency	1.279	0.323	n/a	1.070	0.811
Other	0.732	0.116	1.366	0.603	0.025

Results

The models meet the assumptions for binary logistic regression. All meaningful variables have been included, and the models have been tested for their goodness of fit using the chi-square statistic. No correlations exceed .5, no tolerance factors fall below .2, and no variance inflation factors are 2 or higher. Data is analyzed annually to ensure the independence of each observation. The likelihood estimates used in this study are less powerful than linear regression, but the analysis does involve large datasets for more efficient estimates.

First Sequence

The results of the binary logistic regression for the first sequence, which examines the potential characteristics of com-

panies that provide an SR that is integrated, are presented in Table VII. The INTEGRATED models for 2012-2015 exhibit overall explanatory power correctly predicting the dependent variable 85.6 – 91.9 percent of the time each year. Chi square is significant ($p < .000$), and the models return Nagelkerke R Squares ranging from .254 - .331. Each year the -2 log likelihood improved between 700 and 900 points from the value obtained when only using the constant. When the variables of interest are added, the -2 log likelihood results are large but decrease, and the improvement in correct percentage of predictions are small but significant each year.

2014				2015			
n = 4820				n = 4735			
-2ll = 2443.890				-2ll = 2889.020			
Nagelkerke R ² = 0.303				Nagelkerke R ² = 0.273			
Cases correctly predicted = 91.9%				Cases correctly predicted = 89.3%			
<i>Inversion of Odds</i>	<i>Exp (B)</i>	<i>Odds Ratio</i>	<i>Significance</i>	<i>Inversion of Odds</i>	<i>Exp (B)</i>	<i>Odds Ratio</i>	<i>Significance</i>
4.274	0.185		0.000	5.405	0.391		0.000
1.795	0.628		0.005	1.592	0.487		0.000
n/a	1.304		0.037	n/a	1.505		0.000
n/a	22.365		0.000	n/a	10.935		0.000
5.814	0.239		0.000	4.184	0.168		0.000
1.610	0.784		0.154	1.276	0.643		0.001
4.274	0.334		0.000	2.994	0.175		0.000
1.443	1.187		0.490	n/a	0.168		0.000
1.238	0.752		0.252	1.330	0.750		0.176
1.366	0.671		0.036	1.490	0.750		0.093
1.326	0.635		0.017	1.575	0.819		0.215
1.745	0.543		0.004	1.842	0.519		0.001
1.898	0.434		0.001	2.304	0.626		0.022
n/a	0.827		0.536	1.209	0.769		0.353
2.392	0.361		0.011	2.770	0.382		0.018
1.208	0.783		0.445	1.277	0.828		0.527
n/a	0.946		0.825	1.057	0.603		0.045
n/a	0.850		0.574	1.176	0.450		0.009
1.658	0.549		0.011	1.821	0.706		0.083

ORGTYPE is a significant predictor of how likely a company is to prepare an integrated SR at $p < .05$ each year except 2012. A company classified as a private company is defined as owned either by a non-governmental organization or by a number of stakeholders, a subsidiary controlled by another company through the ownership of 50% or more of the voting stock, or a partnership formed of businesses and/or individuals to advance their business interests. Over the four-year period, private companies are at least 1.6 (1.6-2.1) times more likely to prepare a non-integrated SR than non-private companies.

Of the 2,432 integrated reports, approximately 82 percent were submitted by private companies and 18 percent were submitted by non-private companies. However, despite the larger number of private companies in this sample, these companies are still less likely to prepare an integrated SR.

The LISTED variable is significant in all four years at $p < .05$. A company that is listed on a stock exchange for public trading is at least 1.3 (1.3-1.7) times more likely to prepare an integrated SR. Even though private companies are less likely to

prepare an integrated SR, those companies listed on a stock exchange are more likely to prepare this type of report. SIZE is not a significant variable in any year.

Dummy variables were coded for the REGION variables. The interpretation of this ratio should be interpreted as whether companies in a certain region are more likely or less likely than companies in the EUROPEAN region to prepare an integrated SR. The AFRICAN variable is significant in all four years at $p < .05$. AFRICAN companies are at least 11 (11-22) times more likely to prepare an integrated SR than EUROPEAN companies. The NORTHERNAMERICAN and ASIAN variables are also significant each year at $p < .05$, and the LATINAMERICANCARIBBEAN variable is significant each year except 2014 at $p < .05$. Companies in the NORTHERNAMERICAN, ASIAN, and LATINAMERICAN-CARIBBEAN regions are less likely than EUROPEAN companies to prepare an integrated SR. ASIAN companies are at least 2 (2-6) times, and NORTHERNAMERICAN companies are at least 4 (4-6) times more likely to prepare a nonintegrated SR than EUROPEAN companies. LATINAMERICANCARIB-

Table VIII

Model 2 Binary Logistic Regression Results

Dependent Variable = ExtAssur

Variable	2012			2013		
	Exp (B) Odds Ratio	Significance	Inversion of Odds	Exp (B) Odds Ratio	Significance	Inversion of Odds
Constant	1.186	0.576	n/a	1.922	0.041	n/a
OrgType	0.852	0.546	1.174	0.377	0.001	2.653
Listed	1.210	0.365	n/a	1.403	0.159	n/a
Africa	0.236	0.000	4.237	0.158	0.000	6.329
NorthernAmerica	0.330	0.020	3.030	0.265	0.031	3.774
LatinAmericaCaribbean	0.877	0.706	1.140	0.396	0.006	2.525
Asia	0.334	0.000	2.994	0.592	0.136	1.689
Oceania	0.755	0.390	1.325	1.573	0.400	n/a
Energy	1.283	0.543	n/a	1.372	0.471	n/a
Materials	0.970	0.917	1.031	1.644	0.118	n/a
Industrials	1.168	0.577	n/a	1.402	0.302	n/a
Consumer Discretionary	0.352	0.008	2.841	0.440	0.066	2.273
Consumer Staples	0.440	0.043	2.273	0.709	0.476	1.410
Healthcare	0.765	0.610	1.307	1.915	0.222	n/a
InformationTechnology	1.527	0.471	n/a	1.611	0.514	n/a
Telecommunications	1.162	0.761	n/a	1.715	0.275	n/a
Utilities	1.607	0.194	n/a	1.289	0.557	n/a
Nonprofit&PublicAgency	0.457	0.096	2.188	0.344	0.047	2.907
Other	0.348	0.007	2.874	1.132	0.766	n/a

BEAN companies are at least 1.6 (1.6-2.3) times more likely to prepare a nonintegrated SR in years other than 2014 when there is no significant difference.

Dummy variables were also used for the different sectors. The odds ratios should be interpreted as whether companies operating in a certain sector are more likely or less likely than companies operating in the financial sector to prepare an integrated SR. Six of the sector variables are significant predictors of integrated SR from 2012-2015. Two of the variables, CONSUMERDISCRETIONARY and INFORMATION-TECHNOLOGY, are significant at $p < .05$ all four years. These sectors are at least 1.6 times (1.6-2.8) more likely to prepare a non-integrated SR than the financial sector. The MATERIALS and CONSUMERSTAPLES variables are significant at $p < .05$ for two to three of the four years and marginally at $p < .10$ for the remaining years. These sectors are also more likely to prepare a non-integrated SR (1.3-2.3 times). The UTILITIES variable does become a significant predictor at $p < .05$ in 2015, and companies in this sector are 1.7 times more likely to prepare a non-integrated SR. The OTHER sectors

variable is a significant predictor in 2013-2014 at $p < .05$. It follows the pattern of the first five variables with companies in this sector being at least 1.6 times more likely to file a non-integrated SR.

Second Sequence

The results of the binary logistic regression for the second sequence, which examines the characteristics of companies that seek external assurance of their integrated SR, are presented in Table VIII. The EXTASSUR models for 2012-2015 exhibit overall explanatory power correctly predicting the dependent variable 69.0 – 73.8 percent of the time each year. Chi square is significant ($p < .000$), and the models return Nagelkerke R Squares ranging from .187 - .291. Each year the -2 log likelihood improved between 102 and 123 points from the value obtained when only using the constant. Once again, the increase in the correct percentage of predictions were small but significant.

2014			2015				
n = 500			n = 610				
-2ll = 551.043			-2ll = 730.206				
Nagelkerke R2 = 0.289			Nagelkerke R2 = 0.206				
Percentage of cases correctly predicted = 71.4			Percentage of cases correctly predicted = 67.4				
Exp (B)	Odds Ratio	Significance	Inversion of Odds	Exp (B)	Odds Ratio	Significance	Inversion of Odds
	2.297	0.022	n/a		0.939	0.827	1.065
	0.454	0.022	2.203		0.768	0.350	1.302
	1.974	0.010	n/a		2.418	0.000	n/a
	0.107	0.000	9.346		0.183	0.000	5.464
	0.175	0.005	5.714		0.177	0.003	5.650
	0.373	0.005	2.681		0.704	0.205	1.420
	0.442	0.030	2.262		0.673	0.224	1.486
	0.514	0.180	1.946		4.566	0.192	n/a
	2.138	0.136	n/a		1.273	0.544	n/a
	1.759	0.091	n/a		1.278	0.409	n/a
	1.249	0.529	n/a		0.999	0.996	1.001
	0.319	0.015	3.135		0.445	0.041	2.247
	0.693	0.478	1.443		0.631	0.226	1.585
	1.020	0.973	n/a		1.893	0.218	n/a
	1.002	0.999	n/a		1.207	0.813	n/a
	2.042	0.210	n/a		2.345	0.114	n/a
	0.868	0.771	1.152		1.262	0.629	n/a
	0.571	0.304	1.751		1.432	0.531	n/a
	0.710	0.445	1.408		0.534	0.090	1.873

SIZE is a significant predictor ($p < .05$) of whether a company will seek external assurance of its integrated SR in 2012 and 2015, along with ORGTYPE in 2013 and 2014 and LISTED in 2014 and 2015. Larger companies are 2.6 (2012) and 3.1 (2015) times more likely than smaller companies to seek external assurance. Private companies, which include a stakeholder, subsidiary, or partnership, are 2.7 (2013) and 2.2 (2014) times more likely than a non-private company not to seek external assurance on its integrated SR. Following the findings in the INTEGRATED model, private companies are more likely not to file an integrated SR, and those who do file integrated SRs are more likely not to seek external assurance. A company that is listed on a stock exchange for public trading is 1.9 (2014)

and 2.2 (2015) times more likely than a non-listed company to seek external assurance of its integrated SR.

Variables for region were dummy coded in the same manner as the first sequence. The AFRICAN and NORTHERN-AMERICAN variables are significant predictors at $p < .05$ for all years. African and North American companies are at least 4.3 (4.3-9.3) and 3.1 (3.1-5.8) times, respectively, more likely not to seek external assurance of their integrated SRs than European companies. The ASIAN (2012 and 2014) and LATINAMERICANCARIBBEAN (2013 and 2014) variables are also significant predictors ($p < .05$) for two of the four years. Asian companies are 3.1 (2012) and 2.3 (2014) times

Table IX

Model 3 Binary Logistic Regression Results
Dependent Variable = TypeAssurProv

Variable	2012			2013		
	Exp (B) Odds Ratio	Significance	Inversion of Odds	Exp (B) Odds Ratio	Significance	Inversion of Odds
Constant	10.050	0.002	n/a	3.117	0.085	n/a
OrgType	0.344	0.121	2.907	1.486	0.562	n/a
Listed	1.740	0.317	n/a	0.347	0.118	2.882
Africa	0.273	0.042	3.663	1.040	0.956	n/a
LatinAmericaCaribbean	0.295	0.153	3.390	0.893	0.909	1.120
Asia	0.366	0.217	2.732	0.145	0.039	6.897
AssurScope	0.913	0.873	1.095	0.802	0.700	1.247
LevelofAssur	0.261	0.038	3.831	0.495	0.269	2.020
AssurStdAA1000AS	0.128	0.000	7.813	0.197	0.004	5.076
AssurStdISAE3000	4.405	0.003	n/a	38.774	0.000	n/a
AssurStdNtlGeneral	2.581	0.198	n/a	1.155	0.879	n/a
AssurStdNtlSustain	1.441	0.640	n/a	3.482	0.126	n/a

and Latin American Caribbean companies are 2.6 (2013) and 2.7 (2014) times more likely not to seek external assurance.

Variables for sector were dummy coded in the same manner as for the first sequence. The CONSUMERDISCRETIONARY variable is significant at $p < .05$ for three years. Companies in this sector are at least 2.3 (2.3-3.1) times more likely not to seek external assurance of their integrated SR than companies in the financial sector. The CONSUMERSTAPLES, and OTHER variables are each significant at $p < .05$ in one of the four years. Companies in these sectors are also more likely not to seek external assurance. These findings follow the trends identified in the INTEGRATED model. The financial

sector leads the industry in seeking external assurance of their integrated SRs.

Third Sequence

The results of the binary logistic regression for the third sequence, which examines the potential characteristics of companies that choose an accounting firm as the provider of external assurance for their externally assured integrated SR, are presented in Table Nine. The TYPEASSURPROV models for 2012-2015 exhibit overall explanatory power correctly predicting the dependent variable 75.5 – 89.2 percent of the time each year. Chi square is significant ($p < .000$), and the models return Nagelkerke R Squares ranging from .292

- .601. Each year the -2 log likelihood improved between 43 and 89 points from the value obtained when only using the constant. The increases in the correct percentage of predictions are small but significant.

Neither SIZE nor ORGTYPE are significant predictors of whether a company will choose an accounting firm as the provider of external assurance. LISTED is significant only in 2015 ($p < .05$). LISTED companies are 2.8 times more likely to choose an accounting firm as the provider of external assurance on their integrated SRs. The LISTED variable proved to be a significant predictor in each model.

Variables for region were dummy coded in the same manner as for the first and second sequences. The NORTHAMERICAN and OCEANIA variables were removed from this model due to insufficient data. The ASIAN variable is significant ($p < .05$) in the most recent three years in predicting whether

companies will select an accounting firm as the provider of external assurance for their integrated SR. Asian companies are at least 5.7 (5.7-6.9) times more likely than European companies not to choose an accounting firm as the provider of external assurance for their integrated SRs. The LATIN AMERICANCARIBBEAN variable is significant ($p < .05$) in 2015 when Latin American Caribbean companies are 3.1 times more likely than European companies not to choose an accounting firm. The AFRICAN variable is significant ($p < .05$) in 2012. Companies in this region are 3.7 times more likely than European companies not to choose an accounting firm as the provider of external assurance.

Level of assurance (LEVELASSUR) is a significant predictor ($p < .05$) in 2012 when results show that companies obtaining a reasonable/high level of assurance are 3.8 times more likely not to choose an accounting firm as the provider of that assurance.

2014				2015			
n = 167				n = 207			
-2ll = 108.273				-2ll = 168.988			
Nagelkerke R ² = 0.478				Nagelkerke R ² = 0.290			
Percentage of cases correctly predicted = 87.4				Percentage of cases correctly predicted = 83.1			
Exp (B)	Odds Ratio	Significance	Inversion of Odds	Exp (B)	Odds Ratio	Significance	Inversion of Odds
	1.594	0.503	n/a		3.102	0.042	n/a
	4.003	0.067	n/a		0.549	0.284	1.821
	0.848	0.798	1.179		2.787	0.042	n/a
	0.422	0.230	2.370		0.544	0.362	1.838
	0.365	0.251	2.740		0.337	0.046	2.967
	0.156	0.027	6.410		0.185	0.005	5.405
	1.312	0.655	n/a		0.757	0.526	1.321
	0.928	0.915	1.078		0.858	0.770	1.166
	0.159	0.001	6.289		0.629	0.281	1.590
	6.979	0.001	n/a		5.333	0.000	n/a
	5.421	0.148	n/a		4.586	0.046	n/a
	3.688	0.132	n/a		0.617	0.474	1.621

The STDAA1000AS and STDISAE3000 variables are significant predictors ($p < .05$) of whether companies selected an accounting firm as the assurance provider for their integrated SR. The STDAA1000AS variable is significant in all years except 2015, and the STDISAE3000 variable is significant in all four years. Companies disclosing the application of the AA1000AS standard in their external assurance statement are at least 5.7 (5.7 – 7.9) times more likely not to choose an accounting firm as the provider of external assurance. Companies disclosing the application of the ISAE3000 standard in their external assurance statement are at least 4.3 (4.3 – 40.9) times more likely to choose an accounting firm as the provider of external

assurance. Firms disclosing the application of STDNATLGENERAL in 2015 are 4.6 times ($p < .05$) more likely to choose an accounting firm as the provider of external assurance. These findings support the KPMG (2015) study which found that ISAE3000 or a national equivalent standard was used in almost all sustainability assurance engagements when the assurance provider was from the accounting profession.

Conclusions and Areas for Future Research

Based on companies submitting SRs between 2012 and 2015 in the GRI database, non-private companies and companies from the African region were more likely to publish an integrated

SR. These results are not surprising and seem to indicate that companies are more likely to prepare an integrated SR when required or expected to do so. The non-private companies, which primarily consist of state/government owned, cooperatives, and non-profit organizations, may be more heavily regulated and required or expected to prepare an integrated SR. These findings confirm earlier studies of the legitimacy theory and contractual services agreements in Africa, where companies must comply with King III or explain why they did not comply, and this legislation requires an externally assured integrated SR. Additional research of the regulated companies and countries could provide insight to the potential value-added benefits of the integration of SRs in these fields.

Companies listed on the stock exchanges are more likely to prepare an integrated SR. Although SIZE was not significant in the first model, listed companies in the GRI database consist primarily of larger companies. Approximately 97 percent of listed companies in the GRI database are large or multi-national entities. While larger companies listed on the stock exchanges may perceive the need to satisfy stakeholders with integrated SRs and a benefit in doing so, other companies may be reluctant to incur such a large expense without a requirement from the government or the stock exchanges. Hence, the political economic theory of exchanging goods and services may not be sufficient unless more stakeholders value the integrated SR benefits demonstrating a need for the meta-theoretical perspective.

The financial sector, which is heavily regulated, was also more likely to prepare integrated SRs and to seek external assurance. The GRI released guidelines for the financial services sector as early as 2008, and these findings seem to confirm the leadership of this sector in integrated SR compared to other sectors. Additional research of the financial sector could help provide guidelines for industry specific standards for integrated reporting in additional sectors.

Private companies were less likely than non-private companies to both produce an integrated report and to seek external assurance of the integrated SR. Once again, the non-private companies may be more heavily regulated than the private companies and may be expected or required to seek external assurance by regulatory agencies and other stakeholders. Companies listed on the stock exchange were more likely than non-listed companies to seek external assurance of their integrated SRs in only the last two years of the study, which could indicate that the demand for external assurance is growing among larger, publicly traded companies. Since companies listed on the stock exchanges tend to be larger in size, this variable may be a proxy for size, in which case the results are consistent with Casey and Grenier (2015) and Simnett et

al. (2009), which found size to be a significant predictor of companies that seek external assurance of their SRs. SIZE is analyzed as a binary variable (large or small/medium) in this study, and a continuous variable is recommended for future studies and extensions of this work.

It is puzzling that African companies remained behind European companies in seeking external assurance despite the recent King III legislation. Interestingly, the African companies in this study seem to be following the mandate of the King III legislation requiring companies listed on the JSE to file integrated SRs, but they are not following the mandate of external assurance on those reports. The legitimacy of providing an integrated SR seems to take more precedence than seeking credibility through external assurance. A study of the top 25 companies listed on the JSE reveals that companies are adopting integrated SR for symbolic management and not necessarily to improve management processes (Setia et al. 2015). These companies believe following the country's regulations demonstrates legitimacy, but the cost benefit (economic theory) of the credibility from external assurance may not be sufficient to justify the expense of meeting the needs of the stakeholders (stakeholder theory). Steyn (2014) notes that African executives support the benefits of integrated reporting and believe the benefits exceed the costs. However, this support is not evident for the assurance of the integrated SR in this study. Future research could investigate why African companies have chosen to only partially follow the King III recommendations by preparing an integrated SR but not seeking assurance on the report.

On the other hand, with Europe being more likely than any other region to seek external assurance in this study, perhaps the European assurance professionals have simply been successful in attempts to train organizations of the potential benefits of the SR assurance process (Cho et al. 2014). Fazzini and Dal Maso (2016) also note that market perceptions of assurance must be improved before the assurance market can develop. Given the fact that European companies have typically led the way in preparing SRs and in seeking assurance on those reports, research that specifically investigates potential predictors of the behavior of these companies is beneficial.

Cheng et al. (2014) predicted that assurance would lag integrated SR practices. In this study, listed companies become more likely to select accounting providers for the assurance of integrated SRs only in 2015, indicating that this choice may lag the choice to seek assurance. Consistent with legitimacy and political economic theories, companies may only seek accountants as assurance providers when attempting to enhance credibility or when required by regulations. The political economic theory may impact decisions based on

the cost benefit of selecting an accountant depending on the stakeholders' perceptions of the different types of providers. As integrated SR develops, and if the trend moves from symbolic to sustainable integrated reporting practices, accountants may begin to play a larger role in the assurance of these reports. Future studies could examine the role of accountants and their responsibilities in both the external and the internal assurance of integrated SR.

This study builds upon the Simnett et al. (2009) study, which examines stand-alone SRs, and provides additional focus on which companies integrate their SRs. While this exploratory GRI study focuses specifically on integrated SRs, additional studies could examine the difference between external assurance choices and providers of those companies producing stand-alone SRs compared to those who integrate. If external assurance is predicted to lag the introduction of integrated SR, additional studies beyond 2015 might indicate whether this trend is accurate, especially in the regulated environments. Further comparison of different industries by country is important and could potentially aid in the prediction of which companies will be seeking assurance services. Finally, a more in-depth study of the finance industry, both before and after the financial crisis of the last decade and before and after the recent release of the IIRC IR Framework, could shed light on the impact of regulation on a company's decision to prepare an integrated SR with assurance. With the prediction that additional legislation and regulation requiring SR will be implemented within the next decade, further research is important.

A limitation of the current study is that the sample contains only SRs and variables from the GRI Database. Therefore, the trends observed in this study may be unique to companies in the GRI Database and may not be generalizable in other situations. By limiting this exploratory study to variables in the GRI database, omitted variable bias is a weakness. Using this study as a basis, additional studies can build upon these findings with more recent triangulated data related specifically to the types of companies, regions, and sectors. Further investigation of the actual SRs rather than relying solely on data from the GRI Database would also provide more descriptive information about the SR practices of the companies in the GRI Database. Of specific interest is the extent to which companies have integrated the reporting of financial and nonfinancial information and more importantly, whether the company is practicing not just "integrated reporting" but how the company is considering this information in its decision making and whether the company is practicing "integrated thinking."

This study provides an initial analysis of the assurance of "integrated" SR, and this analysis provides insight to academics and standard setting agencies through identification of some of the benefits of and impediments to the assurance of "integrated" SR. In a world where free enterprise rewards profit, it is important to consider how SRs create value and reward beyond the standard financial report. This insight and understanding should benefit corporations and assurance providers who are considering the future benefits of integrating SRs and the assurance services of those reports.

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An Examination of Changes to the U.S. Standard Audit Report

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ABSTRACT

One of the pillars of a free enterprise system is an efficient capital market where investors provide resources to businesses and need assurance that their resources are used properly. The auditor plays an important role in providing such assurance via the audit report. This paper studies the evolution of the U.S. audit report from its rudimentary form more than 150 years ago to its current, more sophisticated structure that is called the standard audit report. The findings indicate that the progression from the old audit certificate to the standard audit report of today was guided primarily by the kind of information that public wanted to know in relation to their investments. The desire for that information was often influenced by periodic incidents of corporate scandals that made it imperative that a monitoring mechanism existed for the smooth functioning of the capital markets, which is essential for a free enterprise economy.

Keywords: Standard audit report, auditing standards, auditor's responsibility, critical audit matters

Introduction

In a free enterprise economy, capital markets operate to facilitate the flow of monetary resources from investors and creditors to those enterprises that show the potential to use them most profitably (Durnev et al. 2003). However, in order for the capital markets to function efficiently, the providers of resources must be given appropriate and truthful information that will help them in making good investing and lending decisions. Therefore, accounting, auditing and corporate governance have to coexist to ensure that relevant and reliable financial information will flow in a transparent way from companies to those who supply the capital (Imhoff 2003).

Historically, accountants have maintained the accounting records to report on the performance of business enterprises, with the auditor following up as an essential participant in this process in order to assure both investors and creditors that the companies to whom they have entrusted their money have been good stewards of their resources (Underwood 1972). As put aptly by James Doty, the former chairman of Public Company Accounting Oversight Board (PCAOB), “[b]y building a basis for confidence, [an audit] reduce[s] financing costs, and contribute[s] to an efficient allocation of capital to fuel economic growth...[making] the free market possible” (Doty 2013). Consequently, the role of the audit report that marks the culmination of the auditor’s work cannot be undervalued especially since it is through this audit report that the auditor communicates with investors and other stakeholders of an enterprise to give them the assurance that the professional managers hired by them are acting in their best interests.

Further, the work of the auditors and the communication of their work through the audit report also “encourage” management to be conscious of how they manage the financial affairs of the audited entity. In this role, the audit protects the continued functioning of the free market system (Doty 2013). Indeed, this was the focus of the audit reports found in the mid-1800s and early 1900s where the auditor primarily vouched for the accounting reports prepared by the managers of the enterprise. This may be seen from a late 19th century audit certificate issued by Bragg & Marin, which reported the following (Brief 1987, 150):

“We have examined the books of accounts of the United States Rubber Company from which the Treasurer’s Report contained in the foregoing statements was made up, and we hereby certify that said report and statements correctly show the condition of the United States Rubber Company, April 1st, 1898.”

The early auditors’ reports were often called “auditors’ certificates” and appeared in a variety of formats that varied from client to client (Brief 1987). It was not until the 1930s that the standard audit report officially emerged and subsequently went through several changes in its format and wording in order to become what it is today.

The current paper studies the evolution of the audit report in the United States from its emergence 150+ years ago when it was in a rudimentary form with no predefined language, to its current and more sophisticated, standardized structure. The present-day format of the audit report has a clearly defined title, is addressed to specific entities, and is systematically divided

into sections that are meant to highlight certain aspects of the audit examination as shown later in the paper. The major events that have affected the financial reporting environment in the United States over the last more than 100 years are described here to demonstrate how that eventually has helped to shape the standard audit report as it exists today. As will be seen in the paper, the progression of the presentation of the auditor's opinion from being an auditor's certificate of the past to the standard audit report of today has been guided primarily by the informational needs of the various important stakeholders. However, the desire for that information was also influenced by periodic incidents of corporate scandals that made it imperative that a monitoring mechanism was needed both to maintain the confidence of investors and creditors in the reporting of financial information about their companies and to facilitate the overall smooth functioning of the capital markets that is essential for the existence of a free enterprise system such as the one found in the United States.

This paper examines the different forms of the audit report issued by public accounting firms in the United States both before and after the official pronouncements issued by public and private sector authoritative bodies. The findings indicate that the audit report has gone through fundamental changes, mostly improvements, over time. Several of the changes were caused by the requirements of the U.S. regulatory bodies who wanted to see more consistent and useful information from the auditors. Some changes were provoked by periodic outbreaks of corporate scandals that necessitated an immediate and deliberate response from the auditing profession that wished to preserve its own autonomy. Other changes were made by the standard-setting bodies that saw the need to act when the auditing profession was falling behind in its responsibility to fulfill the informational needs of the stakeholders.

The remainder of the paper discusses (a) why the audit report came into existence; (b) how it went from being a suggested audit report to a standard audit report; (c) how the focus of audit shifted from detection of fraud and truthfulness of the balance sheet to compliance with generally accepted accounting principles; (d) at what point the generally accepted auditing standards entered the audit report; (e) how detection of fraud became an important part of the audit after temporarily being de-emphasized; (f) how the audit report turned from a one-paragraph short report to a three-paragraph long report over many decades; and finally (g) the present-day standard audit report with headings and additional details that did not exist in prior audit reports. In conclusion, the paper discusses the introduction of critical audit matters in the standard audit report and also the potential implication of this inclusion.

Review of the Changes to the U.S. Standard Audit Report

The Need for the Audit Report in the 1800s and early 1900s

The roots of auditing can be traced back to the ancient Egyptian, Greek and Roman empires where auditing was used to keep a check on public officials who served the empires (Boyd 1905, as quoted in Flesher et al. 2005). Other literature also traces auditing activities in the medieval years of Europe when the Exchequer of England had auditors who were appointed to check the accounting of revenues and expenditures of the government (Ajao et al. 2016). After the industrial revolution in the 1800s, as the number of companies increased and the volume of business transactions grew, it also led to the expansion of railroads and with that arose the need for an entity that would monitor the expenses and correctly calculate the profit or loss from the business. Businesses expanded and began to operate over a wide geographical area and the growth of the corporate form of business brought in managers who were frequently not the same individuals who owned the business. "The 18th century industrial revolution stimulated the formation of capital markets and the separation of owners and managers. With this separation came the potential for opportunistic management behavior" (Imhoff 2003, 117). Businesses needed to establish some mechanism to ensure that all transactions were being recorded accurately and those in charge of managing the operations were not stealing from them (Byrnes et al. 2012).

As more and more joint stock companies were formed in England to engage in trade with other parts of the world, the people who financed these companies elected auditors to check the accounts of those ventures because an auditor was seen as someone who could detect fraud and prevent misuse of resources in the business entity (Competition Commission n.d.). The primary role of the auditor was to make sure that the accounting records were correctly maintained. Further, the entire focus of the audit was on determining if the balance sheet correctly portrayed a company's financial affairs. The early auditor's opinion did not even mention profit and loss statement. Also, appointing the auditor was not required until the Joint Stock Companies Act of 1844 in England that actually required the shareholders of a corporation to appoint an auditor whose job was to confirm if the accounts of the company were correct and report if such accounts were not correct (Competition Commission n.d.). Subsequently the Joint Stock Companies Act in 1856 enhanced the language of the audit report in order to communicate better the results of the audit (JSCA 1856).

In the United States, while certified public accounting as a regulated profession has existed since the early years of the 20th century, the accounting literature mentions the existence of auditing activities even in the prior centuries. For example, Flesher et al. (2005) describe the use of auditors in the 17th century America when the financiers in England who had loaned money to the Pilgrims used an auditor to examine the books of the Colony in their attempt to recover the debt, and subsequently the Puritans also used the help of auditors on a regular basis to avoid the recordkeeping problems faced by their predecessors. In later years, after the American revolution, George Washington sought the assistance of an auditor to examine his books of accounts for the period during which he had served as the general of the Continental Army (Brewster 2003, as quoted by Flesher et al. 2005). A quick look at the history of the U.S. Department of the Treasury also shows that as early as in April 1776, the Treasury Office of Accounts included an Auditor General, and later in 1781, the Office of the Superintendent of Finance employed auditors (USDOT, n.d.). Even in the post-Revolutionary period, with the growth of commercial enterprises and the development of U.S. railroads, the practice of forming an audit committee of shareholders emerged where the job of such a committee was to examine the accounting records kept by the treasurer of the company (Flesher et al. 2005). Russ et al. (2006) discuss the use of a stockholder's review committee by Chesapeake and Ohio Canal Company in the mid-19th century whose role was to review the annual report presented by the company to its stockholders. Previts and Samson (2000) also mention instances of individuals being appointed as auditors in the early 19th century years whose responsibilities included keeping the books of the company, examining and certifying claims against the company, and reporting on inflows and outflows of cash. As new financial institutions appeared in the early 1800s, there were examples of audits of financial institutions where, for example, in one case an auditor was hired to investigate suspected embezzlement of cash for the Union Marine & Fire Insurance Company. However, there was no indication that the audit was intended to be an annual activity and it was more like an investigation conducted in response to the suspected embezzlement (Flesher et al. 2005).

The language of the audit reports issued in the 19th century showed emphasis on a complete examination of the accounting records and vouching for the correctness of the reports prepared by the treasurer of the enterprise. Since the audit reports at the time were written by the auditors according to their choice of words, the words "audited and found correct" could be found in the audit reports in the 1800s (Rosenfield 1964). There was no standard language of the report. An early

example of one such audit report issued by an "auditing committee" in 1850 is presented below (Boockholdt 1983, 83):

"The undersigned, appointed by the stockholders at their last annual meeting to audit the accounts of the company, would respectfully report, [t]hat we have made the usual semi-annual examination of the books and accounts of the Secretary and Treasurer and the vouchers for the same, which have been freely exhibited to us. We have found the accounts correct, and the books continue to be kept in a manner to merit our entire approval. All of which is respectfully submitted."

At the beginning of the 20th century, there was no auditing profession in the United States; but as companies continued to grow bigger in size and began to operate over large geographical areas, it made it increasingly necessary for the owners to appoint professional managers to handle the business, and with that came the need to ensure that these employees were managing the resources in the best interests of the owners. Thus, more auditors were appointed to check for frauds, and also to report to the stockholders about the financial position of the company (Boockholdt 1983). These auditors reported only on the accuracy of the accounting records maintained by the "agents" of the stockholders. In 1900, the Companies Act passed in the U.K. required every British company to have an auditor (Barlow 1901). As British investors invested their money in U.S.-based corporations, the requirement to have an audit report spread to the United States (Moyer 1951); yet the purpose of such audit was only to ensure that the accounting records were correctly kept. There were no auditing rule-making entities in the United States at the time, and hence there were no auditing standards to monitor such audits (Zeff 2003a). Indeed, in the early 1900s, the audit involved anywhere from just a balance sheet audit to a complete examination of the books, the audit report was not standardized, and the auditor performed only the procedures that were requested by the client, which then was reflected in the audit report. In many cases, the report did not even have a heading or was not addressed to any specific body of individuals (Flesher and Flesher 1980). An early audit report issued for Sears, Roebuck and Co. in 1907 showed that the auditor only "certified" that the balance sheet of the company was in accordance with what the books showed.

The First U.S. Audit Report Suggested by a Government Body

When the Federal Trade Commission discovered and reported about the lack of consistency in the way the financial statements were being prepared by different businesses, and about the level of variation in how different auditors performed

their “audits” to certify those financial statements, knowing that these financial statements would be relied upon by the lending community, the Federal Reserve Board (1918), with assistance from the American Institute of Accountants (AIA), recommended certain language in the auditor’s certificate as shown below (Federal Reserve Board 1918, 24):

“I have audited the accounts of Blank and Co. for the period from _____ to _____ and I certify that the above balance sheet and statement of profit and loss have been made in accordance with the plan suggested and advised by the Federal Reserve Board and in my opinion set forth the financial condition of the firm at _____ and the results of its operations for the period.”

The purpose of the above language was to ensure that the financial statements did not contain false information that would affect the confidence of the creditors. This was the first time a private sector entity and a governmental body had come together to shape the audit report that would certify both the financial position and the profit or loss made by the business. More importantly, the new report required the auditor to conduct the audit as per the guidelines suggested by the Federal Reserve Board (FRB). This was the beginning of the government intervention in providing its own guidance in the area of auditing when the auditing profession failed to do so. It may be noted that the language of the audit certificate was still a “suggested” language and did not constitute the standard audit report.

As more and more companies listed on the New York Stock Exchange and began to be audited by professional accounting firms (Zeff 2003a), the FRB (1929) sought help from the AIA to revise its previous auditing guidance under the title of Verification of Financial Statements. This revision made two notable changes: First, the focus of an audit was shifted to “adequate examination” of the accounting records rather than a complete audit. Second, it substituted the word examined in place of audited in the first sentence, and removed any reference to the plan suggested and advised by the Federal Reserve Board while continuing to use the word “certify” in the report as shown below (FRB 1929, 24):

“I have examined the accounts of _____ company for the period from _____ to _____.
I certify that the accompanying balance sheet and statement of profit and loss, in my opinion, set forth the financial condition of the company at _____ and the results of operations for the period.”

This was the first time that the audit opinion was presented in two paragraphs, similar to the scope and opinion paragraphs of later audit reports (Carmichael and Winters 1982).

Creation of the First Standard Audit Report

During the years of the Great Depression, auditors’ vulnerability to the risks of litigation upon the financial failure of their clients was visible (Richardson 2006) as seen from the 1931 Ultramares Decision of the New York Court of Appeals. The Court’s decision claimed that auditor would be liable to third parties for deceit if they relied on the auditor’s report and established that there was enough gross negligence on the part of the auditor (Shampaine 1932; Levine 1998). The Ultramares case was a realization to the U.S. auditors that they could not guarantee that the financial statements audited by them were accurate. In the years following the 1929 stock market crash, the AIA’s Special Committee on Co-operation with Stock Exchanges and the Committee on Stock List of the New York Stock Exchange (NYSE) joined hands to work on the development of financial disclosure standards with a view to protect investors. The Special Committee sought to promote the use of generally accepted accounting principles (Hawkins 1963) that the listed companies would consistently apply and asked for a change in the form of the audit certificate. Accordingly, the following revised auditor’s report was presented by the Special Committee (AIA 1934, 47):

“REVISED SUGGESTION OF A FORM OF ACCOUNTANTS’ REPORT

To the XYZ Company:

We have made an examination of the balance sheet of the XYZ Company as at December 31, 1933, and of the statement of income and surplus for the year 1933. In connection therewith, we examined or tested accounting records of the Company and other supporting evidence and obtained information and explanations from officers and employees of the Company; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

In our opinion, based upon such examination, the accompanying balance-sheet and related statement of income and surplus fairly present, in accordance with accepted principles of accounting consistently maintained by the Company during the year under review, its position at December 31, 1933, and the results of its operations for the year.”

In the new audit report, the auditor was to express an opinion instead of issuing a certificate. The report provided more details about the work performed by the auditor and focused the opinion on the financial statements and not the underlying accounting records. However, one limitation of the report was that the auditor was still allowed to state that “a detailed audit of the [company’s] transactions” was not made and that the auditor had relied on information and explanation from management. Yet, a major strength of the revised audit report referred to a benchmark in the form of “accepted principles of accounting” for the financial statements to be considered fairly presented. Further the auditor was to judge whether the company consistently used such accepted principles of accounting. Most importantly, the Special Committee referred to the new report as a “standard” form of report, which would be used by auditors when rendering opinion on the financial statements being audited (AIA 1934).

The newly formed U.S. Securities and Exchange Commission (SEC) in 1934 began to mandate that all listed companies would have their financial statements audited by independent accountants, yet at the same time it only asked for an “audit certificate” describing the scope of the audit and the quality of the accounting principles employed by the company (Landis 1935). While the SEC, as a governmental entity began the oversight of listed companies, the auditing profession took it upon itself to proactively develop auditing standards for the conduct of the audit work and thus minimize the opportunity for the government to interfere with the profession’s work (Olson and Wootton 1991). In spite of the profession’s push to self-regulate itself, auditing standards in the United States did not in any way enhance the standard audit report. The auditors continued to acknowledge in their reports that a detailed audit of the company’s transactions was not conducted; but the McKesson & Robbins (M&R) scandal of the 1930s changed that.

After the M&R fraud that was marked by an overstatement of the company’s accounts receivables and merchandise inventory became public, the AIA reacted by forming the Committee on Auditing Procedure (CAP). The CAP (1939) issued its first Statement on Auditing Procedure, SAP 1, titled “Extensions of Auditing Procedure,” in which it described generally accepted auditing procedures and also asserted that the report of the auditor was to be addressed to the board of directors, or the stockholders if the appointment was made by them, and recommended a new standard short form of the Accountant’s Report. This new report highlighted in the first paragraph that the auditor had reviewed the system of internal control but also confessed that the auditor only test-checked the accounting records. However, the report also skipped reference to information and explanation obtained from the officers of

the company and instead explained that the examination was based on the methods and to the extent as were considered suitable by the auditor in the given case. An important enhancement of the audit report was that the word consistency meant that the Generally Accepted Accounting Principles (GAAP) were consistent with those applied in the previous year of the company.

Thus, the aftermath of the M&R case showed that the auditing profession in the United States was ready to step in and make important changes to the auditor’s work and the communication that resulted from that work both to make sure that the quality of the audit improved and to discourage more interference from the SEC or any other governmental agency in the form of new rules or regulations to monitor the auditing profession (Cooper and Flory 1976).

Generally Accepted Auditing Standards Enter the Audit Report

Prior to the M&R scandal, the SEC did not have any input into the form and content of the audit report. However, realizing that there were certain deficiencies in the language of the audit report, in 1941, the SEC amended Rule 2-02 of Regulation S-X to require that the accountant’s certificate was to be (i) dated, (ii) signed manually, and was to explicitly state “whether the audit was made in accordance with generally accepted auditing standards applicable in the circumstances” (SEC 1941, 26). Thus, with this amendment of the audit report, the SEC was asking to specify the scope of the audit and expecting auditors to recognize if a normal audit procedure was omitted in the specific case. While what was considered generally accepted auditing standards (GAAS) was not clearly defined at the time, the SEC’s intent was to ensure that the auditor had performed all the work that was necessary in the circumstances to support the opinion, and that the work conformed to the quality generally expected by the accounting profession (Rosenfield 1964). The SEC’s amendment prompted the CAP (1941) to revise the standard audit report with SAP 5. However, although auditors were including the required language in their audit reports, the list of GAAS was still not available and hence readers did not quite know what constituted such standards. To resolve the issue, the CAP (1948) issued SAP 24, titled “Revision in Short-Form Accountant’s Report or Certificate, which did not prescribe the specific auditing procedures to be used by the auditors in individual situations but provided three categories of standards that were officially approved as *generally accepted auditing standards* by the members of the AIA in 1948. The three categories were (i) General Standards, (ii) Standards of Field Work, and (iii) Standards of Reporting. In the revised audit report of SAP 24, the scope paragraph particularly omitted the words “ap-

plicable in the circumstances” after referencing GAAS, thus making those standards truly general. Most importantly, in the new audit report, the auditor was to state whether his tests and audit procedures were as *considered necessary in the circumstances* and not just as *deemed appropriate*. An important addition was made to the audit report in the 1950s when, after recognizing that the audit report was the primary means with which an auditor communicated his opinion on the financial statements, the CAP added a fourth Standard of Reporting to GAAS that prescribed that “[t]he report [was to] either contain an expression of opinion regarding the financial statements, taken as a whole, or an assertion to the effect that an opinion [could] not be expressed” (CAP 1954, 46). Yet, the CAP continued to insist that the auditor’s certificate or report was not a guarantee because of the inherent limitations of the nature of the audit work.

The Audit Report and A Renewed Attention to Detection of Fraud

The concept of audit was born because of the need of the owners of businesses to monitor the activities of their managers, and to ensure that all transactions were properly accounted for without the misuse of their resources - all without the existence of a designated audit report or authoritative auditing standards. This was true even when there were no authoritative standards for auditing. Near the middle of the 20th century, the emphasis of the audit had shifted to compliance with GAAP and fair presentation of the financial statements that were the object of the audit. The audit report in the United States in the forties, fifties or even sixties did not mention anything about the auditor’s responsibility for detection of fraud. Auditors were responsible for failing to detect fraud only if it was proven that they did not comply with GAAS. The auditing profession continued to maintain that auditors did not give any guarantee about the financial statements and fulfilled their responsibility if they followed GAAS.

However, the outbreak of various corporate frauds in the 1960s and 1970s highlighted the possibility that audits could fail and led to several large accounting firms and their individual partners being held liable for criminal conduct arising from material misstatements in the financial statements (Szabo 1968), failing to act as independent accountants (Berry 1978), or falsely certifying the financial statements (Norris 2002). While some alleged that the government was taking a strong action against the auditors for breaking the securities laws (Seigel 1974), it was clear that an “expectations gap” (Cohen Commission 1978) had developed between auditors’ perceptions of their responsibility in the financial statement audit and the financial statement users’ expectations of what auditors did. Auditors were increasingly being held accountable for

the financial wrongdoings of their clients (Salehi et al. 2009). Above all, while the government and regulatory bodies were criticizing the auditing profession for its deficient standards of auditing (Raab 1986), the public was losing its confidence in the value of the audit because of the perceived audit failures (Olson and Wootton 1991).

Once again, the time had arrived for the auditing profession to take charge and respond to the crisis, which it did when the CAP of the American Institute of Certified Public Accountants (AICPA, formerly known as AIA) published Statement on Auditing Standards, SAS 1. The CAP (1973) recognized that “[t]he responsibility of the independent auditor for failure to detect fraud [arose] only when such failure clearly result[ed] from failure to comply with generally accepted auditing standards” (CAP 1973, 3). Further, depending on the materiality of the fraud with respect to the audit opinion, the auditor would decide to investigate the fraud himself or refer the matter to the client’s representatives for pursuing it more. This position merely repeated the stand taken by the profession in SAP 30 and therefore did not quite address the concerns of the stakeholders and regulatory bodies about what was missing from the then standard audit report. While it helped the auditors understand their own responsibility in detecting the fraud, it did not help the users determine the auditor’s responsibility if there was a fraud with respect to the financial statements.

The Standard Audit Report with a Three Paragraph Format

In the seventies the Commission on Auditor’s Responsibilities (also called, Cohen Commission), was formed by the AICPA to study the issues surrounding independent audits, and noted that while the audit report should clearly communicate the message to the users, the existing form of audit report had failed in meeting its purpose. The Cohen Commission (1978) suggested a new standard audit report with three distinct paragraphs that put the opinion paragraph after the introductory paragraph and before the scope paragraph. The scope paragraph included more details on the work done by the auditor. More importantly, the auditor was to specifically state if the auditing procedures used were “adequate” in the circumstances as against being just “necessary” to support the opinion.

In 1978, the newly created Auditing Standards Board (ASB) of the AICPA followed the recommendations of the Cohen Commission to revise the standard audit report in a way that would better communicate to the users the scope of the audit and the level of “assurance” provided by the auditor’s opinion. However, the revision was not successful because

it seemed to protect the auditor more than explaining the auditor's role in the audit process (Chenok et al. 1981). In the meantime, the auditing profession was suffering a loss of its reputation from the persistent business failures of the time that were perceived by the stakeholders as examples of audit failures (Zeff 2003b) and the users of the financial statements were still unhappy with the content of the audit report. The hearings of the House Subcommittee on Oversight and Investigations (also called the Dingell Committee) investigated how the auditor communications with the users could be improved (Giacomino 1994). Also, the 1987 report of the National Commission on Fraudulent Financial Reporting (the Treadway Commission) concluded that, "The auditor's standard report [could] and should convey a clearer sense of the independent public accountant's role." (The Treadway Commission 1987, 13) The next year, the profession issued SAS 58, Reports on Audited Financial Statements. SAS 58 introduced the first three-paragraph standard audit report as shown below (ASB 1988):

Independent Auditor's Report

We have audited the accompanying balance sheets of X Company as of December 31, 19X2 and 19X1, and the related statements of income, retained earnings, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of X Company as of [at] December 31, 19X2 and 19X1, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

[Signature]

[Date]

A few distinguishing features of the new standard audit report included the following: (i) More than half a century after the SEC began to mandate financial statement audit by independent accountants, the word "independent" was officially included in the title of the report. (ii) The introductory paragraph replaced the word "examined" with "audited," nearly 60 years after the Federal Reserve Board (1929) Bulletin had first prescribed the use of the word "examined" instead of "audited." (iii) The introductory paragraph identified that the financial statements were the sole responsibility of management and the auditor was merely expressing an opinion on those financial statements based on his audit. That should have removed any doubt in the public's mind about who was responsible for the financial statements. (iv) The scope paragraph clearly stated that the audit was conducted in accordance with GAAS, explained the nature of the audit process, and clearly described what an audit included. (v) The auditor was to state that his audit obtained a reasonable (and not absolute) assurance that the financial statements were free of material misstatement. Thus, a 'clean' opinion did not mean that the auditor found no fraud during the examination or that the audited company was 'a good investment' (Campbell and Michenzi 1987, 34). (vi) In the new report, the audit included disclosures that were an integral part of the financial statements and the auditor was expected to evaluate management's use of the estimates during the audit. (vii) Finally, the auditor was not to comment on the consistency in the application of accounting principles because the financial statements were the responsibility of management. Instead, the auditor was responsible for determining if any inconsistent application of the accounting principles was appropriately accounted for and adequately disclosed. (viii) Finally, the opinion paragraph prescribed the use of "present fairly, in all material respects," to support the evaluation of the overall financial statement presentation as described in the scope paragraph.

The PCAOB and Revision of the Audit Report in the Early 2000s

At the beginning of the current century, the world saw a series of corporate financial scandals that not only hurt individual investors' wealth but also caused billions of dollars to vanish from the securities markets. Several large corporations such as Enron, WorldCom, Adelphia, and Global Crossing filed for bankruptcies while others were forced to restate their financial statements to the tune of billions of dollars. A disturbing fact behind these corporate disasters was the prevalence of large-scale accounting regularities that were masterminded by top executives of those companies and were ostensibly passed by the auditors. The so-called standard audit report had kept the users of the financial statements in the dark about the true financial position of the companies that

were at the center of the fiasco in the capital markets. The auditing profession was humiliated in a major way because the auditors had apparently failed in their fiduciary duties towards the financial stakeholders in those companies and their actions, or lack thereof, had caused a serious erosion of the public's confidence in the stock markets (Harris 2013).

Whenever the auditing profession had faced a similar crisis in the past, the regulatory bodies and the government had waited patiently for the profession to take corrective actions and improve the auditor's communication with the stakeholders. This also had enabled the profession to self-regulate itself in a timely fashion and not give a reason to the authorities to make new regulations to control the profession. However, this time the magnitude of the corporate scandals and the resulting outcry from the investing public prompted Congress to intervene in a significant way and pass the Public Company Accounting Reform and Investor Protection Act, also famously known as the Sarbanes-Oxley Act of 2002 (SOX) in July 2002. A noticeable outcome of the Act was the formation of the Public Company Accounting Oversight Board (PCAOB) that would oversee the auditing profession in the United States in the coming years. The century of self-regulation of the auditing profession was finally over and, for the first time in the history of the auditing profession, it was going to be regulated by a non-profit entity established by Congress. Today the PCAOB works under the oversight of the SEC and has the power to establish auditing standards that must be followed by CPA firms in the conduct of their audits and especially when preparing the audit report.

In the first five years of its tenure, the PCAOB issued Auditing Standard No. 1 – References in Auditors' Reports to the Standards of the Public Company Accounting Oversight Board (PCAOB 2003), and later Auditing Standard No. 5 – An Audit of Internal Control Over Financial Reporting that is Integrated with an Audit of Financial Statements (PCAOB 2007) to revise the standard audit report. Auditing Standard 1 replaced the reference to generally accepted auditing standards in the second paragraph with a reference to the standards of the PCAOB in the United States, thereby indicating that the existing standards as adopted by the PCAOB were to be generally accepted by the profession. Upon realizing that the claims regarding the high costs of the audits of internal control over financial reporting were valid, the PCAOB (2007) released Auditing Standard No. 5 to allow the auditor to rely on the work of others to determine if internal control over financial reporting was effective (Wei and Wu 2009). However, if the auditor chose to issue a separate report on internal control over financial reporting, he was to add an additional paragraph to his audit report stating that he had also audited the company's internal control over financial reporting.

The Standard Audit Report as we know it Today

As the world's securities markets grappled with the consequences of the 2008 financial crisis, the attention was once again focused on the deficiencies of the standard audit report, especially its inability to alert investors and creditors about what could go wrong with the financial reporting process. While on the one hand the International Auditing and Assurance Standards Board (IAASB) was suggesting that "the auditor's report should better explain what an auditor does" (IAASB 2012, Chairman's Statement) and specifically communicate certain important matters, called key audit matters, that arose during the audit to the stakeholders, the PCAOB was busy deliberating over how the standard audit report could be improved especially in light of the demands for more useful information from the investor community and the government following the Great Recession of 2008. When the PCAOB's staff heard from the investors that "expanded auditor reporting in advance of the crisis might have been helpful in assessing the quality of the financial statements, and providing early warning signals regarding potential issues" (PCAOB 2011, 7), it was a sign that the user groups were not satisfied with the information conveyed by the currently used standard audit report. Even the Chartered Financial Analyst (CFA) Institute, a global association of investment professionals, found in a survey that the prevailing standard audit report did not quite shed much light on how auditors actually reached their audit opinion (Giacomino and Akers 2012).

Since the standard audit report is the primary mode of communication through which the auditor reports to investors and other readers of financial statements, the PCAOB realized that it was imperative to have as much transparency in the auditor's message as could be possible without making the process too burdensome for those involved in the audit process. The PCAOB had an important task as it sought to make the audit report more useful to the readers of the financial statements without changing how the auditor performed the financial statement audit. The task was made more difficult because of the divergence in what different stakeholders expected to see in the auditor's report. Investors were particularly skeptical about having a boilerplate language in the "standard audit report," which would preclude the auditor from elaborating on specific items that actually bore upon the audit opinion (PCAOB 2011). The PCAOB felt that investors were interested in learning from the auditor about the facts and circumstances of the company that actually led him to form an unqualified opinion on the financial statements. Moreover, investors also wanted to know if the auditor had come across any items of "high risk" during the audit of the financial statements and any significant matters as well as judgments both by the au-

ditor and management that might have affected the overall financial statements (Weirich and Reinstein 2014).

When the PCAOB (2013) proposed a new standard form of audit report in its release No. 2013-005, *The Auditor's Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion*, it kept the original pass/fail model of the existing report but suggested that the auditor would provide additional information to the users of financial statements about certain "critical audit matters" that were encountered during the audit (Weirich and Reinstein 2014). The idea behind the inclusion of the critical audit matters (CAMs) was to ensure that the readers of the audit report had access to the same important matters affecting the company's financial statements that formed the basis of the audit opinion and were known to management of the company. Finally, the new standard audit report was released through the PCAOB (2017) Release No. 2017-001 and was approved by the SEC, and is currently being used by public accounting firms. Certain elements of the new report went into effect for audits for fiscal years ending on or after December 15, 2017. An illustration of the current version of the Auditor's Unqualified Report Including Critical Audit Matters is provided in Appendix A. In general, the new report seeks to clearly explain the auditor's role and responsibilities in the audit and offers a structure and organization to the auditor's message. The new standard audit report is markedly different from the previous audit reports in following respects:

(a) There is a well-structured format of the report that separates the different sections with appropriate titles.

(b) The opinion paragraph has been moved to the beginning of the audit report, which appears to make it a higher priority of the report.

(c) The audit opinion is now issued on the financial statements that include the related notes and schedules.

(d) Auditors have to mention in the report that they are required to be independent as defined under the applicable laws as well as regulations of the authoritative bodies. Besides, the audit firm has to identify itself as being registered with the PCAOB, thus indicating that the firm subjects itself to monitoring by an oversight agency.

(e) The auditor's assurance about the financial statements being free of material misstatement includes misstatements caused by error and fraud, which is what the focus of an audit used to be more than a 100 years ago when auditing did not even exist as a profession in the United States and there were no formal audit reports.

(f) The report must include a statement disclosing how long the audit firm has served the client in the capacity of an auditor.

(g) As a result of the PCAOB's research and input and feedback from various stakeholder parties, the standard audit report now includes a requirement where the auditor has to disclose "Critical Audit Matters" (CAM).

CAMs are matters that were communicated or required to be communicated to the audit committee; were related to accounts or disclosures that were material to the financial statements; and involved especially challenging, subjective or complex auditor judgment. The requirement about the inclusion of CAMs has taken effect for audits for fiscal years ending on or after June 30, 2019, for large accelerated filers; and will take effect for fiscal years ending on or after December 15, 2020, for all other companies.

The most important benefit of the new standard audit report is that it will change the previous, standardized nature of the report and make it more relevant and useful to the readers by requiring the inclusion of the CAMs that are specific to each audit engagement. In the past, such information about important audit-related problems was known only to the auditor, management and the audit committee of the client; but now such information will be made publicly available. This might resolve the issue highlighted by the Cohen Commission about the lack of information symmetry between the auditor and users of the financial statements. More importantly, including the information about critical audit matters related to the audit engagement in the published audit report will presumably increase the commitment of everybody involved in the audit process to work towards enhancing the overall quality of financial reporting (Jermakowicz et al. 2018).

Of course, including CAMs in the audit report will not solve all of the perceived and real problems associated with audit reporting or remove the expectations gap between auditors and the public in general. What is a CAM is often a matter of judgment for each auditor and there are no set guidelines as to how many CAMs may be or should be reported in the audit report (Banham 2018). This may cause some audit firms to simply list everything as a CAM in order to protect themselves from future litigation. Also, while reporting no CAMs in a report may reflect poorly on the ability of the auditor to perform a high-quality audit, reporting too many CAMs may simply delay the process of issuing the audit opinion for some companies (Levy 2018). Furthermore, the impact of this requirement on the cost of performing an audit and how the audit firms will cope with the cost increase, if any, is not yet known. Finally, auditors will have to be careful while disclosing CAMs in the audit report to ensure that they are

not revealing sensitive information about their clients (Reinstein et al. 2018).

Conclusions

The strength of a free enterprise economy is based partly on the efficiency of its capital markets where professional and other investors participate in the purchase and sale of equity and debt securities, and efficient markets in turn depend on the seamless flow of information and transparency of communication among the different participants in the markets. Enterprises acquire funds from investors and creditors who look for assurance that their funds are being used in their best interests. This assurance is provided by auditors who communicate with the suppliers of capital via their audit reports and give credibility to the financial information that is provided by managers of those enterprises. Therefore, the audit report plays a key role in vouching for the fiduciary behavior of managers, thus protecting the investing public's interests and, thereby, the foundation of the free enterprise system.

The standard audit report issued by auditors in the United States has changed dramatically since its beginning in the 1930s, and especially since its first use near the end of the 19th Century. What used to be an audit certificate guaranteeing that the balance sheet was free from error and there were no mistakes in the accounting records, or that there was no fraud in the company, has now changed to an opinion from the auditor. Over the last 100 years, U.S. auditors have changed the focus of their examination from vouching for the correctness of the accounting information to giving an opinion on how fairly the financial statements were presented, with the criteria for what constitutes "fair presentation" evolving slowly over the years. In addition, during this time, U.S. auditors moved away from giving absolute assurance about the financial statements to rendering reasonable assurance based on sample testing and assessing the risk of material misstatements of the financial statements. Furthermore, as the size of U.S. business entities grew across the national boundaries, it was important to identify in the audit report that the conformity with accounting principles was with reference to those principles that were generally accepted in the United States, and that the audit was performed in accordance with the standards of PCAOB, a U.S. entity. Until the first half of the 20th Century, it was not obvious from the audit report that the auditor was responsible only for examining the financial statements that were prepared by management. However, in later years, these respective roles were made absolutely clear with the use of specific language in the report. At the same time, the auditor's responsibility in the audit process went through a full circle where it began in the early years of the

20th Century with the detection of errors and fraud in the balance sheet and then was focused on the conformity of the financial statements with GAAP for several decades, and now it has reverted back to providing reasonable assurance that the financial statements are free of material misstatements due to errors or fraud.

By requiring that the audit report include a discussion of critical audit matters in the new standard audit report that is currently in place in the United States, the PCAOB has tried to reduce the information imbalance between the parties responsible for the financial reports and the users of those reports. However, given the very short history of the inclusion of CAMs in the audit report, the impact of this requirement on the perceived quality of audit remains to be seen. While the purpose behind this requirement has been to rectify the one-size-fits-all nature of the audit report and enhance the quality of information provided, it is entirely possible that the new standard audit report will evolve into a new "standardized" audit report where the description of the CAMs takes a homogeneous form across different companies.

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How Credit Market Conditions Impact the Effect of Voluntary Disclosure on Firms' Cost of Debt Capital

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ABSTRACT

This study explores whether the effects of voluntary disclosure (VD) on firms' cost of debt capital is greater during periods of credit rationing. Prior literature finds greater VD is associated with lower cost of debt capital. Studies show that firms take advantage of the net cost savings associated with greater VD. However, creditors' lending standards become more stringent (lax) when credit is rationed (abundant) suggesting that creditors value VD differentially across credit market regimes. This study finds some evidence that creditors value VD more (less) when credit is rationed (abundant) and that this association is stronger for smaller firms than larger firms during periods of credit rationing. These findings suggest that credit market conditions affect how investors perceive the value of financial information. Consistent with the free enterprise system, these findings are largely dependent upon investors being able to efficiently allocate capital investments in response to credit market fluctuations.

Keywords: VD, cost of debt capital, credit rationing, financial crisis

Data Availability: The data used in this study is available from the sources indicated in the text.

Acknowledgements: I gratefully acknowledge my dissertation committee Thomas C. Omer (chair), Christopher J. Wolfe, Anwer S. Ahmed, and D. Scott Lee for their comments and suggestions as well as Brad P. Lawson and Michael A. Mayberry for their support.

Introduction

This study investigates whether the observed relationship between firms' cost of debt capital and voluntary disclosure (VD) is influenced by credit market conditions. Specifically, this study tests whether creditors' sensitivity to conference call frequency and earnings guidance frequency is moderated by the degree of rationing in the credit markets. Creditors' uncertainty about debt repayments vary with economic outlook (Rajan 1994; Ruckes 2004). For example, when creditors are pessimistic, credit is rationed and creditors' screening and monitoring efforts increase. Borrowers can partially subsidize the cost of monitoring by voluntarily disclosing financial information (Lang and Lundholm 1993) suggesting that VD becomes more important to creditors when credit is rationed and less important to creditors when credit is abundant. Thus, while prior literature finds that greater VD reduces firms' cost of debt capital (Sengupta 1998), it is expected that this association moderates with credit market conditions.

Understanding the effect of credit market conditions on the value of VD in debt contracting important for firms who use VD strategically to influence capital market responses to heightened uncertainty (Skinner 1994; Kasznik and Lev

1995; Soffer et al. 2000; Brown et al. 2004). Understanding the role of credit market conditions is especially important for firms that opt-out of certain VD mediums (Houston et al. 2010) as this may hinder their access to capital when credit is scarce. Larger firms have a credit-access advantage over smaller firms that find VD cost prohibitive, which likely explains why smaller firms find it difficult to obtain financing during periods of credit rationing (Greenspan 2008). Understanding the variability in the influence of VD is also important to regulators and legislators who have, in the past decade, called for greater financial disclosure – by way of the Sarbanes-Oxley Act of 2002 (SOX) and the Dodd-Frank Act of 2010 – to increase investor protection. If the importance of disclosure in debt contracts varies with creditors' economic outlook, as prior research suggests (Rajan 1994; Weinberg 1995), then regulatory reform mandating greater financial disclosure may not effectively increase investor protection as intended.

To test whether creditor uncertainty affects the extent to which creditors' use VD to discriminate among potential borrowers, this study examines the association of conference call and earnings guidance disclosure frequency with firms' credit rating scores across credit market conditions. Firms that voluntarily disclose financial information through conference calls and /

or earnings guidance convey confidence and certainty in their financial reports while reducing the information asymmetry component of firms' cost of capital (Trueman 1986; Diamond and Verrecchia 1991; Kasznik and Lev 1995; Brown et al. 2004). If the association between changes in conference call and earnings guidance disclosure frequency and changes in firms' credit rating scores varies across credit market conditions, it implies that creditors, despite their unfettered access to borrower information, are more (less) sensitive to VD during periods when credit is constrained (abundant). This also suggests that regulation that simply mandates greater financial reporting may not effectively increase investor protection as intended. Alternatively, it is expected that no difference in association between VD and firms' cost of debt capital across periods of credit rationing / abundance if creditors work directly to obtain additional nonpublic private information to satisfy increased information demands during temporary periods of credit uncertainty.

The findings provide some evidence that an increase in conference call disclosure frequency increases the odds of an improvement in firms' credit ratings during periods of credit rationing. The findings provide stronger evidence that an increase in earnings guidance disclosure frequency increases the odds of an improved credit rating score during periods of credit rationing. These results suggest that the influence of VD on firms' cost of debt capital is greater when credit is constrained, and that creditors value public disclosure during periods of uncertainty as means of subsidizing increased monitoring costs.

This study also examines whether the effect of VD on firms' cost of debt capital during periods of credit rationing is conditional on firm size. Holmstrom and Tirole (1997) suggest that smaller firms are more likely to be denied credit when credit is rationed because smaller firms have fewer resources available to cover increased agency costs of lending during periods of credit rationing. Additionally, prior studies find that smaller firms have more opaque information environments relative to larger firms (e.g. Lang and Lundholm 1993) suggesting that VD plays a larger role in debt contracting for smaller firms. The findings in this study indicate that an increase in both conference call disclosure frequency and earnings guidance disclosure frequency increase the odds of an improvement in firms' credit ratings more for smaller firms than larger firms during periods of credit rationing. This suggests that VD is more important to creditors of smaller firms than larger firms when credit becomes constrained.

This study contributes to extant literature by examining the role of investor's risk tolerance in the relation between VD and the cost of debt capital. While several studies demonstrate the

negative effect of VD on firms' cost of capital, the moderating effect of risk tolerance in the association is only assumed. Anecdotal evidence of lax lending standards during the easy credit period of 2004-2006 (Acharya et al. 2009a) suggests that the importance of financial disclosure attenuates during periods of credit abundance, and prior economic literature finds that screening and monitoring efforts of creditors become strict (lax) during periods of credit rationing (abundance) (Rajan 1994; Ruckes 2004). This study adds to extant literature by demonstrating that creditors' use of VD varies in degree of influence and direction of association depending on whether credit is rationed or abundant, and that this result occurs despite increased financial disclosure since the passage of SOX (Jain et al. 2008).

Also, prior literature finds the issuance of earnings guidance is on the decline which is likely in response to criticism surrounding such disclosure (Houston et al. 2010). This paper contributes to this stream of literature by suggesting that earnings guidance may be more valuable to both issuers and users of earnings guidance, especially in times of financial uncertainty.

The remainder of this paper proceeds as follows. The background and motivation for this paper are presented in the Literature Review, while the research design and sample selection are presented in the Methodology section. The Results section presents the results of the analysis, and the final section provides conclusions and areas for future research.

Literature Review

The Effect of Voluntary Disclosure on the Cost of Capital

Prior theoretical literature suggests that, because investors are rational, firms will provide full disclosure to attract outside investment (Grossman 1981; Milgrom 1981). Yet, given that full disclosure is costly, firms are more likely to use discretion when determining the optimum threshold level of disclosure (Verrecchia 1983). Thus, while managers may not voluntarily provide full disclosure, the optimum threshold level of disclosure they do provide mitigates the information asymmetry and accompanying adverse selection problem faced by investors, which in turn reduces the risk premium charged by investors (Glosten and Milgrom 1985; Diamond and Verrecchia 1991). Thus, firms must weigh the cost of increased disclosure against the benefit of reduced cost of capital.

The theory of the financial disclosure-cost of capital (FDCC) relationship suggests that there exists a market for financial disclosure. As such, the FDCC relationship depends on the

efficient operation of the free enterprise system. That is, firms must be able to freely adjust their financial disclosure as a means to optimally maximize profits. In practice, however, publicly traded firms do not have complete discretion over their financial disclosure. At a minimum, publicly traded firms must submit audited annual financial statements to the Securities and Exchange Commission (SEC) as prescribed by Title 17, Chapter II, Part 210 of the United States Code of Federal Regulations. Yet, while federal regulations mandate a minimum degree of financial disclosure, they do not prohibit firms from voluntarily providing additional financial disclosure. Therefore, if the FDCC theory is true, firms will provide VD as a means to reduce their cost of capital.

Early studies demonstrate how firms benefit from providing VD. Using earnings guidance as a proxy for VD, Frankel et al. (1995) find that firms issue earnings guidance more frequently when they regularly access financing from the capital markets. This finding is explained in studies that show a negative association between earnings guidance and firms' cost of capital (Welker 1985; Coller and Yohn 1997; Lang and Lundholm 2000). Conference calls, another proxy for VD, have also been shown to influence information asymmetry in the capital markets. Frankel et al. (1999) find that firms' stock liquidity increases when they host conference calls while Brown et al. (2004) find that this effect is stronger for firms that hold such conference regularly.

Today, studies continue to present evidence of investor reaction to earnings guidance and conference calls. Twedt (2016) finds that Dow Jones Newswires influence the speed at which market prices adjust to earnings guidance while Fanning et al (2019) find that the manner in which earnings guidance is announced influences market reactions to earnings announcements. Brochet et al (2019) find that market prices react less to conference calls with opaque language than those that contain more straightforward language. This finding coincides with Lee (2016) who demonstrates that firms' bid-ask spreads increase when managers respond to analyst questions using predetermined, scripted language (rather than more direct, spontaneous language). Finally, Gow et al. (2019) demonstrate that, prior to raising capital, managers are more direct in answering analyst questions on conference calls but are less transparent about answering questions regarding future firm performance.

Other proxies for VD that are used in capital markets studies include are used disclosure such as analyst rankings of firm disclosure (Sengupta 1998) and investor relations activities (Bhabra et al. 2020). However, earnings guidance and conference calls have been the dominant proxies used in VD studies over the past several decades. Conference calls are of

particular interest because, unlike other forms of financial disclosure, managers have the opportunity to interact with call participants, enabling managers to address (or avoid) the information-specific needs of outsiders (Lee 2016). Earnings guidance releases are an attractive measure because their accuracy can be verified objectively (Healy and Palepu 2001) and they signal managers' confidence and certainty over future firm performance (Fanning et al. 2019). Regardless of the proxies used, findings in extant literature overall are consistent with theoretical literature that suggests greater VD reduces agency problems arising from information asymmetry between managers and investors, which reduces perceived investment risk and results in a lower cost of capital.

Debt Contracting

In debt contracting, VD plays a peculiar role. Unlike stockholders, creditors impose debt covenants that demand additional financial disclosure from firm borrowers (Smith and Warner, 1979; Leftwich 1983; Nikolaev 2010). Yet, despite their ability to influence financial disclosure, creditors value VDs beyond those required in debt covenant provisions (Coller and Yohn 1997; Lang and Lundholm 2000). Thus, while prior literature demonstrates what effect VD has on firms' cost of capital, we can only infer how the effect occurs.

A key feature in the underlying FDCC relation is the mediating role of investment risk. Diamond (1984) and Diamond and Verrecchia (1991) discuss how risk is the mediating factor that links the effect of financial disclosure to firms' cost of capital. The role of risk as a mediating factor relies on the assumption that (1) VDs will influence investors' perceived risk of investment and that (2) investors are willing and able to adjust their capital allocations based on updates in their perceived investment risk. In a free enterprise system, it is reasonable to assume the latter. Whether or not investors are influenced by financial disclosure depends on investors' risk tolerance.

In debt contracting, creditors who are risk-averse (i.e. have a low risk-tolerance) will likely value VD because it provides greater assurance that debt obligations will be satisfied. Yet, if creditors are risk-neutral or risk-seeking (i.e. have a high risk-tolerance), it is unclear whether VD will influence debt contracting decisions. If risk tolerance influences how VD affects firms' cost of debt capital then it is important to understand what factors influence creditors' risk tolerance and whether creditors' risk tolerance is static or variable over time.

Variation in Creditors' Risk Tolerance

Prior literature finds that, on average, creditors' risk tolerance varies with their forecasts of future economic con-

ditions (Schreft and Owens 1991; Rajan 1994). Additionally, creditors' risk tolerance cycles between periods of credit rationing and credit abundance (Wojnilower 1980; Bernanke et al. 1991; Schreft and Owens 1991, 1995; Asea and Blomberg 1998; Lown and Morgan 2006). When creditors' economic outlook is pessimistic, their forecasted probability of borrower default increases and their overall risk tolerance decreases (Asea and Blomberg 1998; Ruckes 2004). As a result, creditors' screening and monitoring efforts increase, the price of loans increases, credit standards become tight, and fewer loans are extended to borrowers (Ruckes 2004). Periods in which this occurs are referred to as credit rationing periods; periods when creditors' risk tolerance is relatively low, lending standards are strict, and overall credit availability is low resulting in excess demand for loanable funds (Jaffee and Russell 1976; Stiglitz and Weiss 1981; Williamson 1986; Jaffee and Stiglitz 1990).

In contrast, when creditors' economic outlook is optimistic, their forecasted probability of borrower default decreases and their overall risk tolerance increases (Asea and Blomberg 1998). As a result, screening and monitoring efforts decline, the price of loans declines, credit standards become lax, and loans are extended to lower quality borrowers (Ruckes 2004). Periods in which this occurs are referred to as credit abundance periods; periods when creditors' risk tolerance is relatively high, lending standards are lax, and overall credit availability is high. Under such conditions, even poorly qualified borrowers obtain credit when they otherwise would not (Rajan 1994; Black and de Meza 1994; Weinberg 1995).

Given that creditors have greater uncertainty over debt repayment during periods of credit rationing, they are likely to seek assurances through additional public and nonpublic information disclosed from borrowers. Like equity holders, creditors can access additional public information from borrowers via their conference calls and earnings guidance. Per § 243.100(a)(1) through (2) of Regulation Fair Disclosure (Reg FD), such information must be publicly disclosed simultaneously and promptly. Unlike equity holders, creditors can access additional nonpublic information; Reg FD does not prohibit creditors from accessing nonpublic information of borrowers (Reg FD § 243.100(a)(2)(b)). This suggests that creditors have unfettered access to any borrower information that provides assurances of credit worthiness. Thus, if creditors work directly with firms to obtain nonpublic information (e.g. through more frequent reporting of private financial information) then firms' decisions to voluntarily disclose more public information would not have any marginal effect on borrowers' cost of debt capital during periods of credit rationing. If, however, borrowers' VDs partially subsidize creditors' cost of obtaining additional information (Lang and Lundholm 1993) or such VD conveys borrower's confidence or certainty over their

financial reports (Kasznik and Lev 1995), then VDs will likely matter more to creditors during periods of credit rationing than during periods of credit abundance. This study argues that firms' VDs are valued by creditors more when credit is rationed than when credit is abundant. Or, stated formally:

H1: The effect of VD on firms' cost of debt capital is greater during periods of credit rationing than during periods of credit abundance.

The Influence of Firm Size During periods of Credit Rationing

Firm size can influence whether firms are able to obtain financing during tighter credit market conditions. Greenspan (2008, 117) recalls that, during the credit rationing period of 1990-1991, "... small and midsize manufacturers and merchants all over America were finding it hard to get even routine business loans approved." Prior theoretical literature documents this phenomenon by demonstrating that smaller firms are denied credit during periods of credit rationing because they lack sufficient collateral to provide creditors with assurance of debt repayment (Holmstrom and Tirole 1997; Tirole 2006). However, these studies also demonstrate that smaller firms are more likely to obtain debt financing if they can improve monitoring between themselves and the lender. If greater VD improves creditors' ability to monitor smaller borrowers, then VD will matter more to creditors of smaller firms when credit is rationed. This conjecture is supported by the evidence found in prior literature that relatively large firms have more robust information environments than smaller firms (Collins et al. 1987; Lev and Penman 1990; Lang and Lundholm 1993; Frankel and Li 2004) and thus are not as likely to benefit from VD as smaller firms during periods of credit rationing.

To determine whether creditors react more to VD of smaller borrowers than larger borrowers during periods of credit rationing, the following hypothesis is tested:

H2: The effect of VD on firms' cost of debt capital is greater for smaller firms than larger firms during periods of credit rationing.

Methodology

To test whether credit market conditions alter the effect of VD on firms' cost of debt capital, the following general model is utilized:

Cost of debt capital = f(VD, credit market conditions, firm controls)

Cost of Debt Capital

Credit ratings are used to measure firms' cost of debt capital. Prior research finds that credit ratings are associated with credit risk (Kaplan and Urwitz 1979; Ziebart and Reiter 1992) and encompass both pricing (e.g. interest charges) and non-pricing (e.g. debt covenant restrictiveness) attributes of firms' cost of debt capital (Holthausen and Leftwich 1986; Altman 1992). Data on firms' S&P domestic long-term issuer credit rating is obtained from Compustat (variable "spltrcm" in the AD-SPRATE dataset). Credit ratings are converted into numeric scores where higher scores (i.e. high credit ratings) represent lower cost of debt capital (Appendix A). Scoring follows the methodology used by Ashbaugh-Skaife et al. (2006), where major categories (e.g. AAA, AA, A, etc.) are assigned a score. Credit ratings are also delineated between investment- and speculative-grade where credit ratings of BBB- and higher are deemed investment grade and those lower than BBB- are deemed speculative grade (Frost 2007). This measure is included because prior literature suggests that creditors are more sensitive to disclosure policies of firms that are rated just above or below the investment-/speculative-grade threshold (Ayers et al. 2010). This suggests that the effect of changes in VD may be stronger for firms that move into / out of investment-grade ratings.

Variables $\Delta\text{Ratings}_{1i,t+1}$ and $\Delta\text{Ratings}_{2i,t+1}$ represent the change in credit score from period t to period $t+1$ for firm i where positive (negative) changes represent a credit rating upgrade (downgrade), and going from negative changes in credit rating score to positive changes in credit rating score represents a general improvement in firms' credit ratings and likely decreases their cost of debt capital.

The discrete categories of credit ratings are intended to measure credit risk, which is a latent, continuous variable. The ranked levels of credit ratings differentiate between levels of credit risk, but one cannot assume uniform differences in credit risk between the levels of credit ratings (Ahmed et al. 2002; Ashbaugh-Skaife et al. 2006; Ayers et al. 2010). Likewise, changes in the credit score rankings, $\text{Ratings}_{1i,t}$ and $\text{Ratings}_{2i,t}$, identify changes in credit risk, which is also a latent, continuous variable and thus the changes represent increased / decreased credit risk. However, it cannot be assumed that differences between changes in these credit rating scores are uniform. Thus, Equation (1) is run using ordinal logistic regression which treats changes in credit rating scores ($\Delta\text{Ratings}_{1i,t+1}$ and $\Delta\text{Ratings}_{2i,t+1}$) as discrete.

The first measure used to measure VD is earnings conference call disclosure frequency ($\text{CC}_{i,t}$). Similar to Bushee et al. (2003, 2004), data obtained from BestCalls.com is used to

measure the number of earnings conference call disclosures held by firm i during year t . Changes in conference call disclosure frequency ($\Delta\text{CC}_{i,t}$) are calculated as the difference between the number of earnings conference calls in period t less the number of earnings conference calls in period $t-1$ (Appendix B). Conference calls provide incremental information to required disclosures (Lang 1998), and prior literature demonstrates that more frequent conference calls reduce the information asymmetry component of firms' cost of capital (Tasker 1998; Frankel et al. 1999; Bushee et al. 2003; Brown et al. 2004). If creditors find greater conference call disclosure frequency useful in debt contracting, then positive changes in conference call disclosure frequency are expected to result in a subsequent improvement in credit ratings, and this effect will be greater when credit is rationed. Furthermore, this effect is expected to be greater for smaller firms than larger firms during periods of credit rationing.

The second measure of VD is earnings guidance disclosure frequency ($\text{CIG}_{i,t}$). Similar to Houston et al. (2010), earnings guidance data from the First Call database is used to measure the number of earnings guidance forecasts issued by firm i during year t . Changes in earnings guidance disclosure frequency ($\Delta\text{CIG}_{i,t}$) are calculated as the difference between the number of earnings guidance forecasts issued in period t less the number of earnings guidance forecasts issued in period $t-1$ (Appendix B). Prior literature finds that managers who release earnings guidance reduce the information asymmetry component of firms' cost of capital (Coller and Yohn 1997; Lang and Lundholm 2000). Additionally, earnings guidance has been shown to mitigate litigation, reputation, and capital costs associated with future bad news (Skinner 1994; Kasznik and Lev 1995; Soffer et al. 2000). If creditors find greater earnings guidance disclosure frequency useful in debt contracting, then positive changes in earnings guidance frequency are expected to result in a subsequent improvement in credit ratings, and this effect will be greater when credit is rationed. Furthermore, this effect is expected to be greater for smaller firms than larger firms during periods of credit rationing.

Credit Market Conditions

Two general measures of credit market conditions are employed in these analyses. The first measure draws from the results of the Senior Loan Officer Opinion Survey obtained from the Federal Reserve System website (<https://www.federalreserve.gov/data/sloos.htm>). Schreft and Owens (1991), Berger and Udell (2004), and Lown and Morgan (2002, 2006) find the results of the Senior Loan Officer Survey reflect credit market sentiment (e.g. optimism and pessimism) and follow a pattern of credit standard tightening before economic recessions

and credit standard loosening before economic expansion. The survey is conducted approximately four times per year and consists of over 100 questions on creditor sentiment and lending policy changes. The first measure of credit market conditions, $SLOOS_t$, is a continuous measure of the net percentage of banks tightening commercial and industrial (C&I) lending standards. The figure reported by the Federal Reserve is calculated as the number of banks tightening their C&I lending standards less the number of banks easing their C&I lending standards, divided by the number of banks responding. The average of this reported figure is calculated over the four quarterly surveys to derive an annual net percentage of C&I

credit standard tightening. The time-series trend in this figure is shown in Figure I. While it is reasonable to view positive levels of net standard tightening as representing periods of credit rationing, a declining but positive level of net standard tightening could reasonably be interpreted as a period of credit abundance. As such, changes in standard tightening ($\Delta SLOOS_t$) rather than levels of standard tightening are used to identify credit market conditions, where positive changes in $SLOOS_t$ represent periods of credit rationing and negative changes in $SLOOS_t$ represent periods of credit abundance (Appendix B).

Figure I: Time trend of credit market conditions
Annual average of quarterly survey results of loan underwriting standards of commercial and industrial loans (Federal Reserve Senior Loan Officer Opinion Survey, "SLOOS").

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
$SLOOS_t$ (%)	(12.4)	(5.6)	(1.4)	(6.3)	7.8	8.0	28.3	50.5	28.0	8.6	(20.6)	(18.3)	(8.0)	5.8	57.2	37.3	(8.0)
$\Delta SLOOS_{t+1}$ (%)		6.8	4.3	(5.0)	14.1	0.2	20.3	22.2	(22.5)	(19.4)	(29.2)	2.3	10.3	13.7	51.5	(19.9)	(45.3)

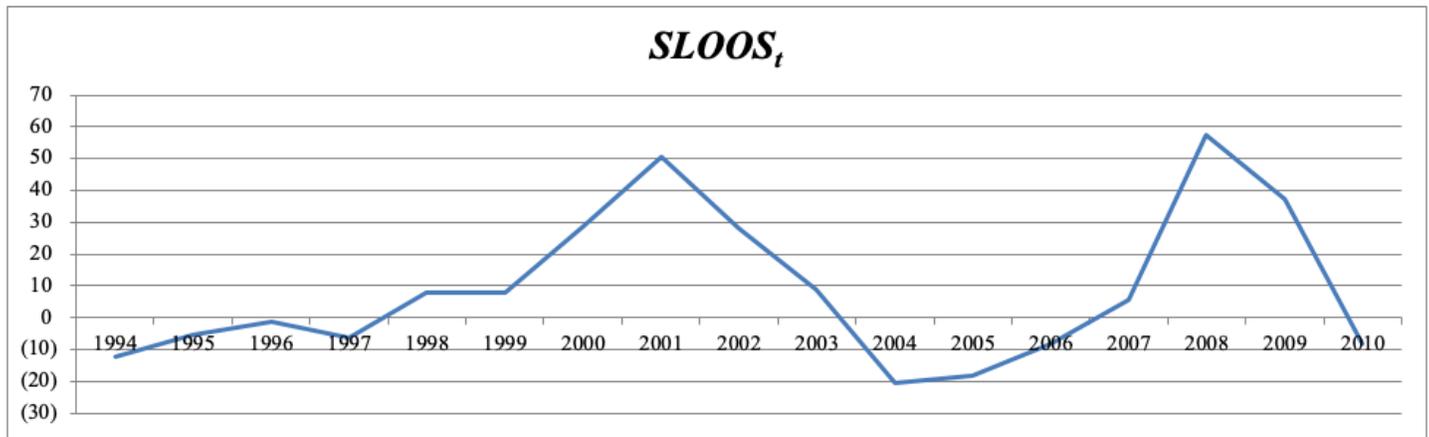
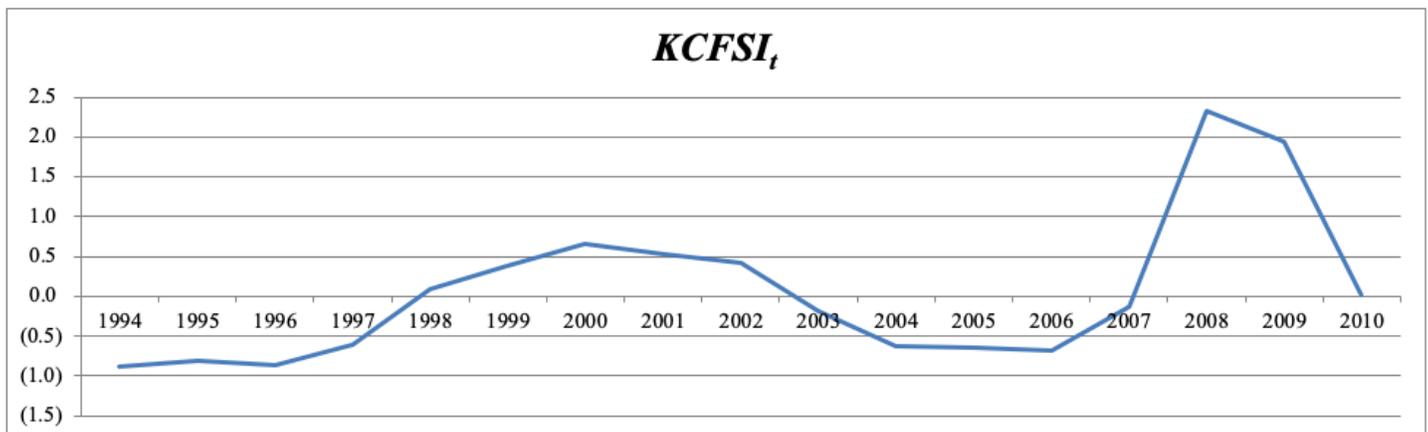


Figure I (continued)

Financial Stress Index – Kansas City Federal Reserve Bank ("KCFSI").

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
$KCFSI_t$	(0.888)	(0.799)	(0.857)	(0.608)	0.093	0.377	0.666	0.535	0.424	(0.178)	(0.618)	(0.649)	(0.685)	(0.133)	2.325	1.933	0.025
$\Delta KCFSI_{t+1}$		0.089	(0.058)	0.248	0.701	0.284	0.289	(0.131)	(0.111)	(0.602)	(0.440)	(0.032)	(0.036)	0.552	2.458	(0.393)	(1.908)



The second measure of credit market conditions is an index derived from several individual credit rationing indicators. Sabry and Okongwu (2009) examine interest rate spreads both before and during the Credit Crisis of 2007-2009 and find sharp increases in the 2-Year Swap spread and Treasury-Euro Dollar (TED) spread in the month of August 2007, the beginning of the financial crisis (Acharya et al. 2009b; Brunnermeier 2009), followed by a period of high variation in the spreads and even further increases in September 2008, a period that saw, among other events, the conservatorship of Fannie Mae and Freddie Mac, the SEC prohibition of short-selling of financial companies, the bankruptcy of Lehman Brothers, and the receivership of Washington Mutual (Brunnermeier 2009). The Federal Reserve Bank of Kansas City compiles data on spread data and other stress condition factors to create a composite index of credit market stress called the Kansas City Financial Stress Index (Appendix B). Obtained from the Federal Reserve Bank of Kansas City website (<https://www.kansascityfed.org/research/indicatorsdata/kcfsi>), this index is used to measure of credit market conditions, where positive (negative) changes in the index ($\Delta KCFSIt$) indicate periods of credit rationing (abundance) (Hakkio and Keeton 2009). Trends in the $KCFSIt$ are shown in Figure I and follow a similar pattern to $SLOOS_t$.

In addition to the continuous variables above, an indicator variable is used to capture periods credit rationing / abundance. While large positive (negative) changes in $SLOOS_t$ reasonably measure the degree of credit rationing (abundance) in the credit markets, it is unclear whether small changes are a clear signal of credit market sentiment. For example, between 2007 to 2008, the net percentage of banks reporting tighter credit standards increased by 51.45%, which is indicative of the perceived credit rationing occurring at that time (Greenspan 2008; Brunnermeier 2009). In comparison, the net percentage of banks reporting tighter credit standards increased only 2.25% from 2004 to 2005 which is also indicative of credit rationing. However, while both data points suggest credit rationing, it is unclear whether the smaller change signals credit rationing as clearly as the larger change. Furthermore, while the 2.25% positive change in $SLOOS_t$ from 2004 to 2005 indicates tighter lending standards, the change in the $KCFSIt$ is negative for that same period suggesting credit standard loosening. Due to the uncertainty and ambiguity of the effect of small changes in these measures, the model uses an indicator variable, $SLOOS_RY_t$ ($KCFSI_RY_t$), equal to one if $\Delta SLOOS_t$ ($\Delta KCFSIt$) is positive and zero otherwise (Appendix B). These indicator variables are expected to capture the general credit market sentiment rather than the specific degree of credit rationing / abundance.

Control Variables

Included in the model are numerous firm characteristics as control variables constructed from Computstat data (Appendix B). These variables been shown in prior literature to fundamentally influence the cost of debt capital (Kaplan and Urwitz 1979; Ogden 1987; Ziebart and Reiter 1992; Ashbaugh-Skaife et al. 2006). Firm leverage ($DTAi,t$) is the ratio of total debt to total assets for firm i at the end of period t . Firms with greater leverage are at greater risk of default and incur higher costs of debt capital. Firm size ($LnSIZEi,t$) is measured by taking the natural log of one plus total assets for firm i at the end of period t . Large firms have greater resources available to service their debt and thus incur lower debt capital charges. Firm profitability ($ROAi,t$) is the ratio of firm i 's income before extraordinary items during period t to average total assets over the period $t-1$ to t . More profitable firms are better able to service their debt obligations and, as such, incur lower cost of debt capital. Interest coverage ($COVi,t$) is the ratio of firm i 's operating income before depreciation to interest costs for period t . Firms that are better able to meet debt service charges are at less risk of default and are charged a smaller risk premium. Capital intensity ($CAPi,t$) is the ratio of i 's gross property plant and equipment for period t divided by total assets for period t . While prior literature finds that higher levels of $CAPi,t$ result in lower levels in firms' cost of debt capital (Ashbaugh-Skaife et al. 2006), it is unclear whether an increase in $CAPi,t$ will result in a decrease in firms' cost of debt capital because less cash will be available to service debt (Ayers et al. 2010). Firms that experience a loss likely charged a higher cost of debt due to the greater risk of default (Ashbaugh-Skaife et al. 2006; Ayers et al. 2010). An indicator variable for firms reporting a net loss ($LOSSi,t$) is included. This variable equals one if firm i 's income before extraordinary items is less than or equal to zero for period t . Firms with subordinated debt are considered to more risky due to the differential claims to assets by debt providers. Also included is an indicator variable ($SUBi,t$) equal to one if firm i has subordinated debt at the end of period t . Changes in all control variables ($\Delta CONTROLSi,t$) are calculated as the difference between their measures in period t less their measures in period $t-1$.

To control for industry fixed effects, Fama and French's (1997) 17 industry classifications are included. Obtained from Kenneth French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html), these fixed effects represent each firm's membership in a particular industry and are intended to control for the effect of industry membership on each firm's debt capital structure. Firms belonging to regulated utility and financial industries are removed as these firms are highly leveraged and factors influencing their cost of debt

capital are not likely to be consistent with firms in unregulated industries (Sengupta 1998; Pittman and Fortin 2004; Francis et al. 2005). The model also controls for time-series effects by including an indicator variable for the year of observation t .

Sample Selection

Table I presents the derivation of the data used in the analyses. Data on credit ratings from Compustat consisted of 48,645

observations. After calculating year-over-year changes in credit ratings, the sample consisted of 43,469 available firm-year observations. Data on changes in control variables and industry classification obtained from Compustat were merged with credit ratings data. Observations of firms belonging to regulated industries and observations with missing data were deleted resulting in 23,010 firm-year observations.

Table I: Sample Selection

Total firm-year credit ratings	48,645
Less: unavailable data for year-over-year changes in credit ratings	(5,176)
Total year-over-year changes in credit ratings	43,469
Less: unavailable data for year-over-year control variables	(18,009)
Less: observations of firms in regulated industries	(2,450)
Total firm-year-over-year observations (Base data)	23,010
Base data plus year-over-year conference call data (years 2000-2008)	6,647
Base data plus year-over-year earnings guidance data (years 1995-2010)	6,079

The years of coverage for the VD variables do not coincide; earnings guidance disclosure data is available for years 1995 to 2010, but conference call disclosure data is only available for years 2000 to 2008. To estimate a model that includes both conference call and earnings guidance disclosure data would result in a sample size 3,826 firm-year observations and could potentially unnecessarily eliminate sample observations. Rather than construct a single sample with both VD variables, separate samples are constructed for conference call disclosures and earnings guidance disclosures. The conference call subsample consists of 6,647 firm-year observations, and the earnings guidance subsample consists of 6,079 firm-year observations.

Results

Descriptive Statistics

Descriptive statistics for sample firms are provided in Tables II and III. Values of the change in the control variables and the VD variables are winzorized at the 1st and 99th per-

centiles to account for outliers. The change in credit ratings scores ranges from -2 to +2 for $\Delta\text{Ratings}_{1i,t+1}$ and from -1 to +1 for $\Delta\text{Ratings}_{2i,t+1}$. Given the ranks assigned to each of the credit ratings, firms whose credit rank is higher in period $t+1$ than in period t will show a positive change in credit rating score indicating a credit rating upgrade. Similarly firms whose credit rank is lower in period $t+1$ than in period t will show a negative change in credit rating score indicating credit rating downgrade. Generally speaking, going from a more negative change to a less negative change in credit ratings or from a less positive change to a more positive change in credit rating score represents an improvement in credit rating scores and a reduction in firms' cost of debt capital. Year-over-year changes in the net percentage of banks adjusting their lending standards (ΔSLOOSt) range from -29.2% to 51.5% in the earnings guidance sample and -45.3% to 51.5% in the conference call sample, where positive changes in SLOOSt represent periods of credit rationing. Similarly, positive changes in financial stress in the credit markets (ΔKCFSIt) represent periods of credit rationing.

Table II: Descriptive Statistics of Conference Call Sample and Sub-samples.

Variables	N	Mean	Std Dev	Min.	1%	25%	Median	75%	99%	Max.
$\Delta RATINGS1_{i,t+1}$	6,647	-0.044	0.363	-2	-1	0	0	0	1	2
$\Delta RATINGS2_{i,t+1}$	6,647	-0.010	0.182	-1	-1	0	0	0	1	1
$\Delta SLOOS_t$ (%)	9	5.469	25.774	-29.150	-29.150	-19.350	10.325	20.325	51.450	51.450
$\Delta SLOOS_RY_t$	9	0.667	0.500	0	0	0	1	1	1	1
$\Delta KCFSI_t$	9	0.216	0.908	-0.602	-0.602	-0.131	-0.036	0.289	2.458	2.458
$\Delta KCFSI_RY_t$	9	0.333	0.500	0	0	0	0	1	1	1
$\Delta DTA_{i,t}$	6,647	0.003	0.089	-0.322	-0.209	-0.038	-0.007	0.031	0.337	0.531
$\Delta LnSIZE_{i,t}$	6,647	0.080	0.228	-0.771	-0.450	-0.022	0.051	0.142	0.967	1.398
$\Delta ROA_{i,t}$	6,647	-0.005	0.080	-0.573	-0.299	-0.022	0.001	0.020	0.220	0.422
$\Delta COV_{i,t}$	6,647	-0.652	17.951	-263.776	-59.948	-1.107	0.268	1.780	44.639	107.383
$\Delta CAP_{i,t}$	6,647	0.004	0.092	-0.648	-0.302	-0.023	0.007	0.038	0.277	0.555
$\Delta LOSS_{i,t}$	6,647	0.014	0.407	-1	-1	0	0	0	1	1
$\Delta SUB_{i,t}$	6,647	-0.010	0.215	-1	-1	0	0	0	1	1
$\Delta CC\#_{i,t}$	6,647	0.009	1.204	-3	-3	0	0	0	3	4
$\Delta CC\#_{i,t}$ (small)	3,322	0.018	1.224	-3	-3	0	0	0	3	4
$\Delta CC\#_{i,t}$ (large)	3,325	-0.001	1.184	-3	-3	0	0	0	3	4

Variables are described in Appendix A. Changes in control variables and voluntary disclosure variables have been winzorized at the 1st and 99th percentile.

Table III: Descriptive Statistics of Earnings Guidance Sample and Sub-samples.

Variables	N	Mean	Std Dev	Min.	1%	25%	Median	75%	99%	Max.
$\Delta RATINGS1_{i,t+1}$	6,079	-0.045	0.346	-2	-1	0	0	0	1	2
$\Delta RATINGS2_{i,t+1}$	6,079	-0.012	0.193	-1	-1	0	0	0	1	1
$\Delta SLOOS_t$ (%)	16	0.277	23.546	-45.300	-45.300	-19.613	3.250	13.900	51.450	51.450
$\Delta SLOOS_RY_t$	16	0.625	0.500	0	0	0	1	1	1	1
$\Delta KCFSI_t$	16	0.057	0.872	-1.908	-1.908	-0.262	-0.034	0.287	2.458	2.458
$\Delta KCFSI_RY_t$	16	0.438	0.512	0	0	0	0	1	1	1
$\Delta DTA_{i,t}$	6,079	0.001	0.080	-0.304	-0.197	-0.038	-0.008	0.029	0.300	0.440
$\Delta LnSIZE_{i,t}$	6,079	0.083	0.214	-0.753	-0.448	-0.016	0.054	0.140	0.948	1.223
$\Delta ROA_{i,t}$	6,079	-0.006	0.073	-0.529	-0.263	-0.022	0.000	0.017	0.227	0.435
$\Delta COV_{i,t}$	6,079	-0.958	19.042	-223.072	-72.515	-1.456	0.147	1.686	38.738	167.111
$\Delta CAP_{i,t}$	6,079	0.002	0.072	-0.422	-0.270	-0.021	0.005	0.030	0.217	0.409
$\Delta LOSS_{i,t}$	6,079	0.023	0.396	-1	-1	0	0	0	1	1
$\Delta SUB_{i,t}$	6,079	-0.005	0.198	-1	-1	0	0	0	1	1
$\Delta CIG\#_{i,t}$	6,079	0.329	3.286	-12	-9	-1	0	2	10	13
$\Delta CIG\#_{i,t}$ (small)	3,035	0.279	3.168	-12	-9	-1	0	2	10	13
$\Delta CIG\#_{i,t}$ (large)	3,044	0.379	3.398	-12	-9	-1	0	2	10	13

Variables are described in Appendix A. Changes in control variables and voluntary disclosure variables have been winzorized at the 1st and 99th percentile.

Table IV presents correlation statistics for year-over-year changes for all variables used in this study. Note that the credit market condition variables, $\Delta SLOOS_t$, $SLOOS_RY_t$, $\Delta KCFSI_t$, and $KCFSI_RY_t$ are negatively and significantly correlated at $p \leq 0.10$ with changes in firms' credit rating scores, $\Delta Ratings1_{i,t+1}$ and $\Delta Ratings2_{i,t+1}$ suggesting that when credit is rationed, firms' credit rating scores decrease and their cost of debt capital likely increases. Also, with the exception of

changes in interest coverage ($\Delta COV_{i,t}$) and change in capital intensity ($\Delta CAP_{i,t}$), changes in all control variables are significantly correlated at $p \leq 0.10$ with changes in firms' credit rating scores in the direction predicted. Changes in conference call disclosure frequency ($\Delta CCI_{i,t}$) and changes in earnings guidance disclosure frequency ($\Delta CIG_{i,t}$) are weakly correlated with changes in firms' credit rating scores in the direction predicted.

Table IV: Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$\Delta RATINGS1_{i,t+1}$		0.508	-0.090	-0.071	-0.084	-0.055	-0.146	0.074	0.130	0.003	-0.043	-0.125	-0.016	0.045	0.024
$\Delta RATINGS2_{i,t+1}$	0.488		-0.030	-0.029	-0.027	-0.016	-0.056	0.049	0.048	0.002	-0.007	-0.056	-0.022	0.014	0.029
$\Delta SLOOS_t$ (%)	-0.082	-0.028		0.804	0.835	0.572	0.077	0.032	-0.089	-0.018	0.015	0.089	0.033	-0.319	0.031
$\Delta SLOOS_RY_t$	-0.069	-0.029	0.000		0.543	0.502	0.055	0.072	-0.059	-0.009	-0.022	0.060	0.035	-0.081	0.028
$\Delta KCFSI_t$	-0.074	-0.026	0.739	0.736		0.642	0.087	0.007	-0.093	-0.022	0.036	0.095	0.030	-0.562	-0.014
$\Delta KCFSI_RY_t$	-0.055	-0.016	0.551	0.502	0.000		0.087	0.096	-0.040	-0.012	-0.015	0.045	0.050	-0.362	-0.014
$\Delta DTA_{i,t}$	-0.170	-0.084	0.112	0.084	0.129	0.114		0.020	-0.324	-0.013	0.084	0.147	0.116	-0.075	-0.030
$\Delta LnSIZE_{i,t}$	0.099	0.058	0.037	0.061	0.059	0.087	0.030		0.086	-0.005	-0.403	-0.021	0.128	0.082	0.073
$\Delta ROA_{i,t}$	0.166	0.079	-0.114	-0.080	-0.096	-0.060	-0.333	0.064		0.015	-0.153	-0.418	-0.018	0.041	0.040
$\Delta COV_{i,t}$	0.169	0.105	-0.128	-0.127	-0.137	-0.106	-0.352	0.028	0.493		0.003	-0.004	-0.004	0.020	-0.001
$\Delta CAP_{i,t}$	-0.049	-0.010	0.000	-0.028	-0.002	-0.021	0.025	-0.508	-0.114	-0.048		0.070	-0.042	-0.043	-0.044
$\Delta LOSS_{i,t}$	-0.127	-0.056	0.081	0.060	0.073	0.045	0.209	-0.063	-0.589	-0.289	0.082		0.015	-0.048	-0.057
$\Delta SUB_{i,t}$	-0.015	-0.022	0.034	0.035	0.047	0.050	0.091	0.091	-0.035	-0.064	-0.041	0.014		0.001	-0.019
$\Delta CC\#_{i,t}$	0.047	0.017	-0.207	-0.101	-0.383	-0.361	-0.094	0.078	0.053	0.001	-0.020	-0.058	-0.004		0.115
$\Delta CIG\#_{i,t}$	0.016	0.017	0.054	0.034	-0.006	0.002	-0.017	0.075	0.050	0.038	-0.031	-0.052	-0.025	0.104	

Pearson correlations are above the diagonal. Spearman Correlations are below the diagonal. Variables are described in Appendix A. Correlations in bold indicate significance at 0.10 or better.

Model Estimation

Equation (1) is estimated using ordinal logistic regression. Given that the distributions of the change variables $\Delta Ratings1_{i,t+1}$ and $\Delta Ratings2_{i,t+1}$ are represented by negative and positive changes in credit rankings, a positive coefficient is interpreted as an increase in the odds of a credit rating upgrade; a negative regression coefficient is interpreted as a decrease in the odds of credit rating upgrade. The effect of changes in conference call disclosure frequency and earnings guidance disclosure frequency on changes in firms' credit ratings scores is examined in Tables V and VI. $\Delta Ratings1_{i,t+1}$ is the dependent variable in Panel A, Models 1 through 4, and $\Delta Ratings2_{i,t+1}$ is the dependent variable in Panel B, Model 1 and Model 4. All models include year and industry fixed effects, and estimates are based on Roger's (1993) corrected standard errors clustered by firm. Coefficients are reported in log-odds format, and the percent change in the odds ratio is also reported for the coefficients of the main and interaction effects of the VD variables.

Effects of Voluntary Disclosure Frequency on the Cost of Debt Capital

In Table V, Panel A, the coefficient for the main effect $\Delta CCI_{i,t}$ is positive and significant ($p \leq 0.10$) in Models 1 and 3 which suggests that, in terms of the percent change in the odds ratio, a one standard deviation increase in the change in conference call disclosure frequency increases the odds of an improved credit rating score between 8.8% and 11.0%. However, the coefficients for the interaction terms $\Delta CCI_{i,t} * \Delta SLOOS_t$, $\Delta CCI_{i,t} * \Delta SLOOS_RY_t$, $\Delta CCI_{i,t} * \Delta KCFSI_t$, and $\Delta CCI_{i,t} * \Delta KCFSI_RY_t$ are insignificant across all models. In Table V, Panel B, the coefficient for the interaction variable $\Delta CCI_{i,t} * \Delta SLOOS_RY_t$ is significantly positive at the 0.1 level (one-tailed), and the coefficient for the interaction variable $\Delta CCI_{i,t} * \Delta KCFSI_t$ is significantly positive at the 0.05 level (one-tailed). Taken together, these results indicate that a one standard deviation increase in the change in conference call disclosure frequency increases the odds of a credit rating upgrade between 17.4% and 43.3% during periods of credit rationing. Overall, Table V provides some support for H1, demonstrating that creditors value conference call VD more when credit is rationed. In

Table V: Ordinal Logistic Regression Analysis of Conference Calls and Credit Ratings
Panel A –Variable $RatingsI_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RatingsI_{i,t+1}$							
		Model 1 $\Delta SLOOS_t$		Model 2 $\Delta SLOOS_{RY_t}$		Model 3 $\Delta KCFSI_t$		Model 4 $\Delta KCFSI_{RY_t}$	
		Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%
$\Delta CC_{i,t}$	+	0.087* (1.58)	11.0%	0.076 (0.84)	9.6%	0.070* (1.30)	8.8%	0.064 (1.07)	8.0%
$\Delta CC_{i,t} * \Delta SLOOS_t$	+	-0.003 (-1.31)	-0.4%						
$\Delta CC_{i,t} * SLOOS_{RY_t}$	+			-0.014 (-0.13)	1.7%				
$\Delta CC_{i,t} * \Delta KCFSI_t$	+					-0.023 (-0.37)	2.7%		
$\Delta CC_{i,t} * KCFSI_{RY_t}$	+							0.009 (0.08)	1.1%
$\Delta DTA_{i,t}$	-	4.436*** (-9.34)		4.442*** (-9.34)		4.441*** (-9.34)		4.442*** (-9.33)	
$\Delta LnSIZE_{i,t}$	+	1.223*** (6.05)		1.221*** (6.04)		1.222*** (6.04)		1.221*** (6.04)	
$\Delta ROA_{i,t}$	+	2.380*** (3.98)		2.373*** (3.97)		2.365*** (3.95)		2.372*** (3.96)	
$\Delta COV_{i,t}$	+	0.002 (1.15)		0.002 (1.13)		0.002 (1.13)		0.002 (1.13)	
$\Delta CAP_{i,t}$?	-0.109 (-0.21)		-0.107 (-0.20)		-0.107 (-0.20)		-0.107 (-0.20)	
$\Delta LOSS_{i,t}$	-	0.455*** (-3.99)		0.457*** (-4.01)		0.457*** (-4.01)		0.457*** (-4.01)	
$\Delta SUB_{i,t}$	-	0.130 (0.79)		0.129 (0.78)		0.128 (0.78)		0.129 (0.78)	
Observations		6,647		6,647		6,647		6,647	
Clusters		1234		1234		1234		1234	
Pseudo R ²		0.077		0.077		0.077		0.077	
Area under the ROC curve		0.708		0.708		0.708		0.708	

Table VI, Panel A, the coefficients on the interaction variables $\Delta CIG_{i,t} * \Delta SLOOS_t$ and $\Delta CIG_{i,t} * \Delta SLOOS_{RY_t}$ are significantly positive at the 0.1 level (one-tailed) while the coefficient on the in interaction variable $\Delta CIG_{i,t} * \Delta KCFSI_t$ significantly positive at the 0.05 level (one-tailed). In Table VI, Panel B, the coefficient on the interaction variable $\Delta CIG_{i,t} * \Delta SLOOS_t$ is significantly positive at the 0.05 level (one-tailed) while the coefficient on the interaction variable $\Delta CIG_{i,t} * \Delta KCFSI_t$

is significantly positive at the 0.01 level (one-tailed). When combined Taken together, the results in Table VI indicate that a one standard deviation increase in the change in earnings guidance disclosure frequency increases the odds of a credit rating upgrade between 0.3% and 14% during periods of credit rationing. These support H1 and suggest that creditors value earnings guidance VD more during periods of credit rationing.

Table VI: Ordinal Logistic Regression Analysis of Earnings Guidance and Credit Ratings
 Panel A – Variable Ratings $I_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGS I_{i,t+1}$							
		Model 1		Model 2		Model 3		Model 4	
		$\Delta SLOOS_t$		$\Delta SLOOS$	RY_t	$\Delta KCFSI_t$		$\Delta KCFSI$	RY_t
		Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%
$\Delta CIG_{i,t}$	+	0.017 (1.27)	5.7%	-0.002 (-0.12)	-0.7%	0.016 (1.24)	5.4%	0.017 (1.14)	5.7%
$\Delta CIG_{i,t} * \Delta SLOOS_t$	+	0.001* (1.47)	0.3%						
$\Delta CIG_{i,t} * SLOOS_RY_t$	+			0.033* (1.29)	11.5%				
$\Delta CIG_{i,t} * \Delta KCFSI_t$	+					0.022** (1.72)	7.5%		
$\Delta CIG_{i,t} * KCFSI_RY_t$	+							0.001 (0.04)	0.3%
$\Delta DTA_{i,t}$	-	-5.466*** (-9.72)		-5.463*** (-9.72)		-5.460*** (-9.71)		-5.446*** (-9.71)	
$\Delta \ln SIZE_{i,t}$	+	1.971*** (8.03)		1.968*** (8.02)		1.972*** (8.05)		1.970*** (8.04)	
$\Delta ROA_{i,t}$	+	1.733*** (2.48)		1.740*** (2.49)		1.736*** (2.48)		1.756*** (2.52)	
$\Delta COV_{i,t}$	+	-0.001 (-0.35)		-0.001 (-0.38)		-0.001 (-0.35)		-0.001 (-0.41)	
$\Delta CAP_{i,t}$?	1.755*** (2.58)		1.755*** (2.58)		1.761*** (2.59)		1.763*** (2.59)	
$\Delta LOSS_{i,t}$	-	-0.558*** (-4.16)		-0.558*** (-4.16)		-0.559*** (-4.16)		-0.556*** (-4.14)	
$\Delta SUB_{i,t}$	-	-0.182 (-0.86)		-0.178 (-0.84)		-0.182 (-0.86)		-0.184 (-0.87)	
Observations		6,079		6,079		6,079		6,079	
Clusters		1017		1017		1017		1017	
Pseudo R ²		0.081		0.081		0.081		0.081	
Area under the ROC curve		0.714		0.715		0.715		0.715	

Table VI: Ordinal Logistic Regression Analysis of Earnings Guidance and Credit Ratings (continued)

Panel B –Variable $Ratings_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGS_{i,t+1}$							
		Model 1		Model 2		Model 3		Model 4	
		$\Delta SLOOS_t$		$\Delta SLOOS$	RY_t	$\Delta KCFSI_t$		$\Delta KCFSI$	RY_t
		Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%
ΔCIG_{it}	+	0.040** (1.89)	14.0%	0.009 (0.27)	3.0%	0.039** (1.85)	13.7%	0.039* (1.53)	13.7%
$\Delta CIG_{it} * \Delta SLOOS_t$	+	0.001** (2.19)	0.3%						
$\Delta CIG_{it} * SLOOS_RY_t$	+			0.055 (1.27)	19.8%				
$\Delta CIG_{it} * \Delta KCFSI_t$	+					0.040*** (2.77)	14.0%		
$\Delta CIG_{it} * KCFSI_RY_t$	+							0.011 (0.25)	3.7%
ΔDTA_{it}	-	4.125*** (-5.52)		4.111*** (-5.52)		4.111*** (-5.49)		4.091*** (-5.47)	
$\Delta LnSIZE_{it}$	+	1.586*** (4.54)		1.581*** (4.53)		1.592*** (4.58)		1.585*** (4.55)	
ΔROA_{it}	+	0.796 (0.81)		0.818 (0.83)		0.815 (0.83)		0.850 (0.86)	
ΔCOV_{it}	+	0.004** (1.74)		0.004** (1.67)		0.004** (1.73)		0.004* (1.62)	
ΔCAP_{it}	?	1.849 (1.64)		1.851 (1.64)		1.862* (1.66)		1.859* (1.65)	
$\Delta LOSS_{it}$	-	-0.391** (-1.76)		-0.390** (-1.76)		-0.390** (-1.76)		-0.387** (-1.74)	
ΔSUB_{it}	-	-0.433* (-1.45)		-0.426* (-1.43)		-0.434* (-1.45)		-0.432* (-1.45)	
Observations		6,079		6,079		6,079		6,079	
Clusters		1017		1017		1017		1017	
Pseudo R ²		0.062		0.062		0.063		0.061	
Area under the ROC curve		0.710		0.709		0.711		0.707	

Note: ***, **, and * indicate significance at $p \leq 0.01$, $p \leq 0.05$, and $p \leq 0.10$, respectively (one-tailed if the results are consistent with the direction of a prediction, and two-tailed otherwise). All regressions include industry and year fixed effects with Roger's (1993) corrected standard errors clustered by firm. Robust z-statistics are in parentheses. Changes in control variables and voluntary disclosure variables have been winzorized at the 1st and 99th percentile. For presentation purposes, coefficients for the intercepts, year fixed effects and industry fixed effects are suppressed; their inclusion would not change inferences. Columns labeled "%" present changes in the odds ratio from 1 standard deviation increase in the variable of interest.

Overall, the results in Tables V and VI provide evidence that VD reduces firms' cost of debt capital more during periods of credit rationing than during periods of credit abundance. This finding suggests that changes in credit market conditions influence creditors' risk tolerance causing them to value VD differentially.

Effects of Voluntary Disclosure Frequency on the Cost of Debt Capital Partitioned on Firm Size

The effects of changes in VD on changes in firms' credit rating score for the small-firm and large-firm subsamples are exam-

ined in Tables VII and VII. $\Delta Ratings_{1i,t+1}$ is the dependent variable in Table V, and $\Delta Ratings_{2i,t+1}$ is the dependent variable in Table VI. All models include year and industry fixed effects, and estimates are based on Roger's (1993) corrected standard errors clustered by firm. For brevity, $\Delta SLOOS_RY_t$ and $\Delta KCFSI_RY_t$ are dropped from the analyses; their inclusion would not change inferences. Coefficients are reported in log-odds format, and the percent change in the odds ratio is also reported for the coefficients of the main and interaction effects of the VD variables.

Table VII: Ordinal Logistic Regression Analysis of Conference Calls and Credit Ratings Partitioned on Firm Size

Panel A: Variable $RatingsI_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGSI_{i,t+1}$							
		Model 1 $\Delta SLOOS_t$				Model 2 $\Delta KCFSI_t$			
		Smaller Firms		Larger Firms		Smaller Firms		Larger Firms	
	Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%	
$\Delta ACC_{i,t}$	+	0.167*** (2.33)	22.7%	-0.002 (-0.02)	0.2% -	0.150** (2.13)	20.2%	-0.010 (-0.13)	1.2% -
$\Delta ACC_{i,t} * \Delta SLOOS_t$	+	-0.003 (-1.10)	-0.4%	-0.001 (-0.41)	0.1% -				
$\Delta ACC_{i,t} * \Delta KCFSI_t$	+					0.014 (0.15)	1.7%	-0.017 (-0.23)	2.0% -
$\Delta DTA_{i,t}$	-	3.430*** (-6.36)		7.085*** (-7.44)		3.426*** (-6.35)		7.089*** (-7.43)	
$\Delta LnSIZE_{i,t}$	+	0.946*** (3.47)		1.828*** (6.34)		0.946*** (3.47)		1.825*** (6.33)	
$\Delta ROA_{i,t}$	+	2.044*** (2.71)		3.117*** (2.84)		2.044*** (2.70)		3.099*** (2.82)	
$\Delta COV_{i,t}$	+	0.001 (0.58)		0.003 (0.78)		0.001 (0.59)		0.003 (0.77)	
$\Delta CAP_{i,t}$?	-1.223* (-1.95)		1.525* (1.88)		-1.220** (-1.96)		1.523* (1.87)	
$\Delta LOSS_{i,t}$	-	-0.355** (-2.32)		0.526*** (-3.08)		-0.356** (-2.32)		0.527*** (-3.09)	
$\Delta SUB_{i,t}$	-	0.092 (0.49)		0.064 (0.19)		0.091 (0.49)		0.065 (0.20)	
Observations		3,322		3,325		3,322		3,325	
Clusters		788		611		788		611	
Pseudo R ²		0.077		0.097		0.076		0.097	
Area under the ROC curve		0.713		0.727		0.713		0.727	
Sum of the % Supports H2	>	22.7%		0.0%		20.2%		0.0%	
		Yes				Yes			

Table VII: Ordinal Logistic Regression Analysis of Conference Calls and Credit Ratings Partitioned on Firm Size (continued)

Panel B: Variable $Ratings_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGS_{i,t+1}$							
		Model 1 $\Delta SLOOS_t$				Model 2 $\Delta KCFSI_t$			
		Smaller Firms		Larger Firms		Smaller Firms		Larger Firms	
	Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%	
$\Delta CC_{i,t}$	+	-0.044 (-0.33)	5.2%	0.130 (0.84)	16.6%	-0.026 (-0.19)	-3.1%	0.108 (0.72)	13.6%
$\Delta CC_{i,t} * \Delta SLOOS_t$	+	0.011** (1.99)	1.4%	-0.001 (-0.18)	-0.1%				
$\Delta CC_{i,t} * \Delta KCFSI_t$	+					0.248** (1.72)	35.5%	0.096* (1.53)	12.0%
$\Delta DTA_{i,t}$	-	2.057*** (-2.73)		3.677*** (-3.05)		2.052*** (-2.73)		3.696*** (-3.06)	
$\Delta LnSIZE_{i,t}$	+	0.881*** (2.51)		2.009*** (4.90)		0.894*** (2.52)		2.005*** (4.88)	
$\Delta ROA_{i,t}$	+	0.710 (0.84)		2.225* (1.36)		0.736 (0.88)		2.243* (1.37)	
$\Delta COV_{i,t}$	+	0.011*** (3.38)		0.004 (0.82)		0.011*** (3.46)		0.004 (0.81)	
$\Delta CAP_{i,t}$?	-0.579 (-0.54)		1.632 (1.51)		-0.587 (-0.54)		1.629 (1.51)	
$\Delta LOSS_{i,t}$	-	-0.175 (-0.79)		0.738*** (-2.57)		-0.168 (-0.76)		0.741*** (-2.56)	
$\Delta SUB_{i,t}$	-	-0.215 (-0.95)		-0.068 (-0.11)		-0.197 (-0.88)		-0.071 (-0.12)	
Observations		3,322		3,325		3,322		3,325	
Clusters		788		611		788		611	
Pseudo R ²		0.051		0.070		0.049		0.070	
Area under the ROC curve		0.720		0.716		0.719		0.716	
Sum of the % Supports H2	>	1.4%		0.0%		35.5%		12.0%	
		Yes				Yes			

Note: ***, **, and * indicate significance at $p \leq 0.01$, $p \leq 0.05$, and $p \leq 0.10$, respectively (one-tailed if the results are consistent with the direction of a prediction, and two-tailed otherwise). All regressions include industry and year fixed effects with Roger's (1993) corrected standard errors clustered by firm. Robust z-statistics are in parentheses. Changes in control variables and voluntary disclosure variables have been winzorized at the 1st and 99th percentile. For presentation purposes, coefficients for the intercepts, year fixed effects and industry fixed effects are suppressed; their inclusion would not change inferences. Columns labeled "%" present changes in the odds ratio from 1 standard deviation increase in the variable of interest. Odds for insignificant coefficients are deemed zero when summing odds.

In Table VII, Panel A, the coefficients for the main effect $\Delta CC_{i,t}$ in Model 1 and Model 2 are positive and significant at the 0.05 level (one-tailed) for the smaller-firm subsample but not the larger-firm subsample. Although the coefficients for the

interaction terms $\Delta CC_{i,t} * \Delta SLOOS_t$ and $\Delta CC_{i,t} * \Delta KCFSI_t$ are insignificant across both models, when combined with the results of the main effect ($\Delta CC_{i,t}$), conference call disclosure frequency appears to matter more to creditors of smaller firms

than larger firms even during periods of credit rationing, which supports H2. In Table VII, Panel B, the interaction effect ($\Delta CCI_{i,t} * \Delta SLOOS_t$) in Model 1 is significantly positive at the 0.05 level (one-tailed) for the small-firm subsample but insignificant for the larger-firm subsample suggesting that, during periods of credit rationing, conference call disclosure frequency is more important to creditors of smaller firms than larger firms. In Model 2, the interaction effect of $\Delta CCI_{i,t} * \Delta KCFSI_t$ is significantly positive for the smaller-firm subsample ($p \leq 0.05$) and larger-firm subsample ($p \leq 0.10$). However, the interaction coefficient for the smaller-firm subsample is greater than interaction coefficient from the larger-firm subsample. This suggests that conference call disclosure frequency matters more to creditors of smaller firms than larger firms during periods of credit rationing. Overall, the results from Table

VII support H2 and provide some evidence that the effect of conference call disclosure frequency on firms' cost of debt capital is greater for smaller firms than larger firms when credit is constrained.

In Models 1 and 2 of Table VIII, Panel A, the sum of the main effect coefficient ($\Delta CIG_{i,t}$) and the interaction effect ($\Delta CIG_{i,t} * \Delta SLOOS_t$) are greater for the smaller-firm subsample than the larger-firm subsample. Likewise, in Models 1 and 2 of Table VIII, Panel B, the sum of the main effect coefficient ($\Delta CIG_{i,t}$) and the interaction effect ($\Delta CIG_{i,t} * \Delta KCFSI_t$) are greater for the smaller-firm subsample than the larger firm subsample. Taken together, these results suggest that creditors value earnings guidance VD more from smaller firms than larger firms, even during periods of credit rationing. Overall, the results from Tables VII and VIII provide support for H2.

Table VIII: Ordinal Logistic Regression Analysis of Conference Calls and Credit Ratings Partitioned on Firm Size

Panel A: Variable $Ratings I_{i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGS I_{i,t+1}$							
		Model 1 $\Delta SLOOS_t$				Model 2 $\Delta KCFSI_t$			
		Smaller Firms		Larger Firms		Smaller Firms		Larger Firms	
		Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%
$\Delta CIG_{i,t}$	+	0.020 (1.00)	6.5%	0.014 (0.85)	4.9%	0.018 (0.91)	5.9%	0.015 (0.89)	5.2%
$\Delta CIG_{i,t} * \Delta SLOOS_t$	+	0.001 (1.13)	0.3%	0.001 (1.13)	0.3%				
$\Delta CIG_{i,t} * \Delta KCFSI_t$	+					0.030** (1.67)	10.0%	0.019 (0.94)	6.7%
$\Delta DTA_{i,t}$	-	-4.501*** (-6.52)		-7.536*** (-7.40)		-4.503*** (-6.54)		-7.526*** (-7.38)	
$\Delta LnSIZE_{i,t}$	+	2.166*** (6.71)		1.811*** (4.83)		2.172*** (6.73)		1.815*** (4.84)	
$\Delta ROA_{i,t}$	+	1.089 (1.22)		3.183*** (2.91)		1.091 (1.22)		3.185*** (2.91)	
$\Delta COV_{i,t}$	+	-0.002 (-0.50)		-0.001 (-0.24)		-0.001 (-0.49)		-0.001 (-0.24)	
$\Delta CAP_{i,t}$?	1.450* (1.65)		1.859* (1.75)		1.461* (1.66)		1.875* (1.77)	
$\Delta LOSS_{i,t}$	-	-0.588*** (-3.50)		-0.399** (-1.85)		-0.589*** (-3.51)		-0.401** (-1.85)	
$\Delta SUB_{i,t}$	-	-0.299 (-1.19)		-0.090 (-0.26)		-0.296 (-1.17)		-0.099 (-0.29)	
Observations		3,035		3,044		3,035		3,044	
Clusters		706		476		706		476	
Pseudo R ²		0.088		0.095		0.088		0.095	
Area under the ROC curve		0.734		0.719		0.735		0.719	
Sum of the % Supports H2	>	0.0%		0.0%		10.0%		0.0%	
		No				Yes			

Table VIII: Ordinal Logistic Regression Analysis of Conference Calls and Credit Ratings Partitioned on Firm Size (continued)

Panel B: Variable $Ratings_{2,i,t+1}$ as the dependent variable

VARIABLES	Sign	$\Delta RATINGS_{2,i,t+1}$							
		Model 1 $\Delta SLOOS_t$				Model 2 $\Delta KCFSI_t$			
		Smaller Firms		Larger Firms		Smaller Firms		Larger Firms	
	Log-odds	%	Log-odds	%	Log-odds	%	Log-odds	%	
ΔCIG_{it}	+	0.067** (1.95)	23.7%	0.022 (0.82)	7.8%	0.065** (1.88)	22.9%	0.024 (0.91)	8.5%
$\Delta CIG_{it} * \Delta SLOOS_t$	+	0.001 (0.80)	0.3%	0.002** (2.24)	0.7%				
$\Delta CIG_{it} * \Delta KCFSI_t$	+					0.034* (1.44)	11.4%	0.051*** (2.68)	18.9%
ΔDTA_{it}	-	3.078*** (-3.40)		5.786*** (-4.40)		3.079*** (-3.40)		5.779*** (-4.38)	
$\Delta LnSIZE_{it}$	+	1.269*** (2.91)		1.879*** (3.21)		1.280*** (2.95)		1.896*** (3.26)	
ΔROA_{it}	+	0.284 (0.28)		2.581* (1.45)		0.290 (0.28)		2.593* (1.47)	
ΔCOV_{it}	+	0.007*** (2.42)		-0.003 (-1.05)		0.008*** (2.45)		-0.003 (-1.03)	
ΔCAP_{it}	?	1.722 (1.08)		1.838 (1.01)		1.732 (1.09)		1.878 (1.04)	
$\Delta LOSS_{it}$	-	-0.086 (-0.31)		-0.509* (-1.52)		-0.087 (-0.32)		-0.512* (-1.53)	
ΔSUB_{it}	-	-0.510* (-1.59)		-0.500 (-0.90)		-0.507* (-1.58)		-0.518 (-0.92)	
Observations		3,035		3,044		3,035		3,044	
Clusters		706		476		706		476	
Pseudo R ²		0.070		0.093		0.071		0.092	
Area under the ROC curve		0.736		0.727		0.740		0.726	
Sum of the % Supports H2	>	23.7%		0.7%		34.3%		18.9%	
		Yes				Yes			

Note: ***, **, and * indicate significance at $p \leq 0.01$, $p \leq 0.05$, and $p \leq 0.10$, respectively (one-tailed if the results are consistent with the direction of a prediction, and two-tailed otherwise). All regressions include industry and year fixed effects with Roger's (1993) corrected standard errors clustered by firm. Robust z-statistics are in parentheses. Changes in control variables and voluntary disclosure variables have been winzorized at the 1st and 99th percentile. For presentation purposes, coefficients for the intercepts, year fixed effects and industry fixed effects are suppressed; their inclusion would not change inferences. Columns labeled "%" present changes in the odds ratio from 1 standard deviation increase in the variable of interest. Odds for insignificant coefficients are deemed zero when summing odds.

Summary Results

The model results in Tables V and VI provide some evidence that supports H1. Specifically, there is evidence that a change in conference call disclosure frequency is greater during periods of credit rationing. However, the marginal effect only appears significant when changes between investment-grade and speculative-grade credit ratings are used as the dependent variable. Table IV shows significant marginal effects of a change in earnings guidance disclosure frequency when credit is rationed across most models, providing strong support for H1. While the evidence overall suggests that VD matters more to creditors during periods of credit rationing, there appears to be a greater influence of earnings guidance disclosure frequency than conference call disclosure frequency on firms' cost of debt capital when credit is constrained.

Tables VII and VIII provide strong evidence that supports H2. Specifically, there is evidence that smaller firms benefit more than larger firms from greater VD during periods of credit rationing. While there is some evidence of a greater marginal effect of VD for smaller firms than larger firms during periods of credit rationing, the overall effect of VD during periods of credit rationing suggest that creditors value greater conference call and earnings guidance disclosure frequency more for smaller firms than larger firms during tighter credit market conditions.

Conclusions and Areas for Further Research

This study investigates how the observed relationship between firms' cost of debt capital and VD is influenced by credit market conditions. Prior literature indicates that when creditors are pessimistic, credit becomes rationed and creditors' screening and monitoring efforts increase (Rajan 1994; Ruckes 2004). However, borrowers can partially subsidize the cost of monitoring by voluntarily disclosing financial information (Lang and Lundholm 1993) suggesting that VD becomes more important to creditors when credit is rationed. Using conference call and earnings guidance disclosure frequency as a proxy for VD, credit ratings as a proxy for firms' cost of debt capital, and Federal Reserve data to measure credit rationing, this study examines whether investors perceive the value of financial information differentially across credit market conditions.

Consistent with expectation, this study finds some evidence that, during periods of credit rationing, greater VD reduces firms' cost of debt capital more than during periods of credit abundance. Additionally, this study provides some evidence that, during periods of credit rationing, VD reduces the cost of debt capital more from smaller firms than larger firms, suggesting that firms with a relatively weaker information environment benefit more from VD. In general, these results

indicate that credit market conditions influence how investors value financial information. Moreover, these results demonstrate how, in a free enterprise system, investors can adjust their investment allocation decisions efficiently in response to changing credit market conditions.

This study contributes to extant literature by examining the role of investors' risk tolerance in the relation between VD and the cost of capital. Several studies examine the effect of VD on firms' cost of capital, but do not test whether these effects are influenced by exogenous shocks to investors' risk tolerance. The study adds to extant literature by demonstrating that the effect of VD on firms' cost of capital is varies in degree of influence and direction of association depending on whether credit is rationed or abundance. Moreover, this study demonstrates the effect of VD on firms cost of capital, and the variability of this relation, exists despite increased financial disclosure since the passage of SOX documented in prior literature (Jain et al. 2008). Finally, despite a decline in the issuance earnings guidance (Houston et al. 2010), VD continues to be a major factor in capital allocation decisions today (Fanning et al. 2019; Cho et al. 2020). While managers may choose to opt-out of certain VD mediums, the evidence in this paper suggests that managers may need such disclosures when credit becomes scarce.

While this paper makes an important contribution to the line of VD research, there remain several opportunities for future research. For instance, recent studies find that investors react to qualitative information contained in conference calls (Brochet et al. 2019; Gow et al. 2019) and earnings guidance (Twedt 2016; Fanning et al. 2019). Examining the qualitative aspect of VD during periods of credit rationing can help refine the findings in this study. Recent studies also demonstrate the how VD via investor relations initiatives affect capital market allocation (Bhabra et al. 2020). Future research could examine to what extent such VD contributes to firms' cost of capital across credit market conditions. Hopefully this study will motivate such future research to extend our knowledge of VD.

Appendix A: Construction of the Cost of Debt Capital Proxy

$Ratings1_{i,t+1}$	$Ratings2_{i,t+1}$	S&P Domestic Long-term Issuer Credit Rating	Description
7	1	AAA	The highest issuer credit rating assigned by Standard & Poor's, the AAA rating indicates an extremely strong capacity of the obligor to meet its financial commitments.
6	1	AA+	AA indicates a very strong capacity to meet financial commitments and differs from the highest rating only in small degree.
6	1	AA	
6	1	AA-	
5	1	A+	A indicates a strong capacity to meet financial commitments, but it is somewhat more susceptible to adverse effects of changes in circumstances and economic conditions than obligors in higher-rated categories.
5	1	A	
5	1	A-	
4	1	BBB+	BBB indicates an adequate capacity to meet financial commitments. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments.
4	1	BBB	
4	1	BBB-	
3	0	BB+	BB indicates less vulnerability in the near-term than other lower-rated obligors. However, the obligor faces major ongoing uncertainties and exposure to adverse business, financial, or economic conditions which could lead to an inadequate capacity to meet its financial commitment.
3	0	BB	
3	0	BB-	
2	0	B+	B is more vulnerable than a "BB"-rated obligor, but the obligor currently has the capacity to meet its financial commitments. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitments.
2	0	B	
2	0	B-	
1	0	CCC+	CCC indicates that the obligor is currently vulnerable and is dependent upon favorable business, financial, and economic conditions to meet its financial commitments.
1	0	CCC	
1	0	CCC-	
1	0	CC	Currently highly vulnerable.
1	0	C	

Appendix B: Variable Definitions

$\Delta Ratings1_{i,t+1}$ & $\Delta Ratings2_{i,t+1}$	The change in the category of firm i 's Standard & Poor's senior debt rating from year t to year $t+1$. A positive change in credit rating category from year t to year $t+1$ corresponds to a rating upgrade while a negative change in credit rating from year t to year $t+1$ corresponds to a rating downgrade.
$\Delta CC_{i,t}$	The change $CC_{i,t}$ from period $t-1$ to period t , where $CC_{i,t}$ is the number of earnings conference calls held by firm i during period t . Data on conference call activity is obtained from BestCalls.com.
$\Delta CIG_{i,t}$	The change $CIG_{i,t}$ from period $t-1$ to period t , where $CIG_{i,t}$ is the number of earnings guidance disclosures issued by firm i during period t . Data on earnings guidance activity is obtained from First Call.
$\Delta SLOOS_t$	The change in $SLOOS_t$ from period $t-1$ to period t , where $SLOOS_t$ is the average net percentage of banks survey respondents reporting tighter lending standards for commercial and industrial loans during period t . Data from survey results were obtained from the Federal Reserve Board of Governors' website http://www.federalreserve.gov/boarddocs/snloansurvey/ .
$SLOOS_RY_t$	An indicator variable equal to one if the change in lending standards ($\Delta SLOOS_t$) is positive, and zero otherwise. Periods of increasing lending standard tightness suggest periods of credit rationing.
$\Delta KCFSI_t$	The change $KCFSI_t$ from period $t-1$ to period t , where $KCFSI_t$ is the average composite index of several financial stress indicators during period t (Hakkio and Keeton 2009). Data on the Kansas City Federal Reserve Financial Stress Index was obtained from the Kansas City Fed's website: http://www.kc.frb.org/research/indicatorsdata/kcfsi/ .
$KCFSI_RY_t$	An indicator variable equal to one if the change in the Kansas City Fed's financial stress index ($\Delta KCFSI_t$) is positive, and zero otherwise. Periods of increasing financial stress in the credit markets suggest periods of credit rationing.
$\Delta DTA_{i,t}$	The change in $DTA_{i,t}$ from period $t-1$ to period t , where $DTA_{i,t}$ is the ratio of total debt (Variable "dlc" plus variable "dltt" in the FUNDA dataset) to total assets (variable "at" in the FUNDA dataset) for firm i at the end of period t .
$\Delta LnSIZE_{i,t}$	The change in $LnSIZE_{i,t}$ from period $t-1$ to period t , where $LnSIZE_{i,t}$ is the log of one plus total assets (variable "at" in the FUNDA dataset) for firm i at the end of period t .
$\Delta ROA_{i,t}$	The change in $ROA_{i,t}$ from period $t-1$ to period t , where $ROA_{i,t}$ is the ratio of income before extraordinary items (variable "ib" in the FUNDA dataset) to average total assets (variable "at" in the FUNDA dataset) for firm i at the end of period t .
$\Delta COV_{i,t}$	The change in $COV_{i,t}$ from period $t-1$ to period t , where $COV_{i,t}$ is the ratio of operating income before depreciation (variable "oibdp" in the FUNDA dataset) to interest costs (variable "xint" in the FUNDA dataset) for firm i during period t .
$\Delta CAP_{i,t}$	The change $CAP_{i,t}$ from period $t-1$ to period t , where $CAP_{i,t}$ is the ratio of gross property plant and equipment (variable "ppeg" in the FUNDA dataset) divided by total assets (variable "at" in the FUNDA dataset) for firm i at the end of period t .
$\Delta LOSS_{i,t}$	The change in $LOSS_{i,t}$ from period $t-1$ to period t , where $LOSS_{i,t}$ is an indicator variable equal to one if firm i 's income before extraordinary items (variable "ib" in the FUNDA dataset) is less than or equal to zero for period t .
$\Delta SUB_{i,t}$	The change $SUB_{i,t}$ from period $t-1$ to period t , where $SUB_{i,t}$ is an indicator variable equal to one if firm i has subordinated debt (variable "ds" in the FUNDA dataset) at the end of period t .

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On the Commemoration of Plymouth 400tm Beginnings of American Free Enterprise: Aptuxcet Trading Post

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ABSTRACT

The year 2020 marks the 400th anniversary of the founding of the Pilgrim colony at Plymouth. Plymouth 400tm is commemorating the founding with a year-long tribute to the Pilgrim legacy. Commerce and enterprise is a key facet of the legacy. This article discusses the humble beginnings of what would emerge as the most powerful engine of economic growth and human progress in history. In 1627, the struggling members of a near bankrupt Plymouth Colony embarked on a new business model, based on private property rights, free trade among nations and a unique currency system. The system, born of necessity due to the inability of the settlers to pay back the 30 to 50% interest rates set by the London Adventurers, led to a contract, whereby members of the Colony were granted private ownership and rights to the fur trade. In an attempt to profit from a failing venture, the London Adventurers unwittingly released the spirit of Free Enterprise in the colony. A unique medium of exchange, wampum, was utilized to enable portability of trade accounting among international trading partners. European demand for pelts was the initial driver providing a prosperous inception for Free Enterprise in America. Aptuxcet Trading Post, the strategic access point between the northern and southern waterways of the colony, was the first trade hub.

Keywords: : Free enterprise, wampum, Plymouth Colony, International trade, Accounting

Introduction

“All great and honorable actions are accompanied with great difficulties, and both must be enterprised and overcome with answerable courage.” (Bradford & Deane, 1856)

- William Bradford

The roots of American Free Enterprise first emerge in Plymouth Colony in the 1620's. The journey and the story of the settlement are best cataloged by William Bradford (exhibit I) in his historical book, *Of Plimoth Colony* (Bradford & Deane, 1856). Before its publication in 1856, the original text had a circuitous journey itself. The entrepreneurial spirit demonstrated by Bradford and his small band of religious 'separat/ists' laid the foundation for both American democratic principles and the Free Enterprise system. During Bradford's time as governor for most of the period 1621-1656, the colony evolved from a few sturdy souls to a thriving community (Stratton, 1986). Now, Plymouth 400tm is celebrating the legacy of the Pilgrims with a year-long series of events. Recognizing the global significance of the commemoration, Frommer's travel guides has rated Plymouth as one of the top 20 places in the world to visit in 2020 (Frommer's, 2019).

When the separatists set sail on September 16, 1620 for northern Virginia, they were lightly provisioned and heavily indebted to their investors, The London Adventurers. They landed off of Cape Cod on November 19, 1620, well north of the Virginia territory. To forestall any mutinous behavior and seeking a harmonious settlement, they drafted the Mayflower Compact (Exhibit II). All adult males signed on this democratic declaration of self-rule (Bradford & Deane, 1856). Thus, began the democratic experiment in America.

The hardships encountered over the first several years included threats of disease, starvation and economic stress. Many of the London Company grew disenchanted with their investment and sold off. Remaining investors refused more capital by 1625, and the separatists were in dire financial condition. Most important to their purpose, the separatists lacked resources to bring more of their brethren in faith over to the new settlement from the Dutch town of Leyden. In late 1626, representatives of the colony returned to London and negotiated a contract with new terms for the settlement. Colonial representatives (8 Undertakers) agreed to assume the debt of £1800, and in return, the London Adventurers granted property rights to the community and the fur trading rights in the northern lands claimed by England. The new contract in 1627

enabled the Pilgrims to turn the tables on the investors, who had similarly exploited the Pilgrims' weak bargaining position in 1620. By playing on the investors' desire to get some return on a failing investment, the Pilgrims were able to own the trading rights. The colonists were now free to trade with Dutch, French, Native American, and other parties. The trade enabled the colonists to pay back debt, gain profit, and bring their fellow Pilgrim separatists to the colony (Stratton, 1986).

During the same period, the Pilgrims discovered a passage via a short portage to the southern side of the bay, known as modern day southern New England and New York (Exhibit III). At the head of the Manomet River on Buzzards Bay, the natives had a strategic location for trade. The colonists first encountered the spot on a mission seeking food stores and replenishment to survive the winter of 1622-23. In 1627, with the new contract in hand, the Pilgrims established a permanent Trading Post at Apatuxet, which they owned and controlled (Lombard, 1934). Thus, free enterprise was established in the New World.

Establishing a medium of exchange beyond barter was a key factor in the successful expansion of the Apatuxet Trading Post enterprise. Here, the Dutch settlers to the south played an integral role by introducing the Pilgrims to the native currency of wampum. The introduction of European tools to the native population enabled the scale of production necessary. In addition, the exclusive locales of shell materials and associated artistry by skilled tribes ensured a degree of currency stability in the early to mid-1600s. International trade was enabled without the use of bullion or coinage in short supply in the colonies. Native tribes, particularly the upland Iroquois, valued the wampum for ritual and display. The Iroquois were major suppliers of the beaver pelts in such demand by European markets (Jennings, 1984).

The combination of market demand for pelts, free trade among international colonists and trappers, and the establishment of a currency to enable stable supply and terms of trade, fueled the growth of the Apatuxet Trading Post enterprise. The result was prosperity and growth for the Plymouth Colony. Stability enabled the Pilgrims to launch and maintain a democratic, free enterprise driven community, centuries ahead of their home investors and European trade partners.

Literature Review

The Plymouth Colony: Journey to Religious and Economic Freedom

From Bradford's accounts, one learns Pilgrim separatists that set out for the New World in 1620 were already wanderers. They had been chased from their native England to Holland in search of religious freedom. After twelve years of hard labor and with elders concerned about exposure to amoral practices in both Amsterdam and Leyden, they were seeking a long term solution for their community. The group that set sail on the Mayflower was the advance guard of the larger community in Holland. The people pooled their funds and found investors in the London Company (Adventurers) with a settlement patent for the northern Virginia territory. They sought a higher purpose and freedom to practice faith away from temptations and the culture of the Dutch cities. They hoped to prosper with fishing and lumbering in America (Bradford & Deane, 1856).

The Adventurers drove a hard bargain in return for financial support. The formal agreement specified that each individual 16 years and over going to the colony be given a £10 share, or if taking £10 in money, receive two shares. The Pilgrims would fish and build, and at the end of seven years receive profits according to shares owned by them and the Adventurers. At this point, the debt was set to end (Stone, 1975). With the formation of this contract, the Pilgrims believed the terms would specify five days a week of labor for the Adventurers, but the final terms were more onerous with the Pilgrims contractually obliged to work seven days a week for the company. With the ship set to sail in two days, the Adventurers rushed the final contract without giving the Pilgrims proper consideration. The Pilgrims lacked property rights, and the freedom to celebrate their faith was restricted, since all their work was on 'company time.' In addition to the community of Pilgrims, the Adventurers required a number of non-separatist 'strangers' from the London community to board. These folks were mainly debtors, and had little interest in the more lofty community goals of the Pilgrims (Bradford & Deane, 1856).

The voyage to the New World was difficult, and the sister ship Speedwell foundered not far from port. The Mayflower re-embarked even later in the season with more passengers and less provisions. Their arrival at Cape Cod, off modern day Provincetown, brought little relief. Winter had arrived, and there was no time to establish permanent encampments until spring. Once at harbor in Province-

town, the leaders of the community were concerned about chaos and disorder upon landing with the sizable number of strangers in their midst. They drew up a compact and required each adult male to sign before disembarking. The signing of the Mayflower Compact on November 19, 1620 in Provincetown harbor created a foundational document in democratic governance. This was the first document declaring self-governance in the New World. The settlers agreed to form a civil body politic “for our better Ordering and Preservation, and Furtherance of the Ends aforesaid: And by Virtue hereof do enact, constitute, and frame, such just and equal Laws, Ordinances, Acts, Constitutions, and Officers, from time to time, as shall be thought most meet and convenient for the general Good of the Colony.” (Bradford & Deane, 1856)

Upon signing the Compact, they sent out on expedition teams. Eventually, they discovered fair harbor off Plymouth to ride out the winter. During the winter of 1620-21, sickness, unsanitary conditions, and lack of nutrition caused the death of half of the hundred settlers. Luckily, they encountered friendly natives in the spring of 1621. Squanto, a Patuxet man, befriended them and served as a guide, interpreter, and teacher of native cultivation of Maize. Squanto played a valuable role in promoting early peaceful relations among native chiefs and tribesmen (Bradford & Deane, 1856). The success of the colony was interwoven with the support of native peoples in so many facets, from early survival and peaceful settlement, through the discovery of Aptuxcet, wampum and cultivating trade. Plymouth 400tm has planned extensive recognition of the contributions of the native Wampanoags to the survival and development of Plymouth Colony with several events honoring indigenous peoples. For much of history, the critical support of native Wampanoags to the success of the colony has been mainly overlooked. Plymouth 400tm plans for a rich and informative exposition of indigenous culture and relations between natives and colonists (“Plymouth 400tm,” 2019)

Discovery and Settlement at Aptuxcet

The Pilgrims lived under great burden of debt to the Adventurers, and several ships loaded with goods never made it to London safely. The ship Fortune set sail to London carrying beaver and otter skins estimated to be worth £500. Unfortunately, the shipment did not repay any Pilgrim debt, as it was deemed robbed by the French prior to its arrival in London. While some shipments made it safely to London, others experienced mishaps. The ship Little James carried beaver and cod estimated to be worth £277, which upon capture by Moroccan pirates lost its goods, crew, and vessel (Stone, 1975).

With looming debt, the Pilgrims needed a means to survive, both financially and physically, under harsh conditions.

The acquisition of native guides and trading partners led to the discovery of Aptuxcet at the head of the Manomet River in 1622-23. The colony survived the winter of 1621-1622 in better condition, but remained short on food and grain supplies come the fall. An expedition team walked twenty miles before they found a Wampanoag village on the Manomet River. They were able to trade for a large supply of maize and arranged for storage with the chief Cownacome, until they could return to portage the remaining stock of the essential food crop. Upon returning for the maize, the Pilgrim expedition could not find Cownacome and were directed to walk another three miles to his camp at Aptuxcet. Aptuxcet means “little trap in the river” where the chief was likely weir fishing. Upon their arrival, the Pilgrims were pleased to discover a river outlet to the south along the Manomet River emptying into Buzzards Bay. They had uncovered an accessible, safe and friendly outlet to the waterways and lands to the south at Aptuxcet. The two trips were valuable to the Pilgrims, and revealed a safe route to the south to avoid the storms and shoals around the outer Cape. The Cape nearly cost them their lives a year earlier when they encountered a storm on an expedition around it. In addition, the Pilgrims discovered a short 4-5 mile portage between the head of the Scusset river on the Cape Cod Bay side and access to Buzzards Bay via the Manomet on the south side. Buzzards Bay provided access to coastal trading along Narragansett Bay and south points on Long Island Sound to New Amsterdam. A map showing the strategic position of the Trading Post for southward trade is shown in Exhibit III. (Lombard, 1934) Peaceful relations with the natives in the area ensured a safe spot for a trading post, as well as the tidal location protected the post from invasion by larger warships who would not have the necessary draft depth to navigate up river to the spot. In addition to the geographic and tactical benefits of the location, the site had a spring with fresh water, which was essential for the permanent settlement at Aptuxcet (Lombard, 1934).

The Trading Post

Bradford discusses the founding of Aptuxcet in the History of Plimoth Plantation (Bradford & Deane, 1856):

“That they might ye better take all convenient opportunitie to follow their trade, both to maintaine them selves, and to disengage them of those great sumes which they stood charge with and bound for, they resolved to build a small pinass at Manamet, a place twenty miles from ye plantation, standing on ye sea to ye southward of them unto which, by an other creeke on this side, they could carry their goods, within four

or five miles, and then transport them over land to their vessel; and so avoyd the compassing of Cap-Codd, and those dangerous shoulds, and so make any voyage to ye southward in much shorter time and with farr less danger. Also for ye saftie of their vessel and goods, they built a house their, and kept some servants, who also planted corn, and reared some swine, and were allways ready to goe out with ye barke when ther was occasion. All which tooke good effecte, and turned to their profite.” (Bradford & Deane, 1856)

The founding of Aptuxcet marks a turning point for the prosperity of the colony. At the outset in 1620, the colonists planned on gaining income from fishing and lumbering to repay the debts to the London Adventurers. By 1627, the mindset shifted from a commodity production mentality to a profitable free trade mentality. The inability of the colony to earn enough from fishing and lumbering led them to seek out a more profitable enterprise. The discovery and development of Aptuxcet provided the means to profit substantially from a trading enterprise. From Bradford’s discussion of the founding at the site, one sees the Pilgrims making a significant investment of capital and manpower to equip and serve the site. Colonists furnished Aptuxcet the building for stores and shelter, a tender ship (Pinnacle) to receive and deliver goods to the larger ships moored in deeper water offshore, and a crew living on-site to service and maintain the operation. Bradford concluded his discussion of the site founding by immediately transitioning in his writings to the embarkation of Mr. Allerton to England, with the colonists new contract terms in hand to present to the Adventurers (Bradford & Deane 1856, 221).

Allerton arrived in 1624 as a representative of the Adventurers, but upon recommendation of the London Underwriters became bookkeeper and business manager of the Pilgrims. In 1626, Allerton went to London on behalf of the pilgrims. The pilgrims would ship goods to London, but were unaware of the amounts still owed. Allerton borrowed £500 with an interest rate of 50%, which he spent on gifts and travel as he sought to secure a royal charter. In his attempts, Allerton caused the Pilgrims to go further into debt. He also worked with the Puritans, but sought personal advantage to the detriment of the Pilgrims. Evidence of his self-dealing built over time, including, starting a trading post that competed with the Pilgrims, which decreased the profit potential of the Pilgrim enterprises. In addition, Allerton purchased a ship and ordered cargo charged to the same Pilgrim’s account. Eventually, the Pilgrims dismissed Allerton as their agent because of the excessive charges (Stone, 1975).

Aptuxcet provided the strategic location for the colony to engage in profitable enterprise both northward and south-

ward with willing partners in the Dutch, French and Native Americans. With the groundwork laid, if the colonists could secure the rights to own the venture and trade freely from London, they could work their way out of debt to a profitable, sustainable future. After the struggles and suffering of the early years, the critical inflection point of securing a profitable trade model and pending rights to develop it freely, must have been cause for great anticipation in the colony. The colonists knew a successful free trade enterprise could alleviate the financial strains. Bradford wrote on the sending of Allerton as the colony’s representative to England: “giveing him full power under their hands & seals, to conclude the former bargaine with ye adventurers; and sent ther bonds for ye paiement of the money.” (Bradford & Deane 1856, 221) However, as the colonists would later find out, Allerton would not act in their best behalf.

The extensive archeological research undertaken by Percival Hall Lombard (President of the Bourne Historical Society 1921-1932) provides a detailed account of the restoration at the original site. Mr. Lombard dedicated significant resources in the period 1921-1927 to the archeological excavation and restoration of the Trading Post. He identified and preserved the site and many related artifacts. The plan of the original foundation is seen in Exhibit IV (Lombard, 1934). In 1922, Lombard facilitated the acquisition of the site by the Bourne Historic Society. The Society commemorated the 300th anniversary of the founding of Aptuxcet with a dedication and plaque (Exhibit V). These efforts by Lombard and the Society brought Aptuxcet back into the limelight and commenced a successful fundraising effort resulting in the completion of the reproduction building in 1930 (Exhibits VI, VII)(Lombard, 1934). The preservation and reproduction has served future generations in aiding one’s understanding and appreciation for the inception of American free enterprise.

American Free Enterprise Emergence at the Colony

Bradford and the Pilgrims would not have been aware of our modern definition of free enterprise when they agreed to the new contract with the Adventurers in 1627. Merriam Webster defines free enterprise as “freedom of private business to organize and operate for profit in a competitive system without interference by government beyond regulation necessary to protect public interest and keep the national economy in balance” (Free enterprise, Merriam Webster). Investopedia describes free enterprise “In principle and in practice, free markets are defined by private property rights, voluntary contracts, and competitive bidding for goods and services in the marketplace.”(Banton, n.d.) (Free enterprise, Investopedia).

Through necessity and a commitment to building their fledgling community, the Pilgrims initiated a journey into modern free enterprise. During the period 1621 to 1626 the colonists were sinking further into debt. In 1628, the Pilgrims and the Adventurers disagreed on how much debt was owed, with the Pilgrims estimating £400 and the Adventurers' books stating it to be ten-fold of that amount. In 1630, the Adventurers sent an auditor to investigate the profitability of the Pilgrims' endeavors as debt reached £4,770. Finding nothing amiss, the auditor subsequently went into business with Allerton. The dispute continued until 1641, when a final agreement and payment to the Adventurers was made. Throughout the painful process, the Pilgrims learned the importance of proper accounting and auditor oversight. Within a decade of the landing of the Mayflower, an auditor was sent to help in the governance of financial affairs between two parties motivated by different interests (Flesher, Previts, and Samson, 2005).

The debt was further complicated by the usurious terms set by the London Adventurers. They included a clause whereby no one in the colony was free of the debt, until the debts of all colonists were paid off. The situation was worsened as the London Adventurers continued to send over more settlers who were debtors ('strangers') and their debts were added to the original debt. When the original contract expired in 1627 with debts owing, the colonists had a bit of the upper hand. The Adventurers and England had other issues at hand, while this small band was thousands of miles away and an ocean across from London, with seemingly little prospects for significant profit (Stratton, 1986).

Private Property and Trading Rights

The plan for the new contract of 1627 provided for eight leaders of the community to undertake responsibility for the debt on behalf of the colony. This group became known as the "Undertakers." In exchange for their commitment, the colony was granted the first private business contract of its kind in the New World. The terms granted by London included specific rights to Aptuxcet and its profits from the enterprise. Bradford provides the terms of the rights to Aptuxcet: "parties are to have and freely enjoye ye pinass latly builte, the boat at Manamett, and ye shallop, called ye Bass-boat, with all other implements to them belonging, that is in ye store of ye company; with all ye whole stock of furs, fells, beads, corne, wampampeak, hatchets, knives, &c. that is now in ye store" (Bradford & Deane 1856, 226). The above term of the contract essentially transferred all the property and associated assets of the Aptuxcet Trading Post from the London Adventurers to the Pilgrim colonists represented by the Undertakers. Also, Bradford referred to Wampumpeak (wampum) for the first time in his account. He would later discuss wampum in

more detail in relation to a visit by the Dutch Governor De Rasiers (Bradford & Deane, 1856)).

Bradford noted further the transfer of trading rights to the colonists: "parties have ye whole trade to themselves, their heires and assignes, with all ye privilege thereof, as ye said doth collonie doth now, or may use the same, for 6, full years" (Bradford & Deane 1856, 227) The six year exclusive trading rights provided a measure of security for the colonists to expand trade with outposts in modern Maine on Kennebec and on the Connecticut River. Perhaps they were anticipating future settlements, as news of good fortune traveled fast. The founding of Boston in 1630 by the Massachusetts Bay Colony provided witness to this idea (Stratton, 1986).

Further, private property rights were granted to all members of the colony and allocations of livestock, tools, and provisions were granted to every member of the community, including women and children. Importantly for the profitability of the enterprise, the contract included exclusive rights to the beaver trade for a period of six years. In the next year, further terms were clarified granting the Pilgrims rights to build two other trading posts. One was built to the north in Kennebec to service the profitable Maine fur trade, and the other on the Connecticut River to service the southern trade. Aptuxcet stood in the center as the hub of the trade.

The new contract was unique and momentous, as having private rights to trade as a free enterprise was anathema to the times. The kings of France and Spain built their colonies and maintained firm control of rights and profits. English and Dutch colonies were built and owned by chartered investment companies, but the companies were owned and controlled in England and Holland. At the time, the only other English colony was controlled by the Virginia Company in England, while the Dutch West India Company of Holland controlled New Amsterdam. (Hammond, 1999a) When the London Adventurers ceded control to the Pilgrims for Aptuxcet and surrendered trading rights, they agreed to the onset of the American Free Enterprise system. The agreement was laissez faire, as the Adventurers hoped they could recoup their investment by empowering the colonists and staying out of the way. The Pilgrims could freely trade with international partners, and the Dutch and French trappers were eager to trade. During the time of Bradford, peaceful relations with native peoples facilitated trade and accessibility to upriver trade routes. The new contract unleashed the powerful motivation of vested interest by members of the Plymouth Colony to repay the debt and establish a greater degree of freedom and fulfillment in accordance with their beliefs and aspirations. They could see a profitable path to bringing over their relatives and community members left

behind in Holland and England to more firmly establish and grow the colony (Stratton, 1986).

From Stratton's history of the Colony:

"Thus, by 1627 the concept for colonizing Plymouth Colony had changed considerably. Although the settlement of the colony had no royal charter to support it, but initially only a patent to reside in the Virginia territory, Plymouth remained outside the jurisdiction of Virginia and assumed self-government. With the Mayflower Compact, the colonists agreed to a form of democracy that would not be practiced in their homeland for several centuries." (Stratton, 1986)

The large separatist population among the settlers precluded the development of a church-state, which was developed in the Massachusetts Bay Colony. Through the curious twists of fate – navigational error, little interest in the venture by the crown, and unique religious faith in common humanity, this band of settlers created a breakthrough in governance and free enterprise. Stratton goes on to describe the unique nature of the system of private property rights: "Its land policy of making grants to the many prevented it from becoming a manorial or proprietary colony, such as Virginia or other English colonies would later become." (Stratton, 1986) Private property ownership and rights to operate independently stimulated the free enterprise spirit of the colonists.

From the beginning, with the drawing up of the Mayflower Compact and on to the design of the free enterprise contract, the community was rooted in democratic principles and high moral standards. In addition, in part by circumstances of the original contract, the community was tolerant of outsiders and non-believers, so that all enterprising souls had the opportunity to flourish in the community.

The Dutch Trade and Wampum

After some earlier correspondence of goodwill letters between the Plymouth colonists and the Dutch colonists of New Amsterdam, Bradford describes the Dutch Colonial Secretary's visit to Manomet and Plimoth and the introduction to wampum: "This year (1627) the Dutch sent...to Manamete, their Secretary Rasiere; who was accompanied with a noyse of trumpets... after which beginning thus made, they sente often times to the same place, and had intercourse to geather for diverse years" (Bradford & Deane, 1856). In the above passage, we see the beginnings of the international trading enterprise that was to continue profitably for many years hence.

In their first recorded international free trade encounter, Bradford describes the trading of Dutch linens and cloth and other goods for the furs and corn the English colonists provided. On the same occasion, the key to the rapid expansion of trade was unlocked when the Dutch introduced wampum to the

Plymouth colony. The Dutch brought 50 fathoms of wampum with them and told the Plymouth colonists how the wampum functioned as currency for trade in beaver pelts with the native tribes upriver. The colonists bought the wampum, and in two years the wampum trade caught on as the Plymouth colonists expanded their trade with Kennebec (Maine) to the north and to the Connecticut River to the south. Bradford writes of the inland tribe demand for wampum: "they could scarce ever gett enough for them, for many years together." (Bradford & Deane, 1856). Wampum had reached the 'tipping point' as a successful currency among the trading parties. Once the inland tribes and the colonists established a pattern of trade with wampum, then, their fur trade flourished.

The experience of the English colonists from their years in Holland, no doubt contributed to the success of trade with the Dutch. They could read and write the language, and had a high level of cultural understanding to build relations. Bradford's account notes the gathering of Rasiere's company at Aptuxcet and the subsequent trading that ensued at Aptuxcet after the Dutch visit to Plymouth. His reference to the trading that took place for many years illustrates the importance of Aptuxcet to the Dutch trade.

Likewise, the Dutch made note of Aptuxcet and the wampum trade. In a letter (Jameson, 1909) or report to Samuel Blommert, one of the Directors of the Dutch West India Co., Isaake de Rasiere, the Secretary of Peter Minuet, the first Governor of Manhattan, tells of his first visit to Manamet and describes introducing the English to 'sewan' or wampum:

"Coming out of the river Nassau, you sail east-and-by-north... at a small river where those of Patuxcet have a house made of hewn oak planks, called Aptuxcet, where they keep two men, winter and summer, in order to maintain the trade and possession." De Rasiere describes "selling them fifty fathoms of sewan". The Dutch were attempting to establish themselves as the sole source of sewan(wampum) to the Plymouth Colonists and thus ensure control of the currency in the fur trade. De Rasiere describes his concern about the English making sewan trade inroads: "because the seeking after sewan by them is prejudicial to us," (Lombard 1934, 5-6). The Dutch hoped to exploit the lack of knowledge of the new settlers so that they could maintain their dominant position in trade with the native tribes of the area. In the exchange of letters between the Dutch and the Plymouth colonists there was already some saber-rattling language passed from the English asserting their primary rights to trade with the native tribes in the region. De Rasiere's letter continues on about his concerns: "they already dare to threaten that if we will not leave off dealing with that people, they will be obliged to use other means". The tone of De Rasiere's letter back to the Dutch West India

Directors is indicative of the high level of concern about future trade impact by the Plymouth colonists. His correspondence foreshadows the Plymouth colony moving into the wampum currency business with the native shore tribes and profiting from the fur trade with inland tribes. The Dutch see in the new Plymouth Colony and their strategically located Aptuxcet Trading Post a potentially formidable competitor for both wampum and fur trade. The Dutch recognized, as is generally the case in profitable enterprise, competition is attracted to profits. At the same time, the English were motivated by their newly forged free enterprise rights to make the most of free trade and rapidly pay down their debts.

The Dutch saw Aptuxcet as the nexus of an impending threat of losing market share in the fur trade to the new English colonists. The Dutch hoped to defer some of the threat by becoming the source of wampum for the English based on their exclusive production source with the Shinnacock peoples on Long Island, the Pequots in Connecticut and the Narragansetts in Rhode Island. However, Aptuxcet provided the jumping off point for easy coastal access to the wampum producing tribes to the south and it was not long before the Plymouth Colonists uncovered their own source of wampum beads with Pokenokets and coastal tribes in New England (Hammond, 1999b).

The fur trade was a catalyst to financial success. The beaver pelts were in high demand in the European market. The biggest demand for pelts was a result of the fashionable hats of the period. The pelts were an essential ingredient in the making of elegant hats. The demand for beaver pelts was substantial and long lasting. By 1642, the Undertakers of Plymouth had fully repaid their debts to the adventurers. The birth of free enterprise enabled the colony to thrive on both an individual and community level. Individuals tended to their private property and nurtured growth, while the community could afford to sponsor more brethren to make the journey from Europe to the colony. The growth of trade was substantial during the years following the launch of free enterprise at Aptuxcet. Lombard comments "...beaver and otter seems to have been the chief furs traded in. Apparently the year 1643 was a banner year in the fur trade, for the colony shipped to England 12,530 pounds weight of beaver and 1,160 pounds of Otter. Coat beaver brought 20 shillings per pound, and sometimes 24 shillings. Otter, 15 and 16 shillings per pound." (Lombard 1934, 6) A typical five pound raw beaver skin would be worth five to six English pounds.

The colonists learned that the native purveyors of the furs upriver had little or no use of actual coinage and trinkets had greatly varying value. But, the wampum was desirable and formed a stable currency for trade. (Hammond, 1999b)

The wampum beads were an important cultural symbol to the natives representing, for example, the circle of life, the earth's sphere, as well as vital food items like berries (Exhibit VIII). Wampum beads were worn only by highly respected individuals and woven belts of wampum were used to record important events (Exhibit IX). Plymouth 400tm has a Signature Event planned in the fall in collaboration with the Indian Spiritual and Cultural Training Council, celebrating indigenous history and giving proper recognition to native cultural traditions. ("Plymouth 400tm," 2019) From Lowrance: "Wampum existed as a decoration, but it didn't have an assigned value until the concept was introduced by the Dutch, who learned of it from the New York Indians," says James Baker, director of research at Plimoth Plantation. "It gave them a common local currency. Before that, they had been using weights of corn." (Lowrance, 1988)

Wampum beads became the first currency system employed broadly in trade across European and native peoples. (Hammond, 1999b) At first, wampum beads varied in both size and shape. As currency, they quickly evolved into a standard tube bead approximately a quarter to half inch long. The production of wampum was the work of the shore tribes. These tribes had ready access to the shells required for wampum. Two shells types were the dominant raw material for wampum beads. The Quahog shells were prized for their purple coloration, while periwinkle, conch or whelk shells constituted the less valuable white shells. In addition, the working of the harder purple Quahog shells was more time consuming and susceptible to breakage in the making process. Consequently, the purple bead had twice the value of the white bead. The standard of measure for wampum was a fathom or the width of the reach of a six foot man. A fathom was set at 240 beads. Coincidentally, two hundred and forty happened to be the number of pennies in an old English pound. But, as often happens with currency, it is subject to inflation. By 1636 Roger Williams mentioned there were 360 beads in a fathom (Hammond, 1999b).

Webster defines currency as a medium of exchange (Currency, Merriam Webster). Wampum as currency or medium of exchange was employed broadly from Virginia to New England throughout the 1600s, most dominantly in the years before a mint was introduced in Boston in 1652. Over time counterfeiting and inflation hurt the value of wampum. By 1680, with the large supply of counterfeit beads in existence, Virginia declared them illegal. Subsequently wampum faded from use on the eastern seaboard (Hammond, 1999b).

Conclusion

“Thus out of small beginnings greater things have been produced by His hand that made all things of nothing, and gives being to all things that are; and, as one small candle may light a thousand, so the light here kindled hath shone unto many..” (Bradford & Deane, 1856) -William Bradford

Like a lighthouse on the distant shores of history, the beacon of Aptuxcet Trading Post shines down through the years as the beginning of the American Free Enterprise system. The beginnings of free enterprise at the Aptuxcet Trading Post is a seminal moment in history. The grit of the Plymouth settlers, together with willing and cooperative trading partners across cultures and nationality, lit the fuse for an amazing global engine of growth and human well-being. The early struggles and daily hardships of the early settlers were tempered by their vision of a better, more prosperous, democratic community. Free trade, strategic location, and the means of exchange in a dynamic emerging market, made it possible for the community to prosper and influence all those that would follow in the colonial era contributing to the spirit of independence. At the same time, the adoption of wampum as a means of exchange and accounting for trade among international partners was a major factor in the successful development of trade through the mid 1600's. This early currency was a major facilitator of trade among culturally and internationally diverse partners. Though Plymouth Colony was rapidly exceeded in mid-century by the larger Boston based Massachusetts Bay Colony, the Pilgrims set the democratic precedent and established the model of free enterprise.

The marketplace is sometimes seen as agnostic and dynamic, while being based on fear and greed. However, when considering the approach of the Pilgrims in establishing their enterprising community, the factors of faith and morality play a critical role in the success of the venture. Ingenuity and a willingness to explore new approaches in both currency and trade among alien peoples spawned a successful start to the free enterprise movement. Reluctant entrepreneurs, driven by a passion for the survival of the colony, ignited the creation of free enterprise. Bradford documented the travails along the journey, but the Pilgrim community forged on with faith. Things may have been different if the Pilgrims could not repay their debts. They could have been imprisoned, punished or returned to England. However, their debts were ultimately discharged in 1642. According to James Baker of the Plimoth Plantation, the London Adventurers went out of business not long after financing the Pilgrim expeditions. “Nothing would have happened to them” he says. “No one would have come after them. They did it for their sense of honor.”(Lowrance, 1988)

The spirit of free enterprise established at Aptuxcet in 1627 carried equal measures of capitalizing on economic opportunity for the betterment of the community and a sense of honorable dealings among diverse trade partners. This spirit of free enterprise based on honorable motives would be repeated in centuries to come in both traditional and non-traditional situations. White and Flesher (2018) discuss John Massey, College President of ACFC, who in the late 1800s to early 1900s used free enterprise concepts in an unconventional manner to run an institution of higher learning. Like the Pilgrims at Aptuxcet, Massey used his grit and location to develop business relationships that would enable the college to survive through times of momentous struggle. Likewise, Massey, was motivated by his commitment to faith, integrity and moral beliefs (White and Flesher, 2018).

Plymouth 400th Celebration will feature Aptuxcet

As society approaches the celebration of the 400th anniversary of the Pilgrim settlement at Plymouth, Aptuxcet is gaining recognition in the community for the role it played in the establishment of free enterprise in America. The celebrations planned in 2020 for Plymouth 400th feature Aptuxcet as one of the 30 featured Pilgrim historic sites. (“Cape Cod Travel Guide Summer 2019,” n.d.) The Trading Post is currently being recommended for listing on the National Register of Historic Places. Aptuxcet is rising in prominence and awareness, as witnessed by visitor sign in sheets from New Jersey, South Dakota and Germany over Memorial Day 2017 weekend. “It’s amazing. I had a woman come in from Germany” said Mary Beth Ellis the Aptuxcet Trading Post site manager. “So I asked her how she knew about us. She told me this place is featured in German travel guides; this place and the Plimoth Plantation. That Aptuxcet is the birthplace of American commerce; the whole thing, the entire story.”(Gately, 2017)

In recognition of the role Native Americans played in the cultural and mercantile success, Plymouth 400th is preparing an “Our Story 400 years of Wamponoag History” exhibit at the Aptuxcet grounds.(Gately, 2017) Bourne Historical Society the parent organization of Aptuxcet is an Organizational Partner of Plymouth 400th . The Plymouth 400th celebration will reach a wide audience for understanding of the roots and meaning of American Free Enterprise through historical preservation, re-enactment, study and visitation. The events will deepen collective knowledge and appreciation for the achievements of our forefathers in the foundation of our democracy and free enterprise system.

Exhibit I



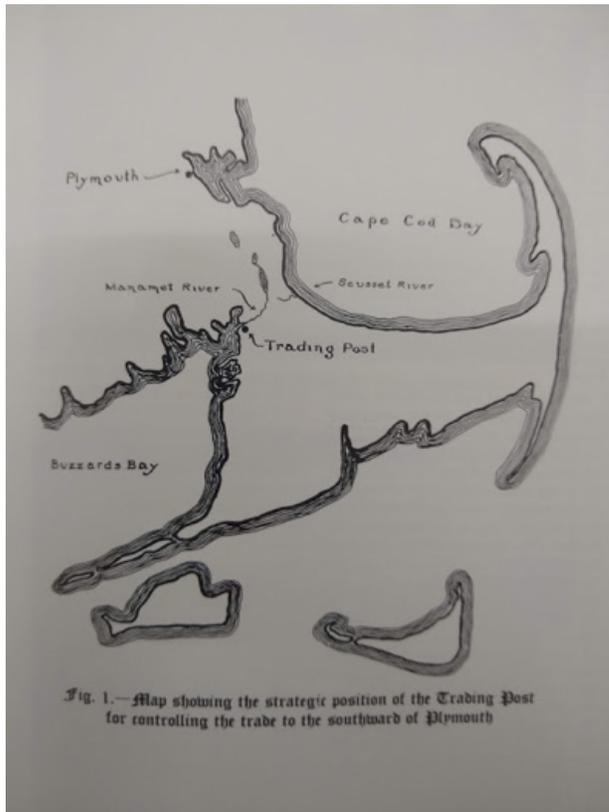
A conjectural image of Bradford, produced as a postcard in 1904 by A.S. Burbank of Plymouth (Encyclopedia Britannica)

Exhibit II



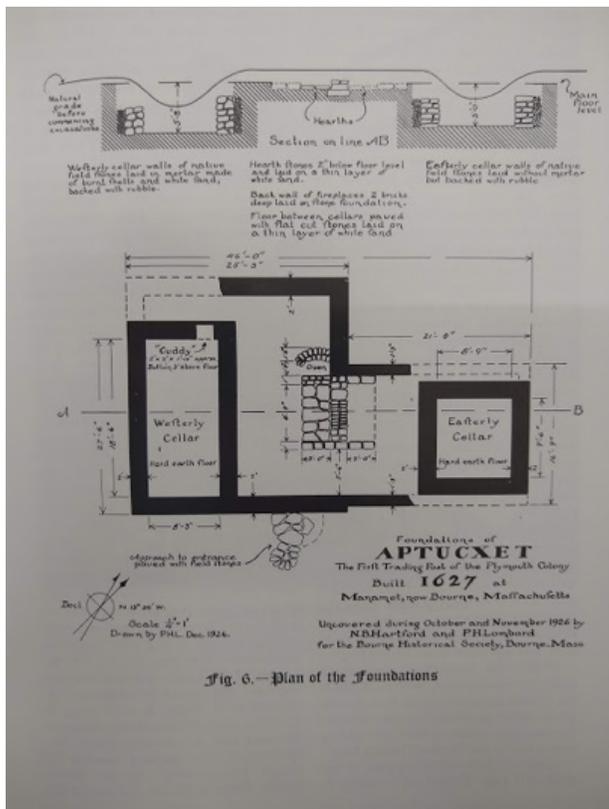
Monument to the signing of the Mayflower Compact in Provincetown, MA

Exhibit III



Map showing the strategic position of the Aptuxcet Trading Post (Lombard, 1934)

Exhibit IV



Plan of the Aptuxcet Trading Post foundations from Lombard's Archeological study (Lombard, 1934)

Exhibit V



Plaque commemorating the 300th anniversary of the founding of Aptuxcet Trading Post

Exhibit VI



Front view of the restored Aptuxcet Trading Post

Exhibit VII



Interior showing waterside entrance, the brewing “copper” is at the left of the entrance (BHS Post-card, Lombard, 1934)

Exhibit VIII



Wampum beads with Quahog (purple) and Whelk (white) shells (“From Beads to Bounty,” n.d.)

Exhibit IX



Ceremonial Onieda wampum belt commemorating relations with new settlers(Oneida, n.d.)

Exhibit X

Pilgrim Landing on Cape Cod	Pilgrim Settlement begins in Plymouth	The Difficult Early Years of Plymouth Plantation	The Launch of Free Enterprise in Plymouth Colony	The Golden Years of International Wampum trade
1620	1621	1621-26	1627	1627-1661
The Mayflower Compact. Lands on the outer Cape	Pilgrims find safe harbor for the winter in Plymouth	Pilgrims survive by the grace of god and friendly natives	Contract is made and Aptuxcet Trading Post is Founded	Trade is brisk between natives, Dutch & British

Timeline of historical events relating to Aptuxcet and the Wampum trade

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