

Kennesaw State University
DigitalCommons@Kennesaw State University

Doctor of Business Administration Dissertations

Coles College of Business

Fall 9-25-2015

The Effects of Risk Management Programs on Financial Professionals' Judgments

James F. Boyle

Follow this and additional works at: http://digitalcommons.kennesaw.edu/dba_etd

 Part of the [Accounting Commons](#)

Recommended Citation

Boyle, James F., "The Effects of Risk Management Programs on Financial Professionals' Judgments" (2015). *Doctor of Business Administration Dissertations*. Paper 14.

This Dissertation is brought to you for free and open access by the Coles College of Business at DigitalCommons@Kennesaw State University. It has been accepted for inclusion in Doctor of Business Administration Dissertations by an authorized administrator of DigitalCommons@Kennesaw State University. For more information, please contact digitalcommons@kennesaw.edu.

THE EFFECTS OF RISK MANAGEMENT PROGRAMS ON FINANCIAL
PROFESSIONALS' JUDGMENTS

by

James F. Boyle

A Dissertation

Presented in Partial Fulfillment of the Requirements for the
Degree of
Doctorate of Business Administration
In the
Coles College of Business
Kennesaw State University

Kennesaw, GA
2015

Copyright by
James F. Boyle
2015

DEDICATION

I dedicate this paper to my mother Ann Marie Boyle, who passed away on February 22, 2015. Her undying and unconditional love has been a constant inspiration to me and her encouragement throughout my life has given me confidence to believe that I can achieve whatever I set out to do.

ACKNOWLEDGEMENTS

I would like to thank my children Jimmy, Nicholas, Mary, and David for their love, encouragement, and patience as I pursued my doctorate degree. “You’re going again?” was a common question at my house each month as I packed my suitcase to travel to Atlanta from Scranton. I am also grateful to my father for the love and care that he gave to my children while I was away.

I would also like to thank my brother Douglas for generously providing me with expert guidance and continued support from the time I applied to Kennesaw State University through completion of this work. His graduation from the Kennesaw State University DBA program as a member of Cohort 1 and his successful transition into academia offered a clear model for me to follow.

I already heard remarkable things about my dissertation chair Dr. Dana Hermanson before I entered into the KSU doctorate program. These early positive perceptions about Dana were confirmed and exceeded by my personal experience working with him. His brilliance as a researcher is documented by his vast record of academic and practitioner journal publications, but his equally impressive teaching and mentoring skills must be experienced to be fully appreciated.

I also have been fortunate to have had Dr. Todd DeZoort on my dissertation committee and Dr. Jennifer Schafer as my reader. I have learned and developed from the steady guidance and insightful feedback from Todd and Jennifer and I am very appreciative to them both.

I am also grateful to Dr. Neal Mero and Dr. Torsten Pieper for their competent and committed leadership of the DBA program. I thank Dr. Joseph Hair for sharing his expert knowledge and for challenging me to learn statistical methods that will benefit me in my future as a researcher. I am grateful to Dr. Divesh Sharma for patiently explaining accounting research and for sharing his incredible knowledge. I am also very appreciative of the many other highly-qualified and committed faculty and visiting scholars that I have been privileged to know and to learn from as a Kennesaw State University DBA student.

Finally, I would like to thank all of my fellow DBA students in Cohort 4 for their friendship and encouragement, and for listening to me talk about the dinner special at Cracker Barrel. Thank you Bright, Caroline, and Scott for your great teamwork in working through the accounting course assignments. Thank you Carole for helping me to learn SPSS and SEM software (and for moving the truck in AMOS!). Thank you John for your friendship and for letting me ride with you to the airport. Thank you Scott Ambrose and Alex for your friendship and for occasionally sharing a much-needed drink.

ABSTRACT

THE EFFECTS OF RISK MANAGEMENT PROGRAMS ON FINANCIAL PROFESSIONALS' JUDGMENTS

By
James F. Boyle

Despite the present focus in practice on enterprise risk management (ERM), academic studies have not responded to the question, “How do risk management programs (RMPs) influence the business decisions of financial professionals?” This study addresses this issue by examining the effects of RMPs on the levels of judgment conservatism and effort exercised by financial professionals. Specifically, in a 2 x 2 between-subjects experiment using experienced financial professionals as participants, I manipulated RMP type (i.e., robust or ceremonial) and financial risk level (i.e., high or low). The study examines the effect of RMP type and the interaction of RMP type and financial risk level on the degree of conservatism and effort of financial professionals’ business decisions.

A robust RMP receives strong support from senior management and board members, who then hold financial professionals accountable for the level of financial risk that they assume in making business decisions. A ceremonial RMP lacks any real or substantive management or board support, but exists primarily to provide an appearance of a functioning and regulatory compliant RMP. Risk management interview studies (Viscelli, 2013; Cohen et al., 2015) support the relevance of robust (agency theory) versus ceremonial (institutional theory) perspectives from risk management practitioners.

Contrary to prediction, no significant relationship was found between RMP type or the interaction of RMP type with the financial risk level and either the degree of financial professional judgment conservatism or effort. However, a significant relationship between the financial risk level alone and the degree of financial professional judgment effort was found. These findings remain unchanged after adding to the model various possible control variables reflecting participants' demographics and experience. Thus, the results of this study provide no evidence that a robust versus a ceremonial RMP significantly impacts financial professionals' decisions about whether to make project investments or the amount of time or the extent of consultation needed for them to decide. Additional analyses revealed significant relationships between RMP type or investment size and other dependent variables.

These results offer important implications for practitioners and policymakers, as well as contribute to academic research about new applications of accountability and agency theories.

TABLE OF CONTENTS

Title Page.....	i
Copyright Page.....	ii
Signature Page.....	iii
Dedication.....	iv
Acknowledgements.....	v
Abstract.....	vii
Table of Contents.....	ix
List of Tables.....	x
List of Figures.....	xii
Chapter 1 - Introduction.....	1
Chapter 2 - Literature Review and Hypotheses Development.....	9
Chapter 3 - Methodology.....	32
Chapter 4 - Data Analysis and Results.....	51
Chapter 5 - Conclusion, Implications, Limitations, and Future Research.....	80
References.....	86
Appendix A - Institute of Management Accountants First, Second, and Third Request.....	92
Appendix B - Copy of Case Instrument.....	96

LIST OF TABLES

Table	Page
1	2 x 2 Experimental Design and Expected Cell Sizes.....33
2	Instrument Flow.....36
3	Fully Completed Experiments (88 Total Participants).....50
4	Fully Completed and Passed All Manipulation Checks (60 Total Participants).....52
5	Realistic and Understandable Case 0-100 Scale Variables.....53
6	Demographic Information.....54
7	Descriptive Statistics.....55
8	Descriptive Statistics – By Experimental Cell.....56
9	Independent Samples Test.....56
10	Descriptive Statistics – General Risk-Taking Propensity Scale.....58
11	Descriptive Statistics – Other 0-100 Scale Variables.....59
12	MANOVA Model Results.....62
13	ANOVA Results (Judgment Conservatism).....64
14	ANOVA Results (Judgment Effort – Relative Time to Invest).....65
15	ANOVA Results (Judgment Effort – Relative Extent of Consultation).....66
16	List of Possible Control Variables.....67
	<u>DV = Extent Board of Directors’ Attitude toward</u> <u>Risk Management Affected Recommendation:</u>
17	ANOVA Results.....70
18	Compare Means (IV = Investment Size).....70
	<u>DV = Extent Top Managements’ Attitude toward</u> <u>Risk Management Affected Recommendation:</u>
19	ANOVA Results.....71
20	Compare Means (IV = Investment Size).....72
	<u>DV = Extent Feel Accountable to Board of Directors</u> <u>for Risk Associated with Recommendation:</u>
21	ANOVA Results.....73
22	Compare Means (IV = Investment Size).....73

DV = Extent Feel Accountable to Top Management
for Risk Associated with Recommendation:

23	ANOVA Results.....	74
24	Compare Means (IV = RMP Type).....	75
25	Compare Means (IV = Investment Size).....	75
	<u>DV = Extent Believe Top Management is Risk Averse:</u>	
26	ANOVA Results.....	76
27	Compare Means (IV = RMP Type).....	77

LIST OF FIGURES

Figure		Page
1	Risk Management Program Type/Financial Professional Judgment Experimental Model.....	8
2	Financial Professional Judgment Showing Predicted Interaction Between RMP Program Type and Financial Risk Level.....	31

CHAPTER 1

INTRODUCTION

Enterprise risk management (ERM), which advocates an organization-wide risk management approach over the traditional methodology of addressing risks individually, has received considerable attention from U.S. corporate management and board members since the issuance in 2004 of *Enterprise Risk Management – Integrated Framework* by the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2004). ERM focus renewed after the financial crisis of 2007-08, which was followed by market and regulatory actions aimed at restoring the public trust in U.S. corporations to effectively manage organizational risks. In 2008, Standard & Poor's began to include an assessment of ERM as part of its criteria for evaluating public companies' credit ratings (Standard & Poor's, 2008). In 2010, the U.S. Securities and Exchange Commission (SEC) required all U.S. public companies to disclose their board of directors' oversight role over risk management (SEC, 2010). In addition, recent internal auditor surveys (IIA, 2010; PwC: 2011, 2013) have identified risk management as a new top focus of the internal audit function. In 2013, the New York Stock Exchange (NYSE) corporate governance standards were expanded to require audit committees of U.S. public companies to discuss the firm's risk management process and major financial risk exposures (NYSE, 2013).

Despite this widespread attention on ERM in practice, the research literature lacks studies that address the effects of risk management programs on business decisions of

financial professionals. McShane et al. (2011: 642) highlighted that, “Driven by the intense flurry of government and stock exchange activities related to risk management within corporations, trade and business publications directed at top management are full of articles related to ERM, yet academic research in the area is still rare.” Because financial professionals are responsible for approving a firm’s significant investing and financing activities that are essential to support organizational growth initiatives, it is important to study ERM’s possible impact on financial professionals’ willingness to take reasonable risks in making business decisions. The results of empirical studies that examined the relationship between ERM and firm value have been mixed for financial services and insurance industry companies. For example, Hoyt and Liebenberg (2011) find a positive relationship and McShane et al. (2011) find no relationship between ERM and firm value for studies of U.S. insurers. McShane et al. (2011: 653) ask, “Why does a strong or excellent ERM rating not lead to higher firm value? Is it possible that a strong ERM culture constrains firm growth that gets reflected in its market value?”

COSO (2004) indicates that the purpose of ERM is to manage organizational risks to provide reasonable assurance of achieving firm objectives, which ultimately focus on creating value for shareholders. Therefore, ERM (as a proxy for a robust RMP) may be “good” (i.e., value creating) for an organization to the extent that any resulting conservative risk judgments are balanced with and remain within the limits of the organization’s healthy, entrepreneurial “risk appetite.” In other words, a willingness to take reasonable financial risks consistent with the achievement of entity objectives is “good.” However, ERM (as a proxy for a robust RMP) may be “bad” (i.e., value diminishing) to the extent that any resulting conservative risk decisions are not balanced

with but rather end up constraining the organization's healthy, entrepreneurial "risk appetite." In other words, an unwillingness to take reasonable financial risks consistent with the achievement of entity objectives is "bad." The possibility of this latter case appears to have prompted the question about whether "a strong ERM culture constrains firm growth that gets reflected in its market value" (McShane et al., 2011).

The present study addressed these questions by examining the effects of ERM on the levels of conservatism and effort exercised by financial professionals while making business decisions. Specifically, in a 2 x 2 experiment using experienced financial professionals as participants, I manipulated risk management program (RMP) type (i.e., robust, agency theory approach to risk management, or ceremonial, institutional theory approach to create legitimacy) and financial risk level (i.e., high or low, as reflected by a relatively large or relatively small financial investment) randomly between-subjects. I then examined the effect of RMP type and the interaction of RMP type and financial risk level on the degree of financial professionals' judgment conservatism and effort. In this study financial professionals made project investment decisions involving potential financial risks and rewards.

Prior ERM research has examined the extent of ERM implementation (Beasley et al., 2005), the ERM process (Viscelli, 2013), characteristics of firms that adopt ERM (Liebenberg and Hoyt, 2003; Pagach and Warr, 2011), factors associated with the impact of ERM on the internal audit function (Beasley et al., 2008), how governance parties (i.e., audit committee members, CFOs and external auditors) view their ERM roles in relation to the financial reporting process (Cohen et al., 2015), and ERM's relation to firm value (e.g., Hoyt and Liebenberg, 2011; McShane et al., 2011; Baxter et al., 2013). In addition,

the relevance of a robust (agency theory) versus a ceremonial (institutional theory) RMP is supported by recent risk management interview studies (i.e., Viscelli, 2013; Cohen et al., 2015). However, these previous studies did not examine the effects of ERM on management business judgments and decision-making.

Prior financial professional decision-making experiments have focused on such considerations as gender differences in risk behavior (Powell, 1997), the effects of participants providing a counter explanation for resource allocation decisions on their escalation of commitment (Beeler, 1998), the influence of budget goal attainment on participants' willingness to make riskier investment decisions (Ruchala, 1999), and the effects of moral reasoning on financial reporting decisions after Sarbanes-Oxley (Maroney & McDevitt, 2008). Past financial decision-making surveys have examined topics including the effects of subordinate participation in making budgetary decisions (Pasewark et al, 1990), the expanding role of the CFO to include value-added strategy contributions as well as traditional financial reporting (Sharma & Jones, 2010), and the importance of trust and risk factors related to budgetary roles of sponsorship management (Delaney & Guilding, 2011). Additionally, Lin and Sappington (2011) developed a model that shows the optimal policy to mitigate a manager's planning moral hazard. However, these previous academic studies have not examined the effect of RMP type and financial risk level on financial professionals' decision-making.

Prior experiments with external (independent) auditors found that establishing or increasing the levels of accountability have consistently resulted in higher levels of judgment conservatism and effort (e.g., Asare et al., 2000; DeZoort et al., 2006; Lord, 2002). Additional studies found that auditors' judgments conform to the preferences of

the parties to whom the auditors are accountable (e.g., Abbott et al., 2010; Buchman et al., 1996; DeZoort & Lord, 1994). The interaction of multiple variables (e.g., auditors' skills and task complexity) has been shown to strengthen the effects of accountability on auditors' judgments (e.g., Tan et al., 2002). Finally, the influence of accountability on audit committee members' judgments has also been examined (e.g., DeZoort et al., 2008; Persellin, 2013).

According to responsibility triangle theory (Schlenker et al., 1994: 632), “responsibility acts as a psychological adhesive that connects an actor to an event and to relevant prescriptions that should govern conduct.” Auditors (as actors) are responsible for their audit judgments (events) that are relevant to the auditing standards (prescriptions) to which the auditors are bound by their identity (position with the audit firm). Similarly, financial professionals (as actors) are responsible for their financial judgments (events) that are relevant to the risk management rules (prescriptions) to which the financial professionals are bound by their identity (organizational role). Furthermore, the accountability pyramid places governance players charged with the oversight of risk management (e.g., CEO, CFO, audit committee members) as an audience that holds actors accountable (i.e., answerable) for the riskiness of actors' decisions and the related consequences (events). Actors often play the role of politicians (wanting to gain the approval and respect of important audiences) and cognitive misers (not wanting to perform unnecessary mental effort) by making judgments and decisions that are in accordance with the known preferences of audiences (an acceptability heuristic approach to coping with accountability pressures) (Schlenker et al., 1994; Tetlock, 1985).

Standard & Poor's (2008) indicates that a firm-wide approach to risk provides assurance that the firm is paying attention to all of its risks. This task requires an organization-wide, integrated approach to the management of risks that has the support of board members and senior management. The necessity of ERM support from board members and senior management within the organization is clearly communicated in the COSO (2004) ERM definition, as well as in public company risk management standards (e.g., NYSE, 2013) and regulations (e.g., SEC, 2011; Dodd-Frank, 2010) that mandate board-level risk oversight.

The purpose of the present study was to examine whether a robust RMP leads to financial professionals exhibiting higher levels of judgment conservatism and effort, and whether the RMP type interacts with the financial risk level to exacerbate this effect.

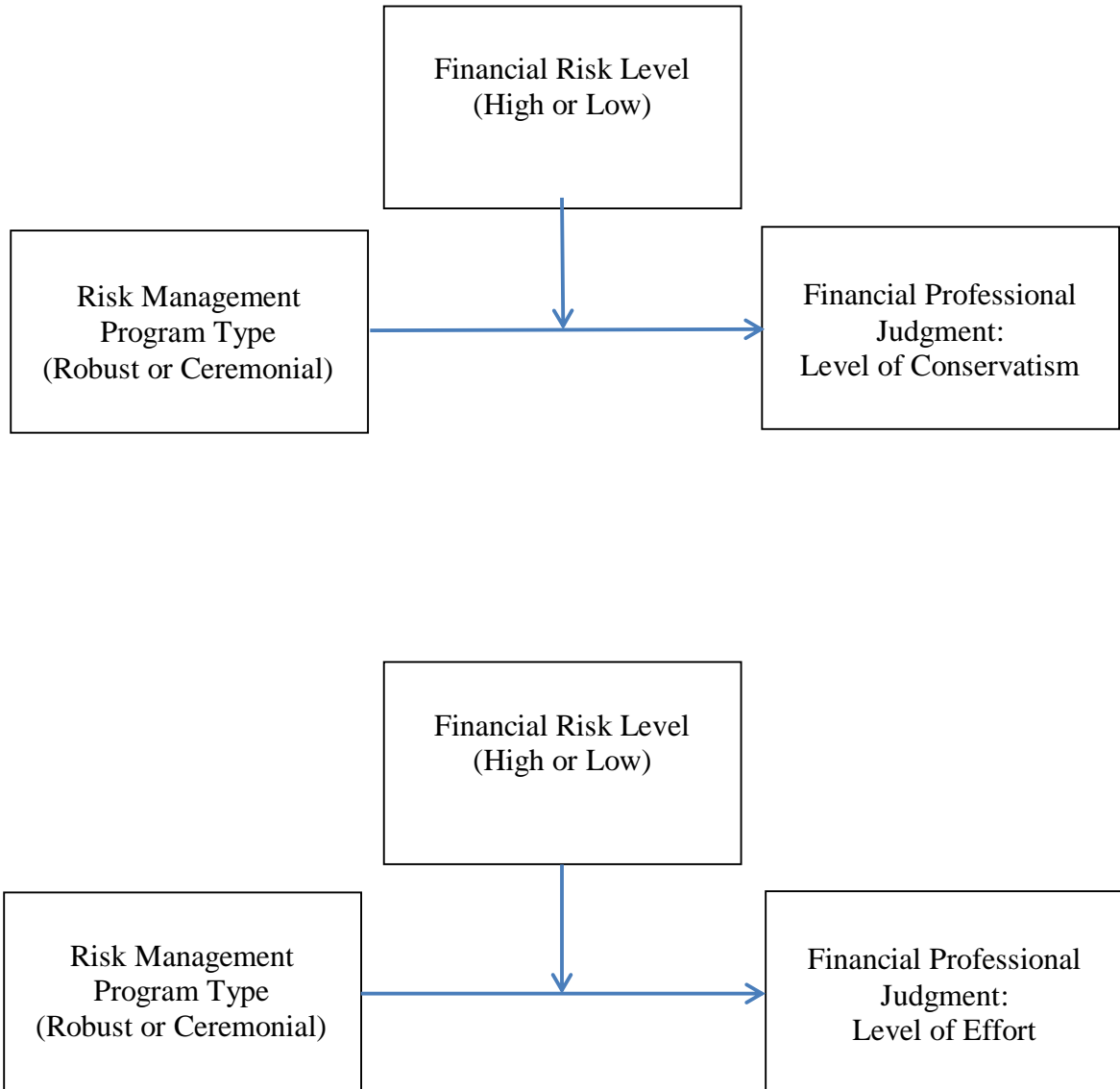
Figure 1 that follows this introduction displays the experimental model.

Despite regulatory mandates for public companies to pay attention to organizational risks and the considerable focus on RMPs in the marketplace and in practitioner journals, the results of this experimental study involving experienced financial professional participants found no evidence supporting any significant relationship between RMP type (i.e., as either robust or ceremonial) or the interaction of RMP type with the investment size and the likelihood that a participant would recommend or decide to make a financial project investment. Furthermore, no change in significance was noted after adding to the ANOVA model various possible control variables, including individual participants' general risk-taking propensity variable based on the "Risk Taking Index" used by Nicholson, et al. (2005). However, a significant relationship was revealed between investment size and financial professional judgment

effort, as measured by how much time it would take and the extent others would be consulted for participants to develop a recommendation for the case project investment relative to a typical project investment recommendation. Interestingly, the study also indicated a significant relationship between *investment size* and the extent participants felt accountable to the *board of directors* for the risk associated with the project investment recommendation. Additionally, significant relationships were found between the *RMP type* and both the extent participants felt accountable to *top management* for the risk of their project investment recommendation and the extent participants believed *top management* was risk averse. However, these feelings of accountability to the board of directors and to top management, and the beliefs of top management risk aversion, did not appear to impact financial professional judgment conservatism (i.e., likelihood that a participant recommended to make the case financial project investment).

The remainder of this paper is organized into four sections. The next section provides a literature review and develops the study's hypotheses, which are based primarily on accountability, agency, and institutional theories. That section is followed by an explanation of the methodology and then a presentation of the data analysis and findings. The final section contains the study's conclusions, limitations, implications, and opportunities for future research.

Figure 1: Risk Management Program Type/Financial Professional Judgment
Experimental Model



CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Background

ERM use is widespread in practice. Public company risk management standards (e.g., COSO, 2004; NYSE, 2013) and regulations (e.g., SEC, 2010; Dodd-Frank, 2010) charge top management and board members of public companies with risk management oversight responsibilities. It is expected that this recent risk management focus will affect management decisions across organizations if the risk management focus is substantive. Specifically, financial professionals may feel pressured to more carefully consider risks associated with their business decisions when they are *accountable* to top management and the board who likely convey a greater preference for risk aversion if the risk management focus is substantive. The current literature has not looked at these aspects of risk management.

The most widely accepted ERM definition in practice today was provided by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in its 2004 *Enterprise Risk Management – Integrated Framework*, as follows.

ERM is a process, effected by an entity's board of directors, management, and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

This COSO (2004) definition identifies key characteristics of the ERM process. The ERM framework is an integrated approach to managing organizational risks with

board level risk oversight. The ERM process occurs within a strategic setting and considers the entity's particular risk appetite. Finally, the ERM process relates risks to providing reasonable assurance of achieving organizational objectives. COSO (2004) goes on to identify four categories of entity objectives: strategic, operational, reporting, and compliance. Specific entity risks may also be grouped within these categories. Recent studies indicate that CFOs also view their role as value creators involved in the entity's strategic activities (Sharma & Jones, 2010). The present study asks financial professional participants to address financial risks associated with strategic objectives by making judgments related to project investment decisions involving varying degrees of financial risk and reward. Professional financial journals and prior financial professional academic studies indicate that such project investment decisions (a.k.a. capital budgeting) are common in practice for financial professionals (e.g., Farragher et al., 2001; Moreno et al., 2002; Pike, 1988). Additionally, one of the two parts of the Certified Management Accountant (CMA) exam, which is administered by the Institute of Management Accountants (IMA), is entirely devoted to financial decision-making, including such risk/reward investment decisions.

Prior Literature

While practitioner journals are full of ERM articles targeting management and board members to build ERM awareness and share best practices, academic studies addressing ERM are limited, and none appear to consider ERM's effects on financial professional judgments. Prior financial professional decision-making studies likewise do not examine the influence of ERM on judgment. Experimental studies using auditors and audit committee members as participants reveal the effects of varying levels of

accountability on participants' judgments. Another experiment examined the effect of inherent risk taking propensity and accountability on the riskiness of participants' decisions. A selection of studies on ERM, financial professional decision-making, accountability effects on audit-related judgments, and individual inherent risk-taking propensity are presented and summarized in the following sections.

Enterprise Risk Management

ERM and company characteristics. Some researchers have examined characteristics of firms adopting ERM. Beasley et al. (2005) surveyed chief audit executives and found that the extent of ERM implementation to be positively related to the presence of a chief risk officer (CRO). The authors also found that board independence, ERM support from the CEO and CFO, the presence of a Big 4 auditor, firm size, and organizations in the banking, insurance, and education industries also signaled a more mature ERM process.

Liebenberg and Hoyt (2003) studied a sample of firms that have appointed a chief risk officer (CRO) as a proxy for ERM adoption and found that firms that appointed a CRO had greater financial leverage than matched firms that did not appoint a CRO. This suggests that firms with higher relative debt levels are more likely to appoint a CRO to mitigate the increased financial risk exposure (e.g., inability to repay outstanding debt).

Finally, Pagach and Warr (2011) also examine a sample of firms that hired a CRO as a proxy for ERM adoption. The authors found that ERM adoption is more likely for firms that are larger, more volatile, and have greater institutional ownership.

Interestingly, the authors also found that ERM adoption (i.e., CRO appointment) is more

likely in firms that grant higher CEO risk-taking incentives. In this case it appears that boards implement ERM to help offset the CEO's risk-taking compensation incentives.

ERM and internal audit. The Institute of Internal Auditors' (IIA's) 2010 Global Internal Audit Survey of over 13,500 internal auditors, chief audit executives, and managers from 107 countries identified risk management as a top area of internal audit focus over the next five years, with 79% of respondents reporting an expected increase in internal audit activity of risk management. PricewaterhouseCoopers' (PwC's) 2011 State of the Internal Audit Profession Study, involving interviews with chief audit executives (CAEs), likewise revealed a planned increase of internal audit focus on ERM programs over the next three years reported by 79% of CAE's interviewed. The PwC 2013 survey also identified coordination with ERM and other risk functions, as well as coverage of emerging risks, as characteristics of high-performing internal audit functions.

Furthermore, the IIA provides an illustration (the ERM "fan") that shows appropriate ERM roles that internal auditors should and should not undertake (IIA: 2004, 2011). Essentially, the IIA prescribes that internal auditors should pursue ERM assurance activities, but avoid ERM management activities so that auditor independence and objectivity can be maintained.

Beasley et al. (2008) conducted a survey of CAEs from 122 organizations worldwide (79 in the U.S.) to explore the impact of ERM on the internal audit function. They found that ERM has the greatest effect on internal audit activities when the ERM process was more complete, the CFO and audit committee called for ERM focus by internal audit, CAE tenure is longer, ERM leadership is provided by internal audit, and the entity is in the banking or education industry.

ERM process and roles. Viscelli (2013) conducted a qualitative study on the ERM process by interviewing ERM champions from 14 organizations and found that ERM implementation was associated with meeting strategic needs and encouragement by the board of directors and audit committee. Key players in the ERM process were internal audit (IA), general counsel, the audit committee, the CFO, and the board of directors. Despite the IIA's ERM "fan" cautioning IA to avoid undertaking an ERM management role, the study found that IA usually assumed ownership over ERM leadership.

Cohen et al. (2015) also conducted a qualitative study on ERM involving semi-structured interviews of 32 experienced audit partners, CFOs, and audit committee (AC) members from 11 public companies. This study focused on how the participants view ERM and their ERM roles as specifically related to the financial reporting process. The authors found that all respondents defined ERM by emphasizing risk assessment and operational effectiveness/efficiency. However, only CFOs and AC members considered ERM strategic elements, whereas auditors' narrower ERM definition neglected to mention ERM strategic components. Additionally, CFOs and AC members adopted a resource dependency view of ERM as it relates to financial reporting, with a balanced view of risk assessment and strategic objectives. In contrast, auditors embraced an agency perspective of ERM that fails to recognize the risk/reward trade-off of considering both the risks and potential payoffs associated with pursuing strategic objectives.

Interview studies on robust versus ceremonial risk management processes. Viscelli (2013) conducted semi-structured interviews with ERM champions (key individuals involved with an ERM implementation) from 14 organizations to examine how institutional theory may be at work in the ERM process. This study considered

coercive, mimetic, and normative “isomorphism” (DiMaggio & Powell, 1983) as possible ways firms may adapt to (especially new and uncertain) rules and belief systems of their environment, such as those created by the recent ERM focus. Institutional theory suggests that the ERM process will be driven and manifested by firms becoming more alike in (1) responding to regulatory requirements and pressures (coercive isomorphism), (2) adopting ERM “best practices” from other successful organizations (mimetic isomorphism), and (3) pursuing ERM training and using risk consultants in order to be viewed as legitimate (normative isomorphism). Viscelli (2013) found evidence of institutional theory in the ERM process, especially by firms adopting ERM “best practices” (e.g., COSO framework) and using risk consultants (e.g., Big 4 firms). In addition, while 57% of ERM champions exhibited an agency theory ERM perspective by identifying “strategic need to better identify risk” as a reason why organizations undertake an ERM process, 29% of ERM champions reflected an institutional theory ERM view by mentioning “regulatory requirements” (coercive isomorphism) as a factor for implementing an ERM process.

In further support of the role of institutional theory in the ERM process, another survey conducted by Beasley et al. (2011) of 455 executives (mostly CFOs) from a variety of industries and sizes revealed that 37.5% of all respondents and 52.9% public company respondents noted “regulatory demands” as a factor “mostly” or “extensively” leading to increased executive focus on risk management activities.

Finally, while focusing primarily on the roles of agency theory and resource dependence theory in examining ERM and the financial reporting process, Cohen et al. (2015) acknowledge that institutional theory may also be relevant when ERM is viewed

as symbolic in nature and governance players are ineffectual when monitoring risks in “form” (i.e., ceremoniously following a “checklist” approach) rather than in “substance” (i.e., robustly questioning risk practices).

ERM and firm value. Hoyt and Liebenberg (2011) conducted a study of 117 publicly traded U.S. insurers and found that ERM adoption, as evidenced by the existence of a CRO, was positively related to firm value, as measured by Tobin’s Q. In contrast, McShane et al. (2011) examined a sample of 82 publicly traded U.S. insurers and found no increase in value (as measured by Tobin’s Q) for firms achieving higher ERM ratings using Standard and Poor’s risk management rating as an independent measure of ERM quality. Baxter et al. (2013) also used the Standard and Poor’s risk management rating as a proxy for ERM quality for a sample of financial services companies and found no relation between ERM quality and market performance *prior* to (period January to August 2008) or *during* (period September 2008 to February 2009) the financial crisis of 2008. However, ERM quality was positively associated with higher returns *after* the financial crisis. Greater firm complexity, less resource restraint, and better corporate governance were all controlled in the study, as they were also found to be positively associated with ERM quality.

Based on the ERM research discussed in the preceding sections, studies to date have reviewed characteristics of firms adopting ERM, the impact of ERM on the internal audit function, the ERM process and ERM roles, and the relationship between ERM and firm value. The present study makes a new contribution to existing ERM studies by examining the effects of ERM on managers’ decision-making in general and on financial professionals’ decision-making in particular.

Financial Professional Decision-Making

A sample of important financial professional decision-making studies is discussed below to provide a contextual framework and to identify appropriate control variables for the present study.

Financial professional experiments. Powell (1997) conducted an experiment with undergraduate and graduate business students as participants who made financial decisions related to insurance coverage and the currency market and found that females exhibited less risk-seeking behavior than males, after controlling for task familiarity and framing. Beller (1998) performed an experiment in which 288 accounting and finance professionals made resource allocation decisions before and after receiving feedback on the success of their earlier decisions. However, certain participants were required to provide explanations about why certain unexpected outcomes might occur before receiving feedback. This counter-explanation intervention strategy was found to increase reasoning and decrease escalation of commitment tendencies. Ruchala (1999) administered an experiment involving 60 students to make project investment decisions and found that participants make riskier investment decisions when they are not achieving budget goals, and this effect was exacerbated by the presence of bonus-based compensation. These results are consistent with prospect theory (Kahneman and Tversky, 1979) which suggests that professionals will be risk seeking when in a loss position (analogous to not achieving budget goals) and risk averse when in a gain position (analogous to achieving budget goals). Maroney and McDevitt (2008) conducted an experiment using 72 MBA students to examine whether the Section 302 certification requirements of the Sarbanes-Oxley Act of 2002 (requiring officers to certify that the

organization's financial statements are fairly presented) affect financial reporting decisions. The study found an interaction between the participants' moral reasoning level and the influence of the Sarbanes-Oxley Act, such that the influence of the Sarbanes-Oxley Act was significantly positively associated with the reported loss for participants with lower moral reasoning, but not for participants with higher moral reasoning.

Financial decision effectiveness under accountability. The present study examines the judgments of financial professionals who may be paying so much attention to risks in accordance with the risk management expectations of top management and board members that the financial professionals end up taking longer to make excessively conservative business decisions. Adelberg and Batson (1978) conducted an experiment with university students who allocated financial resources among financial aid applicants when the client's financial needs exceeded available resources. The authors found that participants who were accountable to resource providers and recipients made *less effective* resource allocation decisions than non-accountable participants, who made *more effective*, tough resource allocation decisions. Thus, participants who were accountable to multiple parties made less effective financial resource decisions because they did not want to disappoint the parties (audiences) to whom the participants were accountable.

Financial professional surveys and models. Pasewark and Welker (1990) asked financial executives to recall both a successful and an unsuccessful budget decision, along with the degree of subordinate participation in each decision. The results supported the recommendation of the Vroom-Yetton model to use high levels of participation in budgetary decision-making to enhance the likelihood of success. Sharma and Jones (2010) surveyed 241 CFOs and found that the role of today's CFO is expanding from the

traditional financial reporting to include value creation strategy contributions. Delaney and Guilding (2011) conducted a survey of Australian organizations and found that trust and risk are significant factors affecting the importance of budgetary roles in the sponsorship investment decision-making setting. Lin and Sappington (2011) address the planning moral hazard faced by a CEO (the “principal”) who motivates a manager (an “agent”) to assess and make project investments to maximize performance. A planning moral hazard may result in the case of a manager who does not exercise due diligence in evaluating a project that the manager already considers to be either profitable or unprofitable. The study recommends a compensation structure to mitigate the planning moral problem that will induce the manager to under-invest in projects thought to be profitable and over-invest in projects initially considered to be unprofitable in order to encourage a thoughtful evaluation of each project unbiased by initial perceptions about profitability.

Overall, the studies on financial professional decision-making have considered whether certain factors (e.g., gender, loss or gain situation) affect risk taking propensity, the influence of accountability on financial decision effectiveness, and strategies to improve project investment choices. However, the impact of an organization’s RMP type and financial risk level on financial professionals’ judgments, the topic of the present study, has not yet been explored.

Accountability Effects on Audit-Related Judgments

Auditor studies. Although research on the effects of accountability on financial professionals’ decisions is limited, there is a large body of research examining accountability effects on auditors’ and audit committee members’ judgments. These

studies inform my research on accountability and financial professionals' judgments.

Asare et al. (2000) conducted a 2 x 2 between-subjects experiment involving 91 auditors making judgments about audit testing strategies to uncover an unexplained increase in a client's gross profit margin. Accountable auditors (i.e., subject to superior review) exhibited higher judgment conservatism, as evidenced by a focus on the breadth of testing (examining different potential hypotheses to explain the fluctuation), which is more defensible than a depth strategy (extensive testing a few hypotheses) when the preferences of supervisors are unknown. Additionally, the accountability condition led to an increase in the extent of testing (level of effort).

DeZoort et al. (2006) manipulated accountability at four levels (i.e., anonymity, review, justification, and feedback) for 160 auditors from four Big 4 firms and one national accounting firm in an experiment that required auditors to make materiality judgments. The authors found that an increase in the level of accountability was associated with an increase in judgment conservatism and effort, as well as a decrease in judgment variability. Similarly, Hoffman and Patton (1997) examined the effects of accountability to superiors on the fraud risk judgments of 44 Big 6 auditors and found that accountability was positively related to judgment conservatism. This study also found that accountability was not related to an exacerbation of the dilution effect related to an over-interpretation of irrelevant information.

Kennedy (1993) administered an experiment to 58 executive MBA students and 171 Big 6 auditors involving judgments about a client's ability to continue as a going-concern. This study examined whether accountability mitigates recency effects (i.e., the overweighting of evidence presented later in a sequence) and found that only the MBA

students' judgments were significantly affected by such recency effects. Furthermore, MBA students held accountable (through justification) were able to overcome recency effects through increased effort.

Moreover, Koonce et al. (1995) conducted a study of 202 advanced-in-charge auditors and found that accountable auditors (i.e., auditors anticipating subsequent audit review of their judgments) provided more justifications (i.e., higher levels of effort) than non-accountable auditors for revisions to the audit plan in response to management's explanation of unexpected account fluctuations and ratios that normally would require additional audit work. Johnson and Kaplan (1991) performed an experiment with 101 auditor participants that involved inventory obsolescence judgments and discovered that accountable auditors displayed higher consensus (lower judgment variability) and higher self-insight (level of effort) than non-accountable auditors. Lord (1992) conducted a between-subject experiment with 30 experienced audit managers and found that auditors subject to accountability were less likely to issue an unqualified audit opinion than auditors whose decisions were not subject to review. This finding supports a positive relationship between accountability and auditor judgment conservatism.

The results of additional auditor studies (Abbott, et al. 2010; Buchman et al., 1996; DeZoort & Lord, 1994) are consistent with the acceptability heuristic (Tetlock: 1992, 1985; Mero et al., 2007) strategy of coping with accountability by making judgments that are acceptable to those parties to whom the auditors are accountable. Abbott et al. (2010) surveyed 134 chief internal auditors and found a positive association between the level of audit committee (AC) oversight (measured by reporting lines, termination rights, and budgetary control) and the amount of internal audit function (IAF)

budget allocated to internal control activities. Conflicts may exist between management's expectations of IAF activities (e.g., emphasis on operational goals and cost savings) and the AC's expectations of IAF activities (e.g., internal controls focus). The study results suggest that the IAF will seek to satisfy the expectations of the party providing oversight over the IAF.

Buchman et al. (1996) conducted an experiment to test the effect on auditors' decisions of holding the auditors accountable to others with known views. Ninety-two Big 8 auditors were randomly assigned to three manipulation groups with different levels of accountability: accountable to no one, accountable to the client, or accountable to an audit partner. Experienced auditor participants held accountable to an audit partner for their judgments (1) chose qualified opinions that conformed to the conservative views of audit partners and (2) exerted more effort by listing more items to justify their choices. The authors speculate that the same accountability effects were not observed for inexperienced auditors because experienced auditors were more aware of the implications and issues.

DeZoort and Lord (1994) performed an experiment in which 146 auditors from an international accounting firm were randomly assigned to one of three obedience pressure groups: no pressure (control group), audit manager pressure, and audit partner pressure. The auditors made ethical judgments about whether to obey inappropriate instructions from superiors. The results indicated that auditors subject to higher obedience pressure (Milgram, 1974) were significantly more likely to follow inappropriate instructions from either an audit manager or audit partner (and thereby violate normal professional standards) than auditors not subject to such pressure. Furthermore, auditors' judgments

were not significantly affected by their individual attitudes toward authority, as measured by a General Attitudes Toward Institutional Authority Scale (Rigby, 1982).

In addition, Tan et al. (2002) observed the interaction effects of skills and complexity in an experiment of 82 auditors from two Big 6 firms who were administered audit tasks of varying complexity and randomly assigned to a condition of either high accountability (i.e., required to provide their names and were informed their answers would be reviewed by a superior with unknown preferences) or low accountability (i.e., participants' names and answers would remain anonymous). High (low) auditors' level of knowledge was determined by whether they possessed above (below) the median knowledge scores on designated audit tasks. Auditor performance declined for increasing task complexity only under conditions of either low knowledge/high accountability or high knowledge/low accountability. Performance was unaffected for increasing task complexity under conditions of either high knowledge/high accountability or low knowledge/low accountability.

Audit committee studies. Moving to the study of audit committee member judgments, DeZoort et al. (2008) performed an experiment examining responses before and after the passage of the Sarbanes-Oxley Act of 2002 (SOX) from 372 public audit committee (AC) members (131 pre-SOX from DeZoort et al. [2003] and 241 post SOX). The study found that AC members' (especially AC members who were CPAs) support for an auditor proposed adjustment is significantly higher in the post-SOX period than in the pre-SOX period. Additionally, study participants supporting the auditor-proposed adjustment believed more strongly that AC members in the post-SOX period are more conservative and have more power than they did pre-SOX. This study shows how the

passage of a regulation (i.e., SOX) may create a high accountability condition that results in more conservative judgments (i.e., judgments that conform to the objectives of the regulation).

Persellin (2013) conducted a similar experiment with 92 Executive MBAs participants serving as proxies for AC members. This study required participants to make judgments on their support for an income-reducing audit adjustment when AC members are compensated either primarily with short-term options or in cash. The study also examined the effect of an additional manipulated condition of either a high or low likelihood of Public Company Oversight Board (PCAOB) audit engagement inspection. The study results confirmed the main effect of a positive association between option compensation and less support for the income-reducing proposed audit adjustment. The results also found a significant interaction between the likelihood of PCAOB inspection and option compensation such that option compensation only affected the support for the income-reducing proposed audit adjustment when the likelihood of PCAOB inspection was low.

Overall, the studies of accountability in the auditing realm suggest that accountability pressure leads to increased effort and more conservative judgments. Further, the recent increase in risk management accountability pressure should lead to financial professionals exerting more effort to make more conservative financial business decisions.

Individual Participant General Risk-Taking Propensity

Weigold and Schlenker (1991) conducted an experiment with psychology students who were identified as either self-described high or low risk-takers (based on a

pretest questionnaire). The participants were given the choice between pairs of lotteries with the same expected value but varying levels of risk/reward (i.e., a higher risk lottery has a lower probability of a higher payout, whereas a lower risk lottery has a higher probability of a lower payout). Additionally, participants either were required (accountable) or not required (unaccountable) to explain and justify their decisions to others. When accountable, low risk-takers became significantly risk averse, but high risk-takers actually made slightly riskier decisions. A second study revealed that accountable low risk-takers found security in extreme risk aversion, whereas accountable high risk-takers admired and believed others admired high over low risk taking decisions.

In the present study, the general risk-taking propensities of financial professional participants was measured (based on participants' responses to risk-taking index questions from Nicholson et al., 2005) and examined to both control for individual participants' general risk-taking propensities and determine if RMP type interacts with such risk-taking propensities to effect financial professionals' judgments.

Theory and Hypotheses Development

Agency Theory versus Institutional Theory

Agency theory is the predominant corporate governance perspective and heavily relied upon in accounting and finance literature (Cohen et al., 2008). Agency theory is derived from the fundamental agency problem of divergent interests between owners (principals) and managers (agents) associated with the corporate form of organization. This agency problem is caused by the separation of firm ownership (i.e., by shareholders) and control (i.e., by management) because "the decision process is in the hands of professional managers whose interests are not identical to those of residual claimants"

(Fama & Jensen, 1983: 331). Therefore, agency theory views the role of the board as an independent party that vigilantly monitors management to prevent opportunistic behavior (Jensen & Meckling, 1976).

Institutional theory states that the creation of ceremonial structures for the benefit of constituencies, rather than the establishment of structures observable to external parties, are more related to the achievement of expected organizational outcomes (Kalbers & Fogarty, 1998). An implication of institutional theory in corporate governance is that the board may focus on ceremonial and symbolic roles in times of uncertain or ambiguous settings (Cohen et al., 2008), such as in an environment in which a firm seeks to manage an array of complex organizational risks. An example of a “ceremonial” practice of a public company board is to disclose the board’s risk management oversight role in compliance with SEC proxy requirements (SEC, 2010). Under institutional theory structural processes become more similar as organizations comply with governance regulations and follow “best practices” to create appearances of legitimacy and effective oversight (Beasley et al., 2009).

In summary, agency theory emphasizes an independent, vigilant board monitoring of management, whereas institutional theory emphasizes ceremonial roles of governance where the appearance of legitimacy is more important than any real substantive oversight. In the present study, a *robust* RMP is supported by agency theory and characterized by diligent board risk oversight, the presence of an experienced, active chief risk officer (CRO), and the evaluation of risk management effectiveness by competent internal auditors. In contrast, a *ceremonial* RMP is supported by institutional theory and lacks any true board risk oversight, has appointed the controller who is inexperienced with risk

management as a symbolic action, and does not have an internal audit function that is focused on reviewing the risk management process.

Accountability Theory

Accountability can be defined as “the quality or state of being accountable; especially: an obligation or willingness to accept responsibility or to account for one’s actions” (<http://www.merriam-webster.com/dictionary/accountability>). In academic literature, “accountability refers to being answerable to audiences for performing up to certain prescribed standards, thereby fulfilling obligations, duties, expectations, and other charges” (Schlenker et al., 1994: p. 634). Accountable people can be made to explain and justify their decisions, and their conduct may be judged, scrutinized or sanctioned by audiences (Tetlock: 1985, 1992). People are motivated by several reasons to seek the approval and respect of audiences to whom they are accountable, such as symbolic psychological and tangible material benefits. The *acceptability heuristic* approach to coping with the pressures of accountability when the preferences of audiences are known is to simply make decisions that are in accordance with the preferences of audiences. This approach is consistent with the view of people as cognitive misers who seek to minimize the mental effort associated with considering alternative choices and instead just adopt the salient “acceptable” choice (Tetlock: 1985, 1992). In the present study, a fully functional ERM (where the board is charged with oversight of the organization’s risk management program) is a proxy for a robust RMP. Therefore, in a robust RMP the conservative preferences of top management and board members related to the management of risks are known by financial professionals.

The responsibility (a.k.a. accountability) triangle consists of *prescriptions* (rules for conduct), *events* (action taken by actors and related consequences), and *identity* (actor's roles that connects him or her to the prescription and event) (Schlenker et al. 1994). The evaluative reckoning of accountable people (actors) requires that the evaluator (audience) has information about prescriptions, events, and identity images and the connections among them. Accountability has a greater influence when either it relates to more important *prescriptions* (i.e., prescriptions that are highly regarded and have high potential personal consequences for the actor) or the relevant *event* has more important consequences (e.g., greater potential financial impact on the company) (Schlenker & Weigold, 1989). In the present study financial professionals are the actors, top management (including the Chief Risk Officer) and the board (especially the audit committee) are the audience, and ERM (i.e., how effectively risks are managed) is the prescription. Accordingly, a greater accountability impact is likely for a *robust* RMP that views the ERM prescription in high regard and the actors' ERM event (actions) as having an important consequence than for a *ceremonial* RMP that considers the ERM prescription more as a symbolic rule to (ceremoniously) follow and actors' ERM actions more as ritualistic events.

Hypotheses

As discussed above, a robust RMP is supported by the agency theory view that members of senior management (e.g., CEO, CFO) and the board will genuinely support the RMP objectives, vigilantly monitor the risk assumed by managers, and hold financial professionals accountable for the riskiness of their financial decisions. In contrast, a ceremonial RMP is supported by the institutional theory perspective that senior

management and board members lack real support of the RMP objectives, employ symbolic structures (e.g., appointing a CRO) and take ritualistic actions (e.g., publicly disclosing the board's risk oversight role) to advance the appearances of legitimate risk monitoring, and fail to require any substantive accountability for risks assumed by financial professionals in their business decisions.

In accordance with the acceptability heuristic approach to coping with genuine accountability pressure applied by senior management and board members to pay attention to risk management within a robust RMP, financial professionals will seek to gain the approval and respect of the parties to whom they are accountable (i.e., senior management and the board) by making decisions that are in agreement with their known preferences. Therefore, financial professionals will likely make more conservative business decisions to reflect the conservative risk preferences of senior management and board members that provide oversight over a robust RMP. Participants were also asked about the factors that they considered in making case decisions to identify the reason(s) for their judgments. Additionally, numerous accountability studies discussed earlier find that greater accountability levels also result in more effort exerted by the accountable parties (actors) in order to fulfill the expectations of audiences that actors exercise due diligence. Therefore, a robust RMP is likely to also result in more effort exerted by financial professionals. Based on the above discussion, the first set of hypotheses follows:

Hypothesis 1: Financial professionals of companies with a robust risk management program (RMP) will make more conservative financial investment business decisions than financial professionals of companies with a ceremonial RMP.

Hypothesis 2: Financial professionals of companies with a robust risk management program (RMP) will exert more effort while making financial

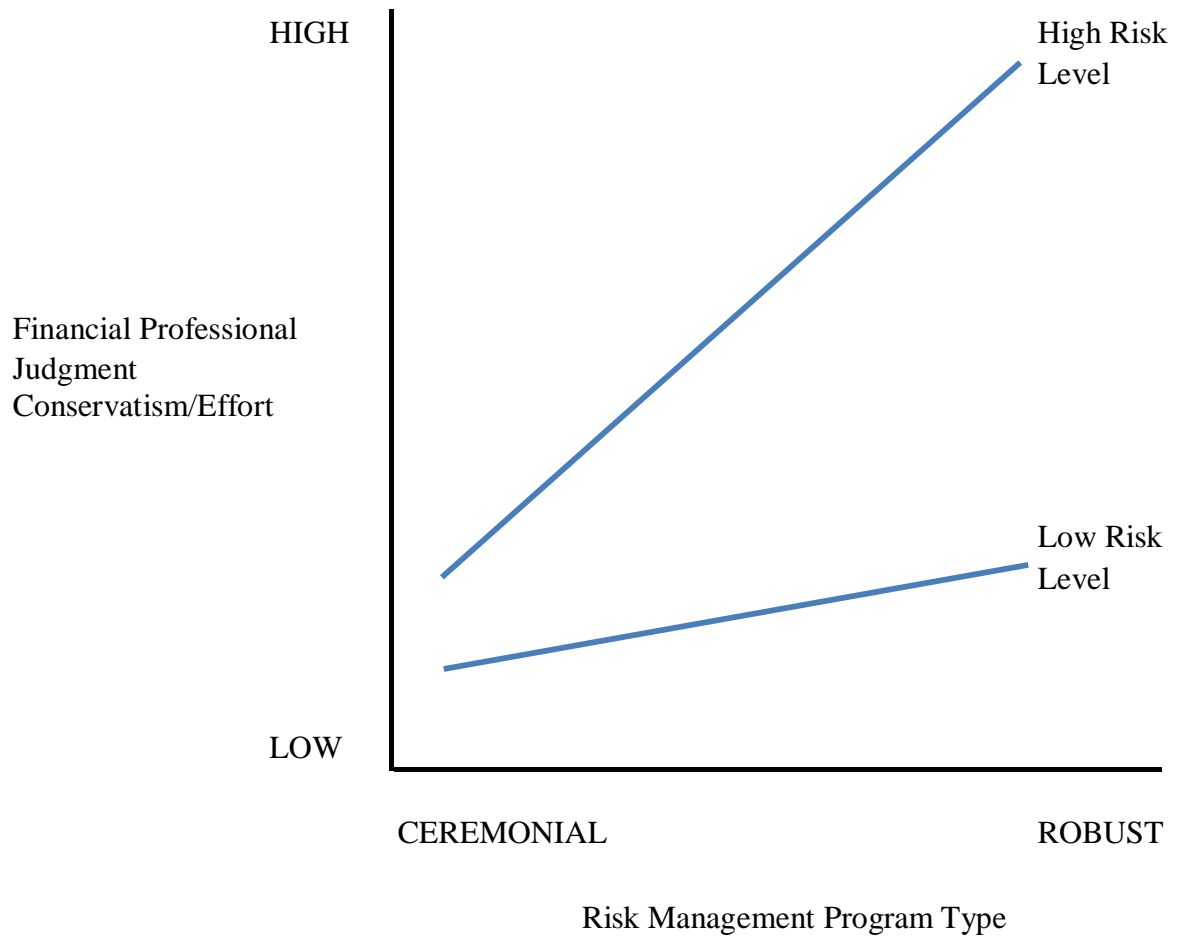
investment business decisions than financial professionals of companies with a ceremonial RMP.

As the combined importance of the triangle of responsibility elements become more potent (i.e., increase), so do the potential consequences for the actor (e.g., financial professional) at the time of evaluative reckoning (Schlenker et al., 1994). For example, in high financial risk environments financial decisions become more important and consequential than in low financial risk environments (to the extent that an individual perceives risk and responsibility for the specific judgment/decision). In other words, if risk is low (i.e., low probability of loss or small financial amounts are at risk), then the level of accountability is not expected to be as important. However, when risk is higher (i.e., higher probability of loss or larger financial amounts at risk), the stakes are raised, and the overseeing party's view should become more important to the decision maker. Therefore, when financial risk level is high, the effect of a robust RMP on financial professionals is expected to be greater than when financial risk level is low. Additionally, Baxter et al. (2013) found that the market reacted positively to ERM quality only after the 2008 financial crisis, but not before the market collapse. In other words, ERM only mattered to the market when the level of risk was high. Similarly, in the present study it is likely financial professionals' levels of judgment conservatism and effort will conform more closely with the (risk averse) preferences of audiences within a robust RMP and when the level of financial risk is high than when the level of financial risk is low. In other words, it is expected that the robust RMP will matter more to financial professionals for high financial risk levels. Based on the above discussion, the second set of hypotheses (depicted in Figure 2) follows:

Hypothesis 3: The effect of robust RMP on financial investment judgment conservatism is greater when the level of financial risk is high than when the level of financial risk is low.

Hypothesis 4: The effect of robust RMP on financial investment judgment effort is greater when the level of financial risk is high than when the level of financial risk is low.

Figure 2: Financial Professional Judgment Showing Predicted Interaction
Between RMP Program Type and Financial Risk Level



Note: The non-parallel lines indicate the anticipated ordinal interaction between risk management program type and financial risk level. The highest levels of financial professional judgment conservatism and effort are predicted to result for a robust RMP within a high financial risk level.

CHAPTER 3

METHODOLOGY

Experimental Design and Case Development

I used an experimental design technique similar to the one used in DeZoort et al. (2006). The experimental materials consisted of an informed consent, followed by a brief case study that included sections for company and industry background, financial performance, capital budgeting policy: required rates of return on project investments, top management, board of directors and audit committee, external independent auditor, internal audit department, and four different versions – for each of the two risk management program types and each of the two financial risk levels (2 x 2 between-subjects design).

The base case materials represented a publicly-traded household appliance manufacturing company (the Company) listed on the New York Stock Exchange and operating within a relatively robust industry, with the Company's financial performance and position comparable to average companies in the industry. The Company's 5-year historical net sales, net income, and total assets were derived from industry benchmark data, and its capital budgeting policy including the required rate of return on project investments is presented. Top management and the board of directors (including the audit committee) meet regularly and are qualified and experienced. The same external (independent) accounting firm has expressed a clean audit opinion on the Company for each of the past five years, and the Company has an active internal audit department.

A realistic and understandable case was developed by leveraging the experience of my professional accounting colleagues (many practicing CPAs with over five years of professional experience) and myself, as well as examining benchmark information and financial data of public companies in the household appliance industry and conducting a comprehensive literature review of enterprise risk management (ERM) academic studies (e.g., Baxter et al., 2013; Beasley et al., 2005; Cohen et al., 2015) and a study of current ERM regulations and guidelines (e.g., COSO, 2004, 2009; NYSE, 2013; Standard and Poor's, 2008). In addition, my dissertation committee reviewed and provided feedback on the initial case that led to several rounds of constructive edits. Finally, four other academics with expertise in the area reviewed the case and provided substantive feedback leading to additional edits (particularly in the area of ERM public company proxy requirements and typical management and board ERM roles and responsibilities) that further enhanced the realism as well as the understandability of the final version of the case (see Appendix B for copy of case instrument).

Table 1 shows the 2 x 2 experimental design and expected cell sizes with two RMP types and two financial risk levels (total of four cells). Similar accounting studies have obtained approximately 15 responses per cell (e.g., DeZoort et al. 2003). Accordingly, the goal in this study was to secure approximately 15 completed instruments per cell, for a total of approximately 60 participants.

Table 1: 2 x 2 Experimental Design and Expected Cell Sizes

	High Financial Risk	Low Financial Risk
Robust Risk Management Program	15-20 Participants	15-20 Participants
Ceremonial Risk Management Program	15-20 Participants	15-20 Participants

The online instrument was designed and administered in Qualtrics. Participants were experienced financial professionals and accessed the instrument through a link that was sent to them in three separate email requests by the Institute of Management Accountants (IMA) Director of Research (the IMA provided a research grant to support this study). These email requests were sent to IMA members that met the requisite experience and other selection criteria (the IMA has approximately 70,000 members). In addition, a fourth email request was sent to other suitable experienced accounting professionals (known through my professional network) in order to obtain the required minimum participants. Appendix A contains samples of the request emails. The instrument included a total of 49 items. However, each participant was presented with only a subset of items as determined by the experimental cells in which each participant was randomly assigned.

The instrument was submitted for review to the Institutional Review Boards at the University of Scranton and Kennesaw State University, who approved the final version of the instrument after suggested edits to the consent form were made.

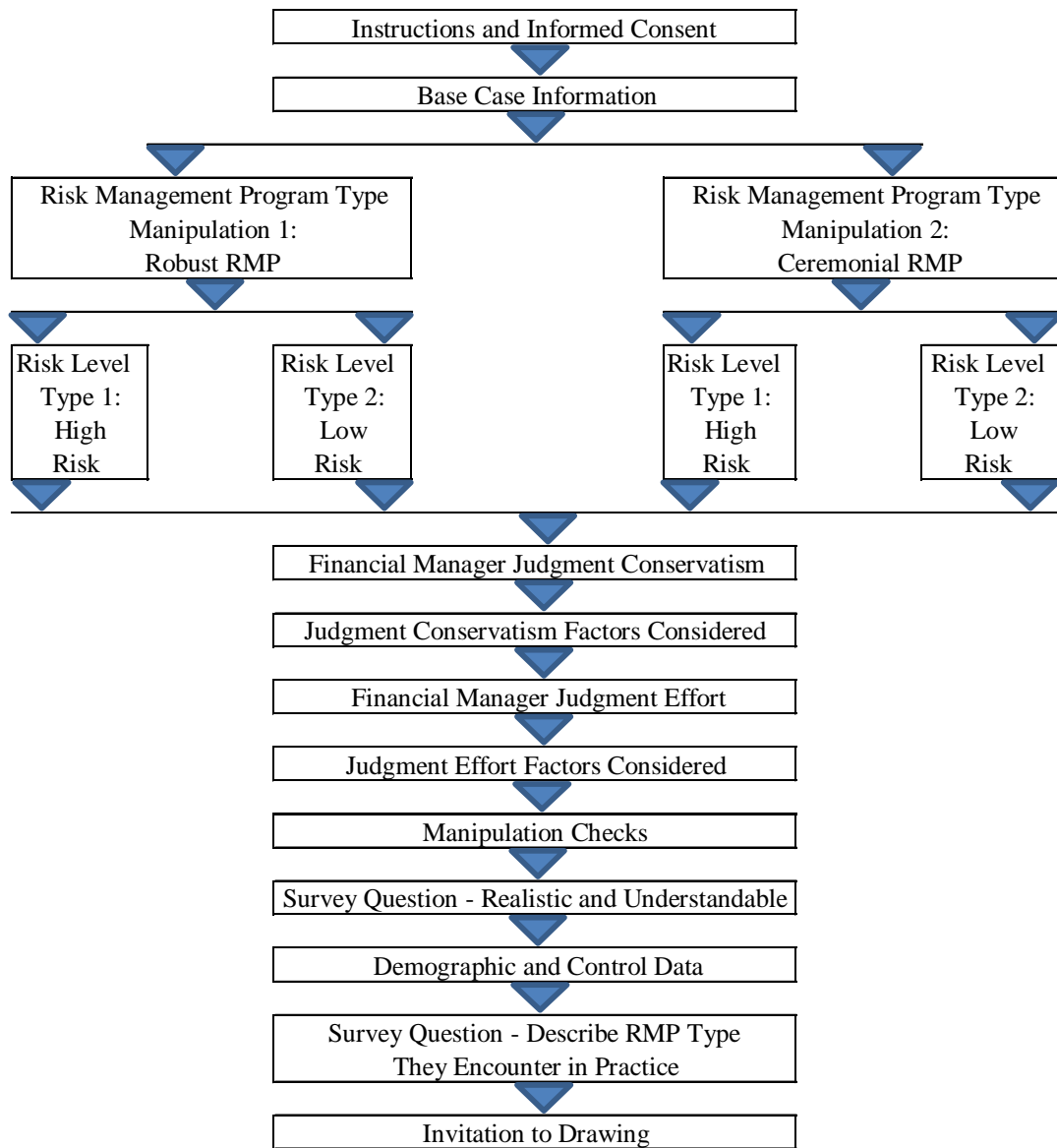
Experimental Task

The instrument first presented an informed consent to each participant. Only participants who indicated their agreement and consent to participate in the study were able to proceed to access and complete the study. Upon providing consent, all participants were presented with the base case information. The participants were then randomly assigned to one of the two risk management program types (i.e., either robust or ceremonial) and given information describing the RMP type to which they were randomly assigned. Next participants were again randomly assigned to one of the two

financial risk levels (i.e., high or low) and provided information describing a possible new product introduction, along with the related financial risk level (high financial risk represented by a relatively large financial investment and low financial risk represented by a relatively small financial investment) to which they were randomly assigned.

The participants were then asked to make two judgments - one related to *judgment conservatism* and one related to *judgment effort*, which are the two primary dependent variables of the study. Open-ended questions followed asking participants the factors that they considered in their judgment responses. Participants were then asked other questions that are examined as part of additional analysis. Then two manipulation check questions (one for the RMP type manipulation and one for the financial risk level manipulation) were presented, followed by questions about how realistic and understandable the case was, demographic and control data, participants' general risk-taking propensity, and the primary type of risk management programs that participants experienced in their careers. The instrument concluded with an invitation to participate in a gift certificate drawing and a question asking whether they would like to receive a summary report of the survey responses. Table 2 on the following page provides an outline of the Qualtrics instrument flow.

Table 2: Instrument Flow



In this study, participants were asked to assume that they were employed as financial managers charged with evaluating and making recommendations about whether the Company should pursue project investment opportunities. Furthermore, as financial managers of the Company, they should assume that they report to the Controller and that the success or failure of their investment recommendations is considered in their performance evaluation and in determining their base pay adjustments and any incentive pay (e.g., bonuses).

The first primary judgment task related to the participants' level of *judgment conservatism* in responding to the request to indicate the likelihood they would recommend that the Company make the financial investment to manufacture a new household appliance (i.e., a swift-cook oven). Such investment project decisions (a.k.a. capital budgeting) are common in practice for financial professionals (e.g., Farragher et al., 2001; Moreno et al., 2002; Pike, 1988) and prominently covered on the Certified Management Accountant (CMA) exam.

The second primary judgment task related to the participants' level of *judgment effort* in responding to two separate requests. The first request was to indicate how much time participants would take to develop a recommendation for this project investment relative to a typical project investment recommendation. The second request was to indicate the extent that they would consult with others to develop a recommendation for this project investment relative to a typical project investment recommendation. In addition, participants were asked to describe the factors they considered in making each judgment and to indicate the individual(s) with whom they would consult.

The participants were then asked additional questions each on a sliding scale from 0 to 100 for the purpose of better understanding their levels of judgment conservatism and judgment effort in deciding whether to recommend that the Company make the case project investment and how much relative time and consultation they would need to make their recommendation.

Independent Variables Case Manipulations

In the case of a *robust RMP* the board of directors has directed management to establish an organization-wide risk management program primarily to ensure that the Company is effectively managing its risks. In contrast, in the case of a *ceremonial RMP* the board of directors has directed management to establish an organization-wide risk management program primarily to demonstrate that the Company is in compliance with regulations (e.g., SEC, 2010; NYSE, 2013). The *high financial risk* case requires a large financial investment (relative to other project investments), and the *low financial risk* case requires a small financial investment (relative to other project investments).

Factors Affecting Participants' Recommendations

The first additional question asked participants the extent that certain factors (i.e., board of directors' attitude toward risk management, top managements' attitude toward risk management, the employee appointed in charge of risk oversight, internal audit's level of evaluation of the Company's ERM program, and the relative size of the project investment) affected their recommendation about whether the Company should make the project investment based on a sliding scale from 0 to 100 (0 represents minimal effect, 50 represents moderate effect, and 100 represents significant effect).

Extent Participants Felt Accountable to Board and Top Management

The second additional question asked participants to what extent they felt accountable to (1) the board of directors and (2) top management for the risk associated with their recommendation about whether the Company should make the project investment based on a sliding scale from 0 to 100 (0 represents minimal accountability, 50 represents moderate accountability, and 100 represents significant accountability).

Extent Participants Believed the Board and Top Management are Risk Averse

The third additional question asked participants to indicate the extent that they believe (1) the board of directors and (2) top management are risk averse based on a sliding scale from 0 to 100 (0 represents minimal risk aversion, 50 represents moderate risk aversion, and 100 represents significant risk aversion).

Perceived Level of Risk for this Project Investment

The fourth additional question asked participants to indicate the level of risk for this project investment based on a sliding scale from 0 to 100 (0 represents low risk, 50 represents moderate risk, and 100 represents high risk).

Extent Participants Believed the Board and Top Management Supported the Company's ERM Program

The fifth additional question asked participants to indicate the extent they believe (1) the board of directors and (2) top management support the Company's ERM program based on a sliding scale from 0 to 100 (0 represents minimal support, 50 represents moderate support, and 100 represents significant support).

Manipulation Check Questions

The participants were then asked two manipulation check questions to determine whether they were able to identify the correct RMP type and the correct financial risk level in which they were randomly assigned. The RMP type manipulation check question

asked participants to indicate the Company's primary motivation for establishing its ERM program based on the facts in the case. The correct response for the *robust RMP* was "to ensure that the Company is effectively managing its risks." The correct response for the *ceremonial RMP* was "to demonstrate that the Company is in compliance with SEC and NYSE regulations." The financial risk level manipulation check question asked participants to indicate the relative size of the project investment in this case. The correct response for the high financial risk level was "large" and the correct response for the low financial risk level was "small."

Realistic and Understandable Case

Next participants were asked to indicate how realistic this case was on a sliding scale from 0 to 100 (0 represents very unrealistic, 50 represents moderately realistic, 100 very realistic) and how understandable this case was on a sliding scale from 0 to 100 (0 represents very difficult to understand, 50 represents moderately understandable, and 100 represents very understandable).

Participants' ERM and Project Investment Experience

Participants were then asked about their career experience working with ERM programs. Those participants answering "yes" to the question about whether they have had any experience with a risk management program in their career were then asked what the primary focus of the RMP(s) they experienced on the basis of a sliding scale from 0 to 100 (0 represents primarily compliance-based ERM focus, or a *ceremonial RMP*, and 100 represents primarily risk-based ERM focus, or a *robust RMP*).

Participants were also asked to indicate whether they have had any professional experience in making project investment recommendations or decisions in their career.

Those responding “yes” were then asked (using a sliding scale from 0 to 100) to indicate the extent of such experience (0 represents minimal experience, 50 represents moderate experience, and 100 represents significant experience) and the degree such experience has been favorable (0 represents very unfavorable and 100 represents very favorable).

Individual Participants’ General Risk-Taking Propensities

Based on the Nicholson et al. (2005) Risk Taking Index, participants were then asked to indicate the frequency that six general risk-taking situations not related to the specific case study have ever applied to them *now* or *in their adult past* based on a 5-point scale (1 = never, 2 = rarely, 3 = occasionally, 4 = often, and 5 = very often).

Therefore, participants made a total of 12 responses to measure their general risk-taking propensities to be used as a possible control variable.

Demographic Data and Invitation to Drawing

The experiment concluded with a series of questions related to participant demographic data, additional participant thoughts about the case, and whether participants would like to receive by email a summary report of survey responses, as well as an invitation to enter into a drawing for a gift certificate.

Independent Variables

The study includes two categorical independent variables of interest: (1) RMP type (robust or ceremonial) and (2) financial risk level (high or low).

RMP (robust). In the experiment the expressed purpose of a robust RMP is primarily to ensure that the Company is effectively managing its risks. As such, a robust RMP receives strong support from the board of directors and top management, who are willing to expend the required resources to ensure that it is properly implemented. A

robust RMP is also characterized by appointing someone to assume risk oversight responsibilities (e.g., a CRO) who has specialized risk management experience and regularly conducts specific risk management meetings and generates risk reports, as well as regular internal audit ERM evaluation.

In practice a robust RMP is a fully functioning, integrated ERM program, as described in COSO (2004). Specifically, a robust RMP has the support of senior management (including the CEO, CFO) and the board (especially the audit committee), has regular and productive CRO-led executive and board risk management sessions, and is subject to regular evaluation of the effectiveness of organization-wide risk management by a competent internal audit function. These attributes of a robust RMP were derived from the literature. Specifically, senior management and board support, as well as the presence of a CRO, have been positively related to ERM implementation (Beasley et al., 2005). Additionally, the presence of a CRO has been used as a proxy for ERM adoption (Hoyt & Liebenberg, 2011; Pagach & Warr, 2011). Furthermore, a more complete ERM has been found to have the greatest impact in internal audit activities (Beasley et al., 2008). In addition, recent audit surveys (e.g., IIA, 2010; PwC, 2011) have identified risk management as a new focus of the internal audit function.

RMP (ceremonial). In the experiment the expressed purpose of a ceremonial RMP is primarily to demonstrate that the Company is in compliance with regulations (e.g., NYSE, 2013; SEC, 2010; COSO, 2004). As such, a ceremonial RMP lacks any real support from the board of directors and top management, who are unwilling to expend resources to implement a RMP that effectively manages the Company's risks. A ceremonial RMP is also characterized by appointing someone to assume risk oversight

responsibilities (e.g., the controller) who lacks specialized risk management experience and does not conduct specific risk management meetings or generate risk reports, as well as the lack of internal audit ERM evaluation.

In practice a ceremonial RMP is primarily a symbolic, disjointed risk management program that is more of a ritualistic process to create the appearance of legitimacy rather than to effectively manage organizational risks. It has no or very limited senior management and board support. Additionally, it has no or sporadic and marginally effective risk sessions or reports, a CRO or other employee appointed in charge of risk management with no or limited ERM experience or access to senior management and the board, and no or very little IA focus on the effectiveness of the RMP. These characterizations of a ceremonial RMP are consistent with institutional theory (Kalbers & Fogarty, 1998).

Financial risk level (high). In the experiment a high financial risk level is represented by a capital budgeting decision for a new product introduction that requires a large financial investment (relative to other project investments). Additionally, missing the Company's minimum required return on relatively large investments significantly impacts the Company's ability to meet its overall profitability goals. In the experiment the new product introduction (manufacturing of swift-cook ovens) would be funded through internal funds and not through the issuance of debt. Therefore, the financial risk level is not influenced by assuming more debt, but only through the relative required size of the financial investment. In this study, I intentionally manipulated only the size of the required financial investment for the financial risk level, because simultaneously

increasing the Company's debt for the high financial risk condition may have resulted in extreme conservative judgments.

Academic literature indicates that high financial risk is characterized by organizational risk decisions with significant financial impact (e.g., Schlenker & Weigold, 1989) and relatively higher financial leverage (e.g., Liebenberg & Hoyt, 2003) with associated debt covenant restrictions. First, risk decisions with significant financial impact represent accountability triangle *events* that have more important consequences for the decision maker (Schlenker & Weigold, 1989) and thus are properly associated with a high financial risk. Second, Liebenberg & Hoyt (2003) found that firms that appoint CROs (proxy for ERM) had greater financial leverage. In this case the CRO appointment was believed to offset the increased risk associated with a higher ratio of debt to equity (i.e., greater financial leverage). Higher levels of debt increase risk because debt must be repaid even if earnings or cash flows go down.

Financial risk level (low). In the experiment a low financial risk level is represented by a capital budgeting decision for a new product introduction that requires a small financial investment (relative to other project investments). Additionally, missing the Company's minimum required return on relatively large investments modestly impacts the Company's ability to meet its overall profitability goals. In the experiment the new product introduction (manufacturing of swift-cook ovens) would be funded through internal funds and not through the issuance of debt. Therefore, the financial risk level is not influenced by assuming more debt, but only through the relative required size of the financial investment. In this study, I intentionally manipulated only the size of the required financial investment for the financial risk level, because simultaneously

increasing the Company's debt for the high financial risk condition may have resulted in extreme conservative judgments.

Academic literature indicates that low financial risk includes organizational risk decisions with less financial impact (e.g., Schlenker & Weigold, 1989) and lower financial leverage (e.g., Lienbenberg & Hoyt, 2003) with few debt covenant restrictions. These low risk traits represent the opposite of the high financial risk level traits (i.e., low versus high financial impact and lower versus higher financial leverage) discussed earlier under the high financial risk condition.

In addition to the manipulated independent variables, I consider several possible control variables, including participants' general risk-taking propensities, gender, years of professional experience, current title, professional certifications, education (highest degree), industry, company size, and early vs. later responders.

Dependent Variables

The two primary continuous dependent variables in this study are (1) financial professional judgment conservatism and (2) financial professional judgment effort. Financial professional judgment conservatism is measured on a sliding scale from 0 to 100 related to the likelihood that participants would recommend that the Company make a financial investment in a new product introduction with a potential financial upside (reward) and financial downside (risk). Financial professional judgment effort is measured on two sliding scales each from 0 to 100 related to relatively (1) how much time it would take and (2) the extent of consultation the participant would seek to make the project investment recommendation. Participants were then asked to describe the

factors they considered in their judgment responses, and to indicate the individual(s) they would consult.

Primary Variable 1: Financial Manager Judgment Conservatism
(CONSERVATISM)

Participants were asked to evaluate a project investment opportunity and recommend whether the Company make a financial investment as follows:

As a financial manager charged with evaluating and making recommendations about whether the Company should pursue project investment opportunities, please slide the bar below to indicate the likelihood you would recommend that the Company make the financial investment to manufacture the new swift-cook oven (0 = Not at all likely, 50 = Moderately likely, 100 = Very likely).

Primary Variable 2a: Financial Manager Judgment Effort (EFFORT)

Participants were asked relatively how much time they would take to recommend whether the Company make a financial investment as follows:

Please slide the bar below to indicate how much time you would take to develop a recommendation for this project investment relative to a typical project investment recommendation (0 = Much less time, 50 = About average time, 100 = Much more time).

Primary Variable 2b: Financial Manager Judgment Effort (EFFORT)

Participants were asked the extent that they would consult with others to recommend whether the Company make a financial investment as follows:

Please slide the bar below to indicate the extent that you would consult with others to develop a recommendation for this project investment relative to a typical project investment recommendation (0 = Much less consultation, 50 = About average consultation, 100 = Much more consultation).

The use of a sliding scale from 0 to 100 to measure these primary judgments is common in the accounting literature for these types of studies (e.g., DeZoort et al. 2003, 2008).

Control Variables

In this study, I consider several potential covariates as possible control variables including general risk-taking propensity (the Data Analysis and Results section includes more information on possible control variables). The general risk-taking propensity variable identified an overall risk-taking score for each participant based on their responses to 12 questions related to six general risk-taking situations that comprise “The Risk Taking Index” used by Nicholson et al. (2005). This Risk Taking Index is a scale used to assess an individual’s overall risk propensity related to reported frequency of risk behaviors in six domains. The results of structural equation modeling of the Risk Taking Index supports that the six factor model is superior to other models (i.e., single factor, two factor, and six-factor plus a second order overall factor), is more parsimonious with desirable goodness of fit, and has high internal consistency for the general propensity scale (Cronbach’s alpha 0.80) (Nicholson et al., 2005). The Risk Taking Index is a short, simple measure of risk-taking with high face validity that was developed by asking people about risk behaviors in several common life experiences in which many people would be exposed to risk. Evidence from risk literature indicates that some psychological

constructs can be effectively measured with short questionnaires (Robins et al., 2001).

Nicholson et al. (2005) found that risk propensity is related to age, sex, measures of career risk-taking, and personality. The Risk Taking Index questions appear below

(Nicholson et al., 2005: 174):

Please could you tell us if any of the following have ever applied to you, *now* or in your adult *past*? Please use the scales as follows:

1 = never, 2 = rarely, 3 = occasionally, 4 = often, 5 = very often

	Now	In the Past
Recreational risks (<i>e.g., rock-climbing, scuba diving</i>)	1 2 3 4 5	1 2 3 4 5
Health risks (<i>e.g., smoking, poor diet, high alcohol consumption</i>)	1 2 3 4 5	1 2 3 4 5
Career risks (<i>e.g., quitting a job without another to go to</i>)	1 2 3 4 5	1 2 3 4 5
Financial risks (<i>e.g., gambling, risky investments</i>)	1 2 3 4 5	1 2 3 4 5
Safety risks (<i>e.g., fast driving, cycling without a helmet</i>)	1 2 3 4 5	1 2 3 4 5
Social risks (<i>e.g., standing for election, publically challenging a rule or decision</i>)	1 2 3 4 5	1 2 3 4 5

Model

Based on the above discussion of the independent, dependent, and possible control variables, I use the following MANOVA model to test my hypotheses (followed by individual ANCOVAs for judgment conservatism and judgment effort separately):

$$(\text{CONSERVATISM, EFFORT}) = F (\text{RMP TYPE}^1, \text{FINANCIAL RISK LEVEL}^2, \text{RMP TYPE X FINANCIAL RISK LEVEL, Possible Control Variables}^3)$$

¹ ROBUST RMP, CEREMONIAL RMP

² HIGH FINANCIAL RISK LEVEL, LOW FINANCIAL RISK LEVEL

³ I consider variables including GENDER, YEARS OF PROFESSIONAL EXPERIENCE, RMP EXPERIENCE, PROJECT INVEST EXPERIENCE, CURRENT TITLE, PROFESSIONAL CERTIFICATIONS, EDUCATION, INDUSTRY SEGMENT, REVENUE OF EMPLOYER, EARLY OR LATE RESPONDERS, GENERAL RISK-TAKING PROPENSITY.

Participants

The study's participants were a sample of experienced financial professionals. The study received a competitive research grant from the Institute of Management Accountants (IMA), which has over 70,000 worldwide members. Three email requests with a link to the experiment were sent by the IMA Research Director to approximately 5,000 IMA members with at least 5 years of professional experience and employed in U.S. manufacturing companies. These criteria were necessary because my experimental case involved a manufacturing company, and the participants needed a high level of experience to make some complex case judgments. Sample copies of the email requests sent to IMA members appear in Appendix A. In addition, I sent an email request with a link to the experiment to a group of experienced accounting alumni from the University of Scranton to increase the response. Email requests with a link to the experiment were sent in November and December 2014. A total of 88 completed experiments were received: 71 completed experiments from the IMA members and 17 completed experiments from the University of Scranton accounting alumni. Excluding three responses that each indicated over 8 hours to complete (apparently these participants started the survey and completed it at a later time), the mean completion time for the

remaining 85 completed experiments was 26.5 minutes. Fully completed experiments for each of the four cells in the 2 x 2 experimental design are shown in Table 3.

Table 3: Fully Completed Experiments (88 Total Participants)

	<u>High Financial Risk</u> (Relatively Large Investment Size)	<u>Low Financial Risk</u> (Relatively Small Investment Size)
<u>Robust Risk Management Program</u> (Risk-Based)	26 Participants	23 Participants
<u>Ceremonial Risk Management Program</u> (Compliance-Based)	18 Participants	21 Participants

CHAPTER 4

DATA ANALYSIS AND RESULTS

Manipulation Checks

All of the 88 participants were presented with two manipulation check questions to determine whether the participants could identify into which experimental conditions they were randomly assigned. The participants were asked to answer the manipulation check questions without referring back to prior screens in the online instrument.

The first manipulation check question related to the RMP program type (robust or ceremonial) as follows:

Please indicate the Company's primary motivation for establishing its ERM program based on the facts of the case:

- To ensure that the Company is effectively managing its risks
- To demonstrate that the Company is in compliance with SEC and NYSE regulations

The second manipulation check question related to the financial risk level (high or low), as reflected by the relative size of the project investment (large or small) as follows:

Please indicate the relative size of the project investment in this case:

- Large
- Small

The order of the response choices was randomized for each participant.

Out of 88 participants who completed experiments, 26 participants (or 29.5%) failed the RMP program type manipulation check, and 5 participants (or 5.7%) failed the financial risk level manipulation check. Overall, 60 participants (or 68.2%) passed both

manipulation checks. This manipulation check pass rate is consistent with some other accounting studies that targeted experienced professionals (e.g., DeZoort et al., 2003, 2008). The reason for the higher manipulation check failure rate for the RMP program type (29.5%) than for the financial risk level (5.7%) may be attributable to the fact that in practice an actual RMP may exhibit some characteristics of both a robust RMP and a ceremonial RMP. Table 4 shows the random distribution among the four experimental cells of the 60 participants who fully completed the instrument and passed all manipulation checks. The number of responses for each cell is consistent with some previous accounting studies (e.g., DeZoort et al., 2003, 2008).

Table 4: Fully Completed and Passed All Manipulation Checks (60 Total Participants)

	<u>High Financial Risk</u> (Relatively Large Investment Size)	<u>Low Financial Risk</u> (Relatively Small Investment Size)
<u>Robust Risk Management Program</u> (Risk-Based)	14 Participants	14 Participants
<u>Ceremonial Risk Management Program</u> (Compliance-Based)	17 Participants	15 Participants

Sample Size and Missing Data

As many as three of the 60 participants who completed and passed all manipulation checks failed to respond to questions measuring certain dependent variables. Therefore, the N for particular dependent variables ranges from 57 to 60 (details provided in each table below).

Realistic and Understandable Case

Two questions were asked to measure the participants' perceptions about the case realism and understandability. The first question asked participants to indicate how realistic this case was on a sliding scale from 0 to 100 (0 represents very unrealistic, 50

represents moderately realistic, and 100 represents very realistic). As shown in Table 5, the 60 participants perceived the case to be realistic (mean of REALISTIC = 67.65, SD of 19.16; only two participants rated lower than 25 and seven rated lower than 50). The second question asked participants to indicate how understandable the case was on a sliding scale from 0 to 100 (0 represents very difficult to understand, 50 represents moderately understandable, and 100 represents very understandable). The 60 participants perceived the case to be understandable (mean of UNDERSTANDABLE = 76.07, SD 15.10; no participants scored lower than 25 and only 3 participants scored lower than 50).

Table 5: Realistic and Understandable Case 0-100 Scale Variables

Description of Scaled Variables	n	Mean	S.D.
Indicate <u>how realistic</u> this case was: 0 = Very unrealistic 50 = Moderately realistic 100 = Very realistic	60	67.65	19.16
Indicate <u>how understandable</u> this case was: 0 = Very difficult to understand 50 = Moderately understandable 100 = Very understandable	60	76.07	15.10

Demographics

Demographic information for the 60 participants is presented in Table 6 below. More males (43 or 71.7%) participated in the experiment than females (17 or 28.3%). Participants had significant professional experience, with 55 participants (91.7%) having more than 15 years of professional business experience, and had specialized career experience relevant to the case, with 41 participants (68.3%) having experience with risk management programs and 47 participants (74.6%) having experience making project investment decisions. Current titles indicate that participants were mostly financial

managers (13 or 21.7%), controllers (10 or 16.7%), external auditors (6 or 10.0%), and CFOs (5 or 8.3%), with several business owners, presidents, and vice-presidents included in the “other” category. Participants worked mostly for public companies (21 or 35.0%), private for-profit companies (21 or 35.0%), and public accounting firms (11 or 18.3%), and they worked mainly for employers with large revenues (23 participants or 39.0% worked for employers with revenues of more than \$1 billion, and 54 participants or 90.0% worked for employers with revenues of \$10 million or more). Fifty-one (or 85.0%) of participants had at least one professional accounting or finance certification (32 participants or 53.3% were CMAs and 27 participants or 45.0% were CPAs), and the participants were well educated, with the participants’ highest degree being a Bachelor’s (29 or 48.3%), Master’s (29 or 48.3%), Law (1 or 1.7%), and Doctorate (1 or 1.7%).

Table 6: Demographic Information

Gender	Male	43	71.7%
	Female	17	28.3%
Total Years of Professional Business Experience	Less than 5 years	3	5.0%
	5 to 10 years	3	5.0%
	11 to 15 years	2	3.3%
	16 to 20 years	13	21.7%
	21 to 25 years	13	21.7%
	Over 25 years	26	43.3%
Experience with Risk Management Program in Career?	Yes	41	68.3%
	No	19	31.7%
Experience Making Project Investment Decisions in Career?	Yes	47	74.6%
	No	11	17.5%
Current Title	Financial Manager	13	21.7%
	Controller	10	16.7%
	External Auditor	6	10.0%
	Chief Financial Officer	5	8.3%
	Assistant Controller	4	6.7%
	Staff Accountant	3	5.0%
	Other Professional	19	31.7%
Business Segment	Public Company	21	35.0%

	Private For-Profit Company	21	35.0%
	Public Accounting	11	18.3%
	Not-For-Profit	3	5.0%
	Other	4	6.7%
Annual Revenue of Your Employer	Less than \$10 million	6	10.2%
	\$10 million to \$100 million	13	22.0%
	\$101 million to \$500 million	13	22.0%
	\$501 million to \$1 billion	4	6.8%
	More than \$1 billion	23	39.0%
Professional Certifications	CMA	32	53.3%
	CPA	27	45.0%
	CFA	2	3.3%
	Other	13	21.7%
	None	9	15.0%
Highest Educational Degree	Bachelor's Degree	29	48.3%
	Master's Degree	29	48.3%
	Law Degree	1	1.7%
	Doctoral Degree (e.g., Ph.D., DBA)	1	1.7%

Descriptive Statistics

Descriptive statistics and independent samples test are presented in Tables 7, 8, 9, 10, and 11 below.

Table 7: Descriptive Statistics

<u>Independent Variables:</u>	<u>Dependent Variables:</u>			
		DV#1: Recommend Invest	DV#2a: Relative Time to Recommend	DV#2b: Relative Extent of Consultation
Robust RMP (Risk-Based)	N	28	27	25
	Mean	40.64	61.19	70.04
	S.D.	21.03	20.47	20.29
Ceremonial RMP (Compliance-Based)	N	32	32	32
	Mean	39.63	63.09	71.22
	S.D.	22.31	18.45	18.04
High Financial Risk (Relatively Large Investment Size)	N	31	31	30
	Mean	37.71	69.23	75.83
	S.D.	22.13	19.74	21.09
Low Financial Risk	N	29	28	27

(Relatively Small Investment Size)	Mean	42.66	54.46	65.00
	S.D.	20.99	15.64	14.45

Table 7 above shows the N, Mean, and S.D. for the primary dependent variables (i.e., recommend invest, relative time to recommend, and relative extent of consultation) related to the two individual independent variables: RMP type (robust or ceremonial) and financial risk level (high or low). Table 8 presents the same information by experimental cell, and Table 9 presents the results of t-tests by condition.

Table 8: Descriptive Statistics – By Experimental Cell

<u>Independent Variables:</u>	<u>Dependent Variables:</u>			
		DV#1: Recommend Invest	DV#2a: Relative Time to Recommend	DV#2b: Relative Extent of Consultation
Cell 1: Robust RMP and High Financial Risk	n	14	14	13
	Mean	41.71	68.86	71.85
	S.D.	19.36	21.01	24.85
Cell 2: Robust RMP and Low Financial Risk	n	14	13	12
	Mean	39.57	52.92	68.08
	S.D.	23.27	16.93	14.73
Cell 3: Ceremonial RMP and High Financial Risk	n	17	17	17
	Mean	34.41	69.53	78.88
	S.D.	24.25	19.28	17.89
Cell 4: Ceremonial RMP and Low Financial Risk	n	15	15	15
	Mean	45.53	55.80	62.53
	S.D.	18.96	14.90	14.24

Table 9: Independent Samples Test

Independent Variables	Dependent Variables	T-test for Equality of Group Means
		p-value (2-tailed)
Robust/Ceremonial RMP	Recommend Invest	0.857
	Time to Recommend	0.708
	Extent of Consultation	0.818
High/Low Financial Risk	Recommend Invest	0.379
	Time to Recommend	0.003*

	Extent of Consultation	0.029*
*T-test indicates a significant difference in the means of the DV for p-value at the 0.05 level.		

In Table 7, the mean scores for the likelihood that participants would recommend that the Company make the case project investment of 40.64 for a robust RMP versus 39.63 for a ceremonial RMP, and 37.71 for a relatively large investment size versus 42.66 for a relatively small investment size, overall appear to reflect participant judgment conservatism. In addition, the S.D. ranging from 20.99 to 22.31 appears to indicate relatively high variability among individual participants about whether the Company should make the project investment.

The mean scores for how much time it would take to make the case project investment recommendation (relative to a typical project investment) of 61.19 for a robust RMP versus 63.09 for a ceremonial RMP appear comparable; however, the mean score of 69.23 for a relatively high investment size is 14.77 points higher than the mean score of 54.46 for a relatively low investment size. This difference shows that participants would take more time (i.e., effort) to make recommendations for projects of relatively higher investment size (see Table 9; $p = 0.003$ for this difference). Additionally, the S.D. ranging from 15.64 to 20.47 again indicates notable individual participant variability. Similarly, the second dependent variable measuring judgment effort, relative extent of consultation, has comparable mean scores of 70.04 for a robust RMP and 71.22 for a ceremonial RMP; however, it also has a 10.83 higher mean score of 75.83 for a relatively large investment size versus the mean score of 65.00 for a relatively small investment size, which once again reflects greater judgment effort (i.e., extent of

consultation) associated a relatively higher investment size (see Table 9; $p = 0.029$ for this difference). In this case, individual participant judgment variability is reflected in a S.D. ranging from 14.45 to 21.09.

In summary, Tables 7-9 indicate comparable *judgment conservatism* mean scores related to RMP type and relative investment size, and comparable *judgment effort* mean scores related to RMP type, but notably higher *judgment effort* mean scores for relative investment size (i.e., financial risk level).

Table 10: Descriptive Statistics – General Risk-Taking Propensity Scale (n = 60)

	Response Ratings of 12 Risk-Taking Situation Questions Unrelated to Case		Risk-Taking Activities Applied <i>Now</i> or <i>in Your Adult Past</i> 1-5 Scale Anchors
	Mean for Responses to All 12 Questions	Mean for Responses to Individual 12 Questions	
Participant Risk-Taking Propensity Rating	26.62 (S.D. 7.16)	2.22	1 = Never 2 = Rarely 3 = Occasionally 4 = Often 5 = Very Often
Note: General Risk-Taking Propensity Scale is based on Nicholson et al. (2005) Risk Taking Index.			

Table 10 above indicates the N, Mean, and S.D. for the risk-taking propensity scale. A mean of 26.62 (S.D. 7.16) is reported for the responses to all 12 questions about whether each of the scale's six general risk-taking situations unrelated to the case applied to participants now or in their adult past (Nicholson et al., 2005). The mean for responses to individual 12 questions of 2.22 falls between the scale anchors "2 = Rarely" and "3 = Occasionally." Because the case instrument asked participants to make a judgment involving different levels of financial risk (i.e., a relatively large versus a relatively small project investment size), I used participants' general risk-taking propensity mean scores

for responses to all 12 questions from the Nicholson et al. (2005) Risk Taking Index as a control variable. However, as discussed below (Table 16), controlling for participants' general risk-taking propensity did not affect the results of the study.

Table 11: Descriptive Statistics – Other 0-100 Scale Variables

	N	Mean	Std. Deviation	0-100 Scale Anchors
<u>Extent the following factors affected your recommendation about whether the Company should make the project investment:</u>				
Relative size of investment project	60	75.10	21.53	0 = Minimal 50 = Moderate 100 = Significant
Top managements' attitude toward risk management	59	66.37	20.91	
Board of directors' attitude toward risk management	59	64.25	22.67	
The employee appointed in charge of risk oversight	59	54.85	25.11	
Internal audit's level of evaluation of the Company's ERM program	59	47.95	26.59	
<u>Extent you feel accountable to below parties for risk associated with recommendation about whether the Company should make the project investment:</u>				
Top management	60	81.13	13.95	0 = Minimal 50 = Moderate 100 = Significant
Board of directors	60	69.48	25.66	
<u>Extent that you believe the below parties are risk averse:</u>				
Top management	60	59.00	23.28	0 = Minimal 50 = Moderate 100 = Significant
Board of directors	60	51.38	21.00	
Level of risk for this project investment	60	66.13	20.65	0 = Low 50 = Moderate 100 = High
<u>Extent that you believe the below parties support Company's ERM program:</u>				
Board of directors	60	61.03	28.39	0 = Minimal 50 = Moderate 100 = Significant
Top management	60	52.82	30.74	
Primary focus of the risk management program(s) you have experienced in your career	41	59.00	23.99	0 = Primarily compliance-based 100 = Primarily risk-based

Extent of your professional experience in making project investment recommendations or decisions	49	71.35	19.47	0 = Minimal 50 = Moderate 100 = Significant
Degree that your overall experience in making project investment recommendations or decisions has been favorable	49	75.16	14.67	0 = Very unfavorable 100 = Very favorable

Table 11 above provides the N, Mean, S.D., and scale anchors for other 0 – 100 scale variables in order of the highest to lowest mean score for each variable. Factors that participants indicated most affected their recommendations about whether the Company should make the project investment were the relative size of the investment project (mean of 75.10, S.D. of 21.53), top managements' attitude toward risk management (mean of 66.37, S.D. of 20.91), and the board of directors' attitude toward risk management (mean of 64.25, S.D. of 22.67). The employee appointed in charge of risk oversight (mean of 54.85, S.D. of 25.11) had a moderate effect on participants' recommendations, and internal audit's level of evaluation of the Company's ERM program (mean of 47.95, S.D. of 26.59) had a similar effect.

Participants felt most accountable to top management for risk associated with their recommendation about whether the Company should make the project investment (mean of 81.13) and less accountable but still well above moderately accountable to the board of directors (mean of 69.48). In contrast, participants believed that the board of directors is more (t-test revealed significantly different means, $p = 0.000$) risk averse (mean of 59.00) than top management (mean of 51.28) and that the board of directors supports the Company's ERM program (mean of 61.03) more (t-test revealed significantly different means, $p = 0.000$) than top management (mean of 52.82).

Participants also perceived moderate/high risk for the case project investment (mean of 66.13).

Participants were also asked whether they had any experience in their careers (1) working with a risk management program and (2) making project investment recommendations or decisions. The 41 participants with risk management program career experience were presented with the following:

The focus of ERM programs varies among organizations. Some organizations merely focus on compliance with regulations (i.e., a compliance-based ERM focus), while other organizations also focus on effectively managing risks (i.e., a risk-based ERM focus). Please slide the bar below to indicate the primary focus of the risk management program(s) you have experienced in your career (0 = Primarily compliance-based ERM focus, 100 = Primarily risk-based ERM focus).

Participants' response mean of 59.00 (S.D. of 23.99) is consistent with risk management interview studies (e.g., Viscelli, 2013; Cohen et al., 2015) that support the existence of a compliance-based ERM focus (i.e., a ceremonial RMP from an institutional theory perspective) and a risk-based ERM focus (i.e., a robust RMP from an agency theory perspective) in practice. The practical relevance of both robust RMPs and ceremonial RMPs is strengthened further after considering that responding participants are financial professionals with career experience working with risk management program(s) and that the response mean (i.e., 59.00) is fairly close to the 0-100 scale mid-point of 50.

However, a t-test indicates that the mean of 59.00 is significantly ($p = 0.021$) different from the 50.00 mid-point. The 41 participants' responses included 24 primarily risk-based (greater than the 50.00 scale mid-point), 4 neutral (at the 50.00 scale mid-point) and 13 primarily compliance-based (less than the 50.00 scale mid-point).

The 49 participants with career experience making project investment recommendations or decisions reported (1) a mean of 71.35 (S.D. of 19.47) for the extent

of such experience, and (2) a mean of 75.16 (S.D. 14.67) for the degree that such experience has been favorable, which indicates overall favorable (and perhaps successful) participant experience in this area.

MANOVA Results

The study model includes multiple continuous 0-100 scale dependent variables (RECOMMEND INVEST, TIME TO RECOMMEND, EXTENT OF CONSULTATION) and nominal independent variables (RMP Type, Invest Size). The three dependent variables reflect different dimensions of an investment decision. In addition, dependent variables TIME TO RECOMMEND and EXTENT OF CONSULTATION are correlated (Pearson Correlation = .781, p-value = 0.000). As a result, I used MANOVA to assess the overall relationships.¹

The MANOVA model is:

[Judgment Conservatism (Likelihood You Recommend Invest), Judgment Effort (Relative Time to Recommend, Relative Extent of Consultation)] = f (RMP Type, Investment Size, RMP Type X Investment Size)

Table 12 below presents the results of the MANOVA.

Table 12: MANOVA Model Results
Judgment Conservatism (Likelihood You Recommend Invest), Judgment Effort (Relative Time to Recommend, Relative Extent of Consultation) = f (RMP Type, Investment Size, RMP Type X Investment Size)
(n = 57)

Effect	F	Sig.
Model		0.096**
RMP Type	.058	0.982

¹ As discussed below (see Table 16), numerous control variables were considered, but they do not affect the conclusions.

Investment Size	3.128	0.034*
RMP Type * Investment Size	1.769	0.165
**Model marginally significant for p-value at the 0.10 level.		
*Significant for p-value at the 0.05 level.		
Note: Wilk's Lambda results are reported in table.		

The MANOVA model is marginally significant (p-value = 0.096) and investment size is significant ($F = 3.128$, p-value = 0.034).² Observed power for the three dependent variables (recommend invest, time to recommend, extent of consultation) is 1.00, which exceeds the typical 0.80 benchmark (e.g., UCLA, 2015). Based on the MANOVA results, none of the four pre-study hypotheses are supported because RMP type and the interaction of RMP type and investment size are not significant. Specifically, the RMP type (i.e., robust or ceremonial), and the interaction of the RMP type and the investment size (i.e., relatively large or small), failed to significantly affect the likelihood that the study participants would recommend that the Company make the case project investment. Only the investment size is significant. Chapter 5 offers possible reasons for and implications of these results. The results of ANOVAs related to the primary and other dependent variables are discussed next.

ANOVAs Related to Primary Dependent Variables

I next use individual ANOVAs for judgment conservatism (recommend invest), judgment effort (time to invest), and judgment effort (extent of consultation). Table 13 below presents that the ANOVA model for judgment conservatism (recommend invest) is not significant ($F = 0.732$, p-value = 0.537, adjusted R-squared = 0.014), nor are any of

² Results are similar if those failing a manipulation check are included ($n = 84$ due to missing data), except that the model is $p = 0.006$. Investment size is significant at $p < 0.001$.

the individual independent variables (RMP type, investment size, RMP type X investment size) significantly related to judgment conservatism. Therefore, Hypotheses H1 (i.e., financial professionals of companies with a robust RMP will make more conservative financial investment business decisions than financial professionals with a ceremonial RMP) and H3 (i.e., the effect of robust RMP on financial investment judgment conservatism is greater when the level of financial risk is high than when the level of financial risk is low) are not supported by the ANOVA results. These results are consistent with the MANOVA results presented earlier.

Table 13 – ANOVA Results (Judgment Conservatism)
 DV = Likelihood You Would Recommend to Make Financial Investment
 (n = 60)

Source	df	Mean Square	F	Sig.
Corrected Model	3	344.421	0.732	0.537
Intercept	1	96872.117	205.828	0.000
RMP Type	1	6.697	0.014	0.905
Investment Size	1	300.421	0.638	0.428
RMP Type * Investment Size	1	655.661	1.393	0.243
Error	56	470.645		
Total	60			
Corrected Total	59			

R Squared = 0.038 (Adjusted R Squared = -0.014)

Table 14 below shows that the ANOVA model for judgment effort (time to invest) is significant ($F = 3.286$, $p\text{-value} = 0.027$, adjusted R-squared = 0.106). However, the individual independent variables RMP type and the interaction of RMP type and investment size are not significantly related to judgment effort (relative time to invest).

Therefore, hypotheses H2 (i.e., financial professionals of companies with a robust RMP will exert more effort while making financial investment business decisions than financial professionals of companies with a ceremonial RMP) and H4 (i.e., the effect of robust RMP on financial investment judgment effort is greater when the level of financial risk is high than when the level of financial risk is low) are not supported by the ANOVA results. However, a significant relationship ($F = 9.695$, $p\text{-value} = 0.003$) was found between investment size and judgment effort (relative time to invest), with a 0 – 100 scale judgment effort (relative time to invest) mean of 69.23 (S.D. of 19.74, N. of 31) for the relatively large investment condition and a corresponding mean of 54.46 (S.D. of 15.64, N. of 28) for the relatively small investment condition. These results are consistent with the MANOVA results presented earlier. It appears that neither RMP type nor investment size effects participants' judgment conservatism, and only investment size has any significant effect on participants' judgment effort.

Table 14: ANOVA Results (Judgment Effort – Relative Time to Invest)
 DV = Relative Time You Would Take to Develop a Recommendation
 (n = 59)

Source	df	Mean Square	F	Sig.
Corrected Model	3	1088.954	3.286	0.027**
Intercept	1	222986.995	672.780	0.000
RMP Type	1	46.000	0.139	0.711
Investment Size	1	3213.249	9.695	0.003*
RMP Type * Investment Size	1	17.749	0.054	0.818
Error	55	331.441		
Total	59			
Corrected Total	58			

R Squared = 0.152 (Adjusted R Squared = 0.106)
 **Model significant for p-value at the 0.05 level.
 * Significant for p-value at the 0.05 level.

Table 15 below indicates that the ANOVA model for judgment effort (extent of consultation) is marginally significant ($F = 2.227$, $p\text{-value} = 0.096$, adjusted $R\text{-squared} = 0.062$). However, the individual independent variables RMP type and the interaction of RMP type and investment size are not significantly related to judgment effort (relative extent of consultation). Therefore, once again hypotheses H2 (i.e., financial professionals of companies with a robust RMP will exert more effort while making financial investment business decisions than financial professionals of companies with a ceremonial RMP) and H4 (i.e., the effect of robust RMP on financial investment judgment effort is greater when the level of financial risk is high than when the level of financial risk is low) are not supported by the ANOVA results. However, a significant relationship ($F = -4.226$, $p\text{-value} = 0.045$) was found between investment size and judgment effort (relative extent of consultation), with a 0 – 100 scale judgment effort (relative extent of consultation) mean of 75.83 (S.D. of 21.09, N. of 30) for the relatively large investment condition and a corresponding mean of 65.00 (S.D. of 14.52, N. of 27) for the relatively small investment condition. These ANOVA results for judgment effort (relative extent of consultation) are consistent with the MANOVA results and the ANOVA results for judgment effort (relative time to invest) presented earlier.

Table 15 ANOVA Results (Judgment Effort – Relative Extent of Consultation)
 DV = Relative Extent that You Would Consult with Others to Develop Recommendation
 (n = 57)

Source	df	Mean Square	F	Sig.
Corrected Model	3	745.941	2.227	0.096**
Intercept	1	277011.537	826.942	0.000
RMP Type	1	7.730	0.023	0.880

Investment Size	1	1415.541	4.226	0.045*
RMP Type * Investment Size	1	554.381	1.655	0.204
Error	53	334.983		
Total	57			
Corrected Total	56			

R Squared = 0.112 (Adjusted R Squared = 0.062)
 **Model marginally significant for p-value at the 0.10 level.
 *Significant for p-value at the 0.05 level.

Table 16 below lists possible control variables considered in this study. Adding each of these possible control variables one at a time to the MANOVA model did not change the significance of any relationships between the independent variables (1) RMP type, (2) investment size, or (3) the interaction between RMP type and investment size and the primary dependent variables (1) judgment conservatism (likelihood to recommend making the project investment) and (2) judgment effort (relative time and relative extent of consultation to make recommendation). Therefore, the final MANOVA model excluded these possible control variables. The list of possible control variables were derived from common control variables used in accounting experiments (e.g., gender, years of professional experience, current title, professional certifications, education, industry segment, revenue of employer) and variables specific to this study (i.e., RMP program experience, project investment experience, early or late responders, and general risk-taking propensity).

TABLE 16: List of Possible Control Variables

Variable Name	Description
Gender	Male or female

Years of professional experience	Measured in years
RMP program experience	Yes or no
Project investment experience	Yes or no
Current title	Current job title (i.e., CFO, Financial Manager, Controller, Assistant Controller, Staff Accountant, External Auditor, Internal Auditor, Other)
Professional certifications	Professional certifications (i.e., CMA, CPA, CFA, Other, None)
Education	Highest educational degree (i.e., Bachelor's, Master's, Law, Doctoral)
Industry segment	Segment currently work (i.e., public company, private for-profit company, not-for-profit, government, public accounting, other)
Revenue of employer	Approximate annual revenue of employer (i.e., less than \$10 million, \$10 million to \$100 million, \$101 million to \$500 million, \$501 million to \$1 billion, more than \$1 billion)
Early or late responders	Participants completing instrument earlier or later
General risk-taking propensity	Participants' individual general risk-taking propensity overall score based on Nicholson et al. (2005) Risk Taking Index scale

In summary, the ANOVA results do not support H1, H2, H3, or H4. There is no evidence that RMP type affects investment decisions or related effort, nor is there any evidence of an interaction between RMP type and investment size. However, a significant relationship, not previously hypothesized, between the investment size and judgment effort (measured separately by relative time and extent of consultation) was revealed. Investment size appears to affect the level judgment effort, but not the level of judgment conservatism, while RMP type appears to have no effect on either the level of judgment effort or the level of judgment conservatism.

Do these findings suggest that financial professionals view all RMPs as a sort of a ceremonial activity of creating the appearances of a bona fide risk management program, but in practice such RMPs do not effect actual financial investment decision-making, and

that investment size alone significantly effects the time it takes and the extent of consultation sought in order to evaluate and to recommend whether to make a project investment? The judgments made by this study's accounting professional participants, many with career experience working with risk management programs and making project investment decisions, appear consistent with this conclusion that risk management programs are to be complied with but do not impact real-world, actual investment recommendations or decisions – but additional research is needed before definitive conclusions are drawn. The relationship of RMP type and investment size to other dependent variables is examined next.

Significant ANOVA Models Related to Other Dependent Variables

In order to better understand and interpret this study's main findings related to the four hypotheses, the following sections examine the ANOVA results of other dependent variables with a significant or a marginally significant model.

Board of directors' and top managements' attitude toward risk management. In Table 17 below, the ANOVA model for BOARD RISK ATTITUDE (i.e., extent the board of directors' attitude toward risk management affected your recommendation about whether the Company should make the project investment) was significant ($F = 3.209$, $p\text{-value} = 0.030$, adjusted $R\text{-squared} = 0.103$). Furthermore, a significant relationship ($F = 8.054$, $p\text{-value} = 0.006$) was found between investment size and BOARD RISK ATTITUDE. In order to understand the directional effect of investment size on the extent the board of directors' attitude toward risk management affected participants' investment recommendations, Table 18 below presents the N, means, and S.D. for the dependent variable BOARD RISK ATTITUDE on a scale from 0 to 100 (0 = minimal effect, 50 =

moderate effect, and 100 = significant effect). Participants assigned to the relatively small investment size condition had a mean of 56.07 for the extent that the board of directors' attitude toward risk management affected the participants' recommendation. In contrast, participants assigned to the relatively large investment size had a 71.65 (15.58 points higher) mean on this factor.

Table 17: ANOVA Results
 DV = Extent Board of Directors' Attitude toward Risk Management Affected Recommendation
 (n = 59)

Source	df	Mean Square	F	Sig.
Corrected Model	3	1480.125	3.209	0.030**
Intercept	1	240222.593	520.807	0.000
RMP Type	1	872.070	1.891	0.175
Investment Size	1	3715.033	8.054	0.006*
RMP Type * Investment Size	1	2.664	0.006	0.940
Error	55	461.251		
Total	59			
Corrected Total	58			

R Squared = 0.149 (Adjusted R Squared = 0.103)
 **Model significant for p-value at the 0.05 level.
 *Significant for p-value at the 0.05 level.

Table 18: Compare Means
 IV = Investment Size (relatively large or relatively small)
 DV = Extent Board of Directors' Attitude toward Risk Management Affected Recommendation

	N	Mean	Standard Deviation	0=100 Scale Anchors
Relatively Small Investment Size	28	56.07	25.19	0 = Minimal Effect 50 = Moderate Effect 100 = Significant Effect
Relatively Large Investment Size	31	71.65	17.42	
Total	59	64.25	22.67	

Similarly, Table 19 below reveals that the ANOVA model for the dependent variable TOP MANAGEMENT RISK ATTITUDE (i.e., extent top managements' attitude toward risk management affected your recommendation about whether the Company should make the project investment) was marginally significant ($F = 2.209$, $p\text{-value} = 0.097$, adjusted $R\text{-squared} = 0.059$). Furthermore, a significant relationship ($F = 4.566$, $p\text{-value} = 0.037$) was indicated between investment size and TOP MANAGEMENT RISK ATTITUDE. Once again, in order to understand the directional effect of investment size on the extent top managements' attitude toward risk management affected participants' investment recommendations, Table 20 below presents the N, means, and S.D. for the dependent variable TOP MANAGEMENT RISK ATTITUDE on a scale from 0 to 100 (0 = minimal effect, 50 = moderate effect, and 100 = significant effect). Participants assigned to the relatively small investment size condition had a mean of 56.07 for the extent that the board of directors' attitude toward risk management affected the participants' recommendations. In contrast, participants assigned to the relatively large investment size condition had a 71.65 (15.58 points higher) mean on this factor.

Table 19 ANOVA Results
 DV = Extent Top Managements' Attitude toward Risk Management Affected Recommendation
 (n = 59)

Source	df	Mean Square	F	Sig.
Corrected Model	3	909.190	2.209	0.097**
Intercept	1	257849.578	626.450	0.000
RMP Type	1	894.531	2.173	0.146
Investment Size	1	1879.358	4.566	0.037*
RMP Type * Investment Size	1	78.501	0.191	0.664
Error	55	411.604		
Total	59			

Corrected Total	58		
R Squared = 0.108 (Adjusted R Squared = 0.059)			
**Model marginally significant for p-value at the 0.10 level.			
*Significant for p-value at the 0.05 level.			

Table 20: Compare Means
 IV = Investment Size (relatively large or relatively small)
 DV = Extent Top Managements' Attitude toward Risk Management Affected Recommendation

	N	Mean	S.D.	0=100 Scale Anchors
Relatively Small Investment Size	28	60.68	23.16	0 = Minimal Effect 50 = Moderate Effect 100 = Significant Effect
Relatively Large Investment Size	31	71.52	17.47	
Total	59	66.37	20.91	

In summary, the results in Tables 17, 18, 19 and 20 suggest that participants' perceptions of the board of directors' and top managements' attitude toward risk management were affected by investment size (i.e., such attitudes were greater for a relatively large investment size than for a relatively small investment size).

Feelings of accountability to the board of directors and top management. Table 21 below likewise reports that the ANOVA model for the dependent variable ACCOUNTABLE TO BOARD (i.e., extent you feel accountable to the board of directors for the risk associated with your recommendation about whether the Company should make the project investment) was significant ($F = 3.513$, $p\text{-value} = 0.021$, adjusted R-squared = 0.113). Furthermore, a significant relationship ($F = 8.023$, $p\text{-value} = 0.006$) was revealed between investment size and ACCOUNTABLE TO BOARD. Table 22 below presents the N, means, and S.D. for the dependent variable ACCOUNTABLE TO BOARD on a scale from 0 to 100 (0 = minimal accountability, 50 = moderate

accountability, and 100 = significant accountability). Participants assigned to the relatively small investment size condition had a mean of 60.28 for the extent that they felt accountable to the board of directors for the risk associated with the participants' recommendations. In contrast, participants assigned to the relatively large investment size condition had a 78.10 (17.82 points higher) mean on this factor.

Table 21: ANOVA Results
 DV = Extent Feel Accountable to Board of Directors for Risk Associated with Recommendation
 (n = 60)

Source	df	Mean Square	F	Sig.
Corrected Model	3	2051.759	3.513	0.021**
Intercept	1	286960.780	491.346	0.000
RMP Type	1	1014.784	1.738	0.193
Investment Size	1	4685.747	8.023	0.006*
RMP Type * Investment Size	1	418.932	0.717	0.401
Error	56	584.030		
Total	60			
Corrected Total	59			

R Squared = 0.158 (Adjusted R Squared = 0.113)
 **Model significant for p-value at the 0.05 level.
 *Significant for p-value at the 0.05 level.

Table 22: Compare Means
 IV = Investment Size (relatively large or relatively small)
 DV = Extent Felt Accountable to Board of Directors for the Risk Associated with Recommendation

	N	Mean	S.D.	0=100 Scale Anchors
Relatively Small Investment Size	29	60.28	28.21	0 = Minimal Accountability 50 = Moderate Accountability 100 = Significant Accountability
Relatively Large Investment Size	31	78.10	19.85	
Total	60	69.48	25.66	

Similarly, Table 23 below shows that the ANOVA model for the dependent variable ACCOUNTABLE TO TOP MANAGEMENT (i.e., extent you feel accountable to top management for the risk associated with your recommendation about whether the Company should make the project investment) was significant ($F = 3.515$, $p\text{-value} = 0.021$, adjusted $R\text{-squared} = 0.113$). In this case, a significant relationship ($F = 4.997$, $p\text{-value} = 0.029$) was indicated between RMP type and ACCOUNTABLE TO TOP MANAGEMENT, and a marginally significant relation ($p\text{-value} = 0.069$) was found between investment size and ACCOUNTABLE TO TOP MANAGEMENT. Tables 24 and 25 below present the related N , means, and $S.D.$ for the dependent variable ACCOUNTABLE TO TOP MANAGEMENT on a scale from 0 to 100 (0 = minimal accountability, 50 = moderate accountability, and 100 = significant accountability). Participants assigned to a ceremonial RMP condition had a mean of 77.75 for the extent that they felt accountable to top management for the risk associated with the participants' recommendations. In contrast, participants assigned to the robust RMP condition had an 85.00 (7.25 points higher) mean on this factor. In addition, participants assigned to the relatively small investment size condition had a mean of 77.83 for the extent that they felt accountable to top management for the risk associated with the participants' recommendations. In contrast, participants assigned to the relatively large investment size condition had a mean of 84.23 (6.40 points higher) mean on this factor.

Table 23: ANOVA Results
 DV = Extent Feel Accountable to Top Management for Risk Associated with
 Recommendation
 ($n = 60$)

Source	df	Mean Square	F	Sig.
Corrected Model	3	606.210	3.515	0.021***
Intercept	1	393109.712	2279.297	0.000

RMP Type	1	861.862	4.997	0.029**
Investment Size	1	592.674	3.436	0.069*
RMP Type * Investment Size	1	375.622	2.178	0.146
Error	56	172.470		
Total	60			
Corrected Total	59			

R Squared = 0.158 (Adjusted R Squared = 0.113)
 ***Model significant for p-value at the 0.05 level.
 **Significant for p-value at the 0.05 level.
 *Marginally significant for p-value at the 0.10 level.

Table 24: Compare Means
 IV = RMP Type (robust or ceremonial)
 DV = Extent Felt Accountable to Top Management for the Risk Associated with Recommendation

	N	Mean	S.D.	0=100 Scale Anchors
Ceremonial RMP	32	77.75	15.18	0 = Minimal Accountability 50 = Moderate Accountability 100 = Significant Accountability
Robust RMP	28	85.00	11.46	
Total	60	81.13	13.95	

Table 25: Compare Means
 IV = Investment Size (relatively large or relatively small)
 DV = Extent Felt Accountable to Top Management for the Risk Associated with Recommendation

	N	Mean	S.D.	0=100 Scale Anchors
Relatively Small Investment Size	29	77.83	14.86	0 = Minimal Accountability 50 = Moderate Accountability 100 = Significant Accountability
Relatively Large Investment Size	31	84.23	12.49	
Total	60	81.13	13.95	

In summary, the results in Tables 21 and 22 suggest that participants felt significantly more accountable to the board of directors for the risk associated with the participants' recommendations for a relatively large investment size than for a relatively small investment size. Tables 23, 24, and 25 suggest that participants felt marginally

significantly more accountable to top management for the risk associated with the participants' recommendations for a relatively large investment size than for a relatively small investment size. Participants also felt significantly more accountable to top management under a robust RMP than a ceremonial RMP. In any case, such feelings of accountability to the board of directors or to top management were not great enough to influence the actual investment recommendation made.

Extent believe top management is risk averse. Finally, Table 26 below indicates that the ANOVA model for the dependent variable TOP MANAGEMENT RISK AVERSE (i.e., extent that you believe top management is risk averse) was significant ($F = 2.926$, $p\text{-value} = 0.042$, adjusted $R\text{-squared} = 0.089$). Additionally, a significant relationship ($F = 6.868$, $p\text{-value} = 0.011$) was revealed between RMP type and TOP MANAGEMENT RISK AVERSE. Table 27 below presents the N, means, and S.D. for the dependent variable TOP MANAGEMENT RISK AVERSE on a scale from 0 to 100 (0 = minimal risk aversion, 50 = moderate risk aversion, and 100 = significant risk aversion). Participants assigned to the ceremonial RMP condition had a mean of 45.19 for the extent they believed that top management was risk averse. In contrast, participants assigned to the robust RMP condition had a 58.46 (13.27 points higher) mean on this factor.

Table 26: ANOVA Results
 DV = Extent Believe Top Management is Risk Averse
 (n = 60)

Source	df	Mean Square	F	Sig.
Corrected Model	3	1175.582	2.926	0.042**
Intercept	1	159132.041	396.072	0.000
RMP Type	1	2759.239	6.868	0.011*
Investment Size	1	312.710	0.778	0.381

RMP Type * Investment Size	1	525.478	1.308	0.258
Error	56	401.776		
Total	60			
Corrected Total	59			

R Squared = 0.136 (Adjusted R Squared = 0.089)
 **Model significant for p-value at the 0.05 level.
 *Significant for p-value at the 0.05 level.

Table 27: Compare Means
 IV = RMP Type (robust or ceremonial)
 DV = Extent Believe Top Management is Risk Averse

	N	Mean	S.D.	0=100 Scale Anchors
Ceremonial RMP	32	45.19	19.80	0 = Minimal Risk Aversion 50 = Moderate Risk Aversion
Robust RMP	28	58.46	20.41	100 = Significant Risk Aversion
Total	60	51.38	21.00	

In summary, these results suggest that participants assigned to a robust RMP believed top management was significantly more risk averse than participants assigned to a ceremonial RMP. However, as in the earlier cases, such beliefs were not sufficient to influence the actual investment recommendation made.

Factors Considered in Participants' Responses

Particular themes emerged from a review of the participants' responses describing factors that they considered in deciding about whether the Company should make the case project investment, as well as about how much time and the extent of consultation that they would need to decide, and with whom they would consult.

Financial investment size. The relative size of the project investment was identified as a key factor in both the investment recommendation that participants made/would make and in the effort (relative time and extent of consultation) that

participants' would exert. For example, factors considered by participants apparently assigned to the relatively large investment size condition included "since the investment amount is big, the risk is also higher," "it's a large investment so it has a much bigger effect on the company as a whole," and "given the size and potential impact of the investment, more time is warranted." In contrast, factors considered by participants apparently assigned to the relatively small investment size condition included "as a smaller capital investment, (it) has only a modest, not large, impact on the company's ability to achieve overall profit objectives" and "average time (to make recommendation) due to this being a small project."

Marketing personnel views. Participants indicated the marketing personnel's mixed views about whether the new product introduction will meet the Company's required return on investment as a factor in the participants' recommendation and in the related effort that they would exert. For example, participants' responses included "the marketing group (a usually optimistic group) does not feel confident of achieving the 6% return" and "it sounds like Marketing is not fully committed to the market demand." Additional responses reference that the new product is not yet widely accepted in the market and the need for a higher selling price to attain normal margins (as stated in the case).

Take advantage of new opportunity. Participants also commented on the possible advantages of making the new product investment. For example, participants indicated factors such as "the potential competitive advantage of the new product in the marketplace and the longer range potential for generating higher profits," "if (the Company) doesn't take the opportunity, a competitor is likely to," and "if this (new

product/technology) is trending and we do not capitalize early, we (may) lose out on the market share.”

Consult many parties before making recommendation. Participants most frequently identified marketing/sales and production/manufacturing personnel as the parties that participants would consult. However, participants consistently named that they would consult with a wide range of people both internally and externally (customers, retail stores, raw materials suppliers, etc.). For example, one participant responded “virtually all areas of the company should have input, sales (what can we sell this for?), marketing (is there demand for this and where?), engineering (design and functionality), manufacturing (cost to produce), accounting (profitability analysis), risk/legal (any safety concerns for the consumer, liabilities to us).”

The next section presents the study’s conclusion, implications, limitations, and opportunities for further research.

CHAPTER 5

CONCLUSION, IMPLICATIONS, LIMITATIONS, AND FURTHER RESEARCH

This study examined the effects of risk management programs (RMPs) on financial professionals' project investment judgment conservatism and effort. Specifically, an online instrument was administered to experienced financial professionals who were randomly assigned into either a robust RMP or a ceremonial RMP and then into either a high financial risk or a low financial risk condition. Participants were then asked to indicate the likelihood that they would recommend to make a financial project investment and how much time and the extent they would consult with others to make their recommendation. Based primarily on agency and accountability theories, I predicted that participants in a robust RMP would make more conservative recommendations and require more time and consult with more people than participants in a ceremonial RMP, and that this effect would be greater in a high financial risk level than in a low financial risk level.

Conclusion

The study results did not support any of the four hypotheses. No significant relationship was revealed between RMP type (i.e., robust or ceremonial), or between the interaction of RMP type and financial risk level (i.e., high or low – indicated by a relatively large or small investment size), and the degree of judgment conservatism (likelihood participants would recommend to make a financial project investment) or

judgment effort (relative time and relative extent of consultation needed to make their recommendation). Furthermore, these results remained unchanged after adding several possible control variables, including participants' gender, years of professional experience, current title, professional certifications, education (highest degree), industry segment, company revenues, early and later study responders, and a general risk-taking propensity (based on Nicholson et al. 2005 Risk Taking Index scale). However, a significant relationship was found between investment size alone and judgment effort (relative time and relative consultation to make the project investment recommendation).

While I cannot conclude that RMP type does not affect financial professionals' judgment conservative or judgment effort, the null hypothesis that RMP type has no effect on such judgment conservatism and effort cannot be rejected based on the results of this study. One interpretation of these findings may be that in practice RMPs often are essentially ceremonial (supported by institutional theory) developed primarily to create the appearance of an organization-wide, integrated risk management approach and to demonstrate compliance with regulations (e.g., COSO, 2004; NYSE, 2013), while not affecting management behavior or decision-making (e.g., the actual financial investment project decisions). A more positive interpretation of these findings may be that ERM does indeed promote an effective, responsible, organization-wide and integrated approach to risk management without interfering with necessary, healthy, entrepreneurial risk-taking decisions and activities (within the organization's risk appetite) that is required to achieve entity objectives. More research is needed on these issues.

In addition to examining the effects of RMP type and investment size on the study's primary dependent variables of judgment conservatism and judgment effort,

additional ANOVA models revealed significant or marginally significant relationships between RMP type and/or investment size and other dependent variables. For example, investment size was significantly related to the extent that participants' recommendations were affected by the Boards' attitude toward risk management and the extent participants felt accountable to the Board. Similarly, investment size was marginally related to the extent that participants' recommendations were affected by top managements' attitude toward risk management and the extent participants felt accountable to top management. However, *RMP type* was also significantly related only to the extent participants felt accountable to *top management* and to the extent that participants believed *top management* was risk averse. However, none of these additional significant relationships involving other dependent variables were sufficient to influence participants' actual project investment recommendations.

Implications

This study's results offer implications for practitioners, policymakers, and academics. First, the study's results inform practitioners. Specifically, while COSO (2004) defines ERM by relating organization-wide risks to the achievement of entity objectives, in practice this does not necessarily mean that ERM should constrain healthy, entrepreneurial risk-taking in management decision-making (e.g., project investment decisions) within the entity's risk appetite. Second, policymakers (e.g., SEC, COSO, NYSE) should carefully consider the results of this study to better understand the possible impact of risk management regulations and guidelines on public company project investment decision-making, extent that the board's and top management's risk management attitude affects financial decision-making, financial professionals' feelings

of accountability to top management for risk associated with financial recommendations, and financial professionals' beliefs about top management risk aversion.

Finally, as the first study that I am aware of to examine the effects of risk management programs on financial professional judgments and decision-making, this study has implications for academic research and theory. Specifically, this study uses accountability and agency theories to hypothesize more conservative financial professional judgments within a robust RMP (a higher risk management accountability condition than a ceremonial RMP). While greater levels of accountability resulted in greater judgment conservatism and effort in many auditor studies (e.g., Asare et al., 2000; DeZoort et al., 2006; Koonce et al., 1995), in the present study greater ERM accountability (represented by a robust RMP versus a ceremonial RMP) did not produce such a relationship. This finding of no relationship between RMP type and financial professional judgment conservatism appears consistent with institutional theory. Perhaps in the marketplace the applicability of agency theory or institutional theory may depend on the corporate subject matter and/or the governance players involved. In addition, the results of this study do not appear to be consistent with the acceptability heuristic (Tetlock: 1992, 1985; Mero et al., 2007), which advances a strategy of coping with accountability by making judgments that are acceptable to the parties to whom an individual is accountable. In the present study, a significant relationship was found between RMP type and both the extent participants felt accountable to top management and the extent participants believed top management was risk averse, yet no relationship was indicated between RMP type and judgment conservatism (likelihood participants would make recommend that the Company make the project investment).

Limitations

This study is subject to several standard limitations applicable to experimental design and survey research based on case study material. These limitations include external validity, representativeness of the participant group, the potential for demand effects, and small sample size. In addition, the robust RMP condition in the experiment intentionally describes characteristics of an ERM process with a primary goal of effectively managing organizational risks (i.e., ERM support of top management and the board, appointment of an active and qualified CRO, and internal audit focused on ERM evaluation). In contrast, the ceremonial RMP condition in the experiment intentionally describes characteristics of an ERM process with a primary goal of merely creating the appearances of a regulatory-compliant ERM (i.e., approval but lack of support of RMP by top management and the board, appointment of an individual lacking ERM experience to oversee the low-priority RMP program, and internal audit not focused on ERM evaluation). However, in practice there is evidence of elements of both a robust and a ceremonial RMP (e.g., Viscelli, 2013; Cohen et al., 2015) existing simultaneously within the same organization. Another limitation of the study is the limited information that is provided to participants on which to base their recommendation. Although the instrument was examined and pre-tested by practicing professionals and risk management experts to ensure that relevant and realistic case information was included, the time constraints of the experiment necessarily limits the quantity of information that can be provided. Finally, although there have been calls for more ERM research, ERM experimental studies are new. As additional research is performed, greater understanding of the most

effective experimental design for this area may be available that will address certain limitations.

Future Research

This study responds to previous calls for academic research on ERM and decision-making (e.g., *Omega: The International Journal of Management Science*) and on ERM and corporate governance (e.g., *Journal of Enterprise Risk Management*).

Additional research may involve other key ERM corporate players as participants, such as board members, senior management, and auditors. Gaining insights into the perspectives and judgments of these other ERM participants will expand our understanding of ERM and management decision-making, as well as the motivations and academic theories on which those decisions are based.

REFERENCES

- Abbott, L. J., Parker, S., & Peters, G. F. (2010). Serving two masters: The association between audit committee internal audit oversight and internal audit activities. *Accounting Horizons*, 24(1), 1-24.
- Adelberg, S., & Batson, C. D. (1978). Accountability and helping: When needs exceed resources. *Journal of Personality and Social Psychology*, 36(4), 343.
- Asare, S. K., Trompeter, G. M., & Wright, A. M. (2000). The Effect of Accountability and Time Budgets on Auditors' Testing Strategies. *Contemporary Accounting Research*, 17(4), 539-560.
- Baxter, R., Bedard, J. C., Hoitash, R., & Yezegel, A. (2013). Enterprise Risk Management Program Quality: Determinants, Value Relevance, and the Financial Crisis. *Contemporary Accounting Research* (Forthcoming).
- Beasley, M. S., Branson, B. C., & Hancock, B. V. (2011). Report on the current state of enterprise risk oversight: 3rd Edition *ERM Initiative at North Carolina State University*. Durham, NC: North Carolina State University.
- Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2009). The Audit Committee Oversight Process. *Contemporary Accounting Research*, 26(1), 65-122.
- Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting and Public Policy*, 24(6), 521-531.
- Beasley, M. S., Clune, R., & Hermanson, D. R. (2008). The impact of enterprise risk management on the internal audit function. *Journal of Forensic Accounting*, 9(1), 1-20.
- Beeler, J. D. (1998). Effects of counter-explanation on escalation of commitment: An experimental assessment of individual and collective decisions. *Advances in Accounting Behavioral Research*, 1, 85-99.
- Buchman, T. A., Tetlock, P. E., & Reed, R. O. (1996). Accountability and Auditors' Judgments about Contingent Events. *Journal of Business Finance & Accounting*, 23(3), 379-398.

- Carcello, J. V., Hermanson, D. R., & Ye, Z. (2011). Corporate governance research in accounting and auditing: Insights, practice implications, and future research directions. *Auditing: A Journal of Practice & Theory*, 30(3), 1-31.
- Cloyd, C. B. (1997). Performance in tax research tasks: The joint effects of knowledge and accountability. *The Accounting Review*, 111-131.
- Cohen, J., Krishnamoorthy, G., & Wright, A. (2015). Enterprise Risk Management and the Financial Reporting Process: The Experiences of Audit Committee Members, CFOs and External Auditors. Working paper.
- Cohen, J. R., Krishnamoorthy, G., & Wright, A. M. (2008). Form versus substance: The implications for auditing practice and research of alternative perspectives on corporate governance. *Auditing: A Journal of Practice & Theory*, 27(2), 181-198.
- COSO. (2004). Enterprise Risk Management – Integrated Framework, New York: COSO.
- COSO. (2009). Effective Enterprise Risk Oversight: The Role of the Board of Directors.
- Delaney, D., & Guilding, C. (2011). An examination of budgetary roles in the context of sponsorship management: A contingency perspective. *Journal of Applied Management Accounting Research*, 9(2), 21-42.
- Deloitte. (2012). Global risk management survey, eighth edition: Setting a higher bar.
- DeZoort, T., Harrison, P., & Taylor, M. (2006). Accountability and auditors' materiality judgments: The effects of differential pressure strength on conservatism, variability, and effort. *Accounting, Organizations and Society*, 31(4), 373-390.
- DeZoort, F. T., Houston, R. W., & Hermanson, D. R. (2003). Audit committee member support for proposed audit adjustments: A source credibility perspective. *Auditing: A Journal of Practice & Theory*, 22(2), 189-205.
- DeZoort, F. T., Hermanson, D. R., & Houston, R. W. (2008). Audit committee member support for proposed audit adjustments: Pre-SOX versus post-SOX judgments. *Auditing: A Journal of Practice & Theory*, 27(1), 85-104.
- DeZoort, F. T., & Lord, A. T. (1994). An investigation of obedience pressure effects on auditors' judgments. *Behavioral Research in Accounting*, 6(1), 1-30.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 17(2), 147-160.
- Dodd-Frank Wall Street Reform and Consumer Protection Act*. (2010) (Public Law No.

111-203). Government Printing Office, Washington, D.C.

- Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *Journal of Law and Economics*, 26(2), 327-349.
- Farragher, E. J., Kleiman, R. T., & Sahu, A. P. (2001). The association between the use of sophisticated capital budgeting practices and corporate performance. *The Engineering Economist*, 46(4), 300-311.
- Hoffman, V. B., & Patton, J. M. (1997). Accountability, the dilution effect, and conservatism in auditors' fraud judgments. *Journal of Accounting Research*, 35(2), 227-237.
- Hoyt, R. E., & Liebenberg, A. P. (2011). The value of enterprise risk management. *Journal of Risk and Insurance*, 78(4), 795-822.
- Institute of Internal Auditors. (2004). The role of internal audit in enterprise-wide risk management. Retrieved from http://www.ucop.edu/enterprise-risk-management/_files/role_intaudit.pdf
- Institute of Internal Auditors Research Foundation. (2011). Internal auditing's role in risk management. Retrieved from <http://www.theiia.org/bookstore/product/internal-auditings-role-in-risk-management-1561.cfm>
- Institute of Internal Auditors Research Foundation. (2010). The IIA's global internal audit survey: What's next for internal auditing? Retrieved from http://www.theiia.se/uploads/global_internal_audit_survey_report_iv_fin.pdf
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Johnson, V. E., & Kaplan, S. E. (1991). Experimental evidence on the effects of accountability on auditor judgments. *Auditing: A Journal of Practice & Theory*, 10, 96-107.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 263-291.
- Kalbers, L. P., & Fogarty, T. J. (1998). Organizational and economic explanations of audit committee oversight. *Journal of Managerial Issues*, 129-150.
- Kennedy, J. (1993). Debiasing audit judgment with accountability: A framework and experimental results. *Journal of Accounting Research*, 31(2), 231-245.

- Kleffner, A. E., Lee, R. B., & McGannon, B. (2003). The effect of corporate governance on the use of enterprise risk management: Evidence from Canada. *Risk Management and Insurance Review*, 6(1), 53-73.
- Koonce, L., Anderson, U., & Marchant, G. (1995). Justification of decisions in auditing. *Journal of Accounting Research*, 33(2), 369-384.
- Liebenberg, A. P., & Hoyt, R. E. (2003). The determinants of enterprise risk management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), 37-52.
- Lin, H. H., & Sappington, D. E. (2011). Managing planning and production moral hazard. *Journal of Management Accounting Research*, 23(1), 129-167.
- Lord, A. T. (1992). Pressure: A methodological consideration for behavioral research in auditing. *Auditing: A Journal of Practice & Theory*, 11(2), 89-108.
- Maroney, J. J., & McDevitt, R. E. (2008). The effects of moral reasoning on financial reporting decisions in a post Sarbanes-Oxley environment. *Behavioral Research in Accounting*, 20(2), 89-110.
- McShane, M. K., Nair, A., & Rustambekov, E. (2011). Does enterprise risk management increase firm value?. *Journal of Accounting, Auditing & Finance*, 26(4), 641-658.
- Mero, N. P., Guidice, R. M., & Brownlee, A. L. (2007). Accountability in a performance appraisal context: The effect of audience and form of accounting on rater response and behavior. *Journal of Management*, 33(2), 223-252.
- Milgram, S. (1974). *Obedience to Authority*. New York: Harper & Row.
- Moreno, K., Kida, T., & Smith, J. F. (2002). The impact of affective reactions on risky decision making in accounting contexts. *Journal of Accounting Research*, 40(5), 1331-1349.
- Nicholson, N., Soane, E., Fenton-O'Creevy, M., & Willman, P. (2005). Personality and domain-specific risk taking. *Journal of Risk Research*, 8(2), 157-176.
- NYSE listed company manual. Corporate governance standards § 303A.00 (approved August 15, 2013). Retrieved from <http://nysemanual.nyse.com/lcm/>
- Omega: The International Journal of Management Science*. (2013). Call for papers: Special issue on "decision making" in enterprise risk management (ERM). <http://www.journals.elsevier.com/omega/call-for-papers/decision-making-in-enterprise-risk-management/>

- Pagach, D., & Warr, R. (2011). The characteristics of firms that hire chief risk officers. *Journal of Risk and Insurance*, 78(1), 185-211.
- Pasewark, W., & Welker, R. (1990). A Vroom-Yetton evaluation of subordinate participation in budgetary decision making. *Journal of Management Accounting Research*, 2, 113-126.
- Persellin, J. S. (2013). The influence of PCAOB inspections on audit committee members' judgments. *Behavioral Research in Accounting*, 25(2), 97-114.
- Pike, R. H. (1988). An empirical study of the adoption of sophisticated capital budgeting practices and decision-making effectiveness. *Accounting and Business Research*, 18(72), 341-351.
- Powell, M., & Ansic, D. (1997). Gender differences in risk behaviour in financial decision-making: An experimental analysis. *Journal of economic psychology*, 18(6), 605-628.
- PricewaterhouseCoopers. (2013). State of the internal audit profession study. Retrieved from http://www.pwc.com/en_US/us/risk-assurance-services/publications/assets/pwc-2013-state-of-internal-audit-profession-study.pdf
- PricewaterhouseCoopers. (2011). State of the internal audit profession study. Retrieved from <http://www.pwc.com/us/en/internal-audit/publications/state-of-internal-audit-profession-study.jhtml>
- Rigby, K. (1982). A concise scale for the assessment of attitudes towards institutional authority. *Australian Journal of Psychology*, 34(2), 195-204.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27(2), 151-161.
- Ruchala, L. V. (1999). The influence of budget goal attainment on risk attitudes and escalation. *Behavioral Research in Accounting*, 11, 161-191.
- Schlenker, B. R., Britt, T. W., Pennington, J., Murphy, R., & Doherty, K. (1994). The triangle model of responsibility. *Psychological review*, 101(4), 632.
- Schlenker, B. R., & Weigold, M. F. (1989). Self-identification and accountability. *Impression Management in the Organization*, 21-43.
- Sharma, R., & Jones, S. (2010). CFO of the future: Strategic contributor or value adder?. *Journal of Applied Management Accounting Research*, 8(1), 1-16

- Standard and Poor's. (2008). Criteria: GAMMA (Governance-Accountability, Management Metrics Analysis). Retrieved from <http://www.standardandpoors.com/products-services/gamma/en/us>
- Tan, H. T., Ng, T. B. P., & Mak, B. W. Y. (2002). The effects of task complexity on auditors' performance: The impact of accountability and knowledge. *Auditing: A Journal of Practice & Theory*, 21(2), 81-95.
- Tetlock, P. E. (1992). The impact of accountability on judgment and choice: Toward a social contingency model. *Advances in experimental social psychology*, 25(3), 331-376.
- Tetlock, P. E. (1985). Accountability: The neglected social context of judgment and choice. *Research in Organizational Behavior*, 7, 297-332.
- The Journal of Enterprise Risk Management*. (2013). Call for papers. <http://www.ermjournal.org/index.php/jerm>
- U.S. Securities and Exchange Commission. (2010). Proxy Disclosure Enhancement Release 33-9089. Retrieved from <http://www.sec.gov/rules/final/2009/33-9089.pdf>
- University of California at Los Angeles (UCLA). 2015. UCLA Academic Technology Services. <http://statistics.ats.ucla.edu/stat/stata/dae/fpower.htm>
- Viscelli, T. R. 2013. The ERM process: Evidence from interviews of ERM champions. Dissertation, Coles College of Business, Kennesaw State University.
- Weigold, M. F., & Schlenker, B. R. (1991). Accountability and risk taking. *Personality and Social Psychology Bulletin*, 17(1), 25-29.

APPENDIX A – IMA FIRST, SECOND, AND THIRD SURVEY REQUESTS

From: IMA Director of Research

Subject: Participation in an IMA Award Winning Study Performed by a KSU Doctoral Candidate

Dear IMA Members:

I am writing to ask for your help in an online study being conducted by Jim Boyle, a Doctor of Business Administration (DBA) student at Kennesaw State University. This study is part of Jim's dissertation research focused on improving our understanding of financial managers' judgments.

The study has been awarded a grant through the IMA Research Foundation's Doctoral Student Grant Program and is being performed under the oversight of Institutional Review Boards at the University of Scranton and Kennesaw State University, as well as his dissertation committee (Dr. Dana Hermanson, Dr. Todd DeZoort, and Dr. Jennifer Schafer).

Your participation is **very important** to the success of this study. I encourage you to click on the link below to complete the study, which should take approximately 20-25 minutes.

Everyone who completes the study will be eligible to enter a drawing to win one (1) of three \$100 American Express gift certificates.

Your responses will remain **strictly confidential** and will be analyzed only after being combined with the responses of other participants. The researchers will not disclose your name or any other identifying information, and they will not collect IP addresses.

Please click the link below to begin the study.

https://scranton.co1.qualtrics.com/SE/?SID=SV_0p0iv3QZb38UKAB

Thank you for your support.

From: IMA Director of Research

Subject: **SECOND REQUEST** - What are your thoughts on financial managers' judgments?

Dear IMA Member,

This is a follow-up to my October 31st email. If you have already participated in the study, thank you and please disregard this message. If you have not yet participated, we would greatly appreciate your participation in this important research!

Can you spare less than 30 minutes to provide your thoughts on financial managers' judgments? **Everyone who completes this study is eligible to enter a drawing to win one (1) of three \$100 American Express gift certificates.** Click this [link](#) to participate in the study.

As part of his dissertation research, Jim Boyle, a Doctor of Business Administration (DBA) student at Kennesaw State University, is conducting research that focuses on improving our understanding of financial managers' judgments. The study has been awarded a grant through the IMA Research Foundation's Doctoral Student Grant Program and is being performed under the oversight of Institutional Review Boards at the University of Scranton and Kennesaw State University, as well as his dissertation committee (Dr. Dana Hermanson, Dr. Todd DeZoort, and Dr. Jennifer Schafer).

Your participation is **very important** to the success of this study and the improvement of our profession's understanding of financial managers' judgments. I encourage you to complete the study by clicking this [link](#). The study should take approximately 20-25 minutes to complete.

Your responses will remain **strictly confidential** and will be analyzed only after being combined with the responses of the other participants. The researchers will not disclose your name or any other identifying information, and they will not collect IP addresses.

Please click https://scranton.co1.qualtrics.com/SE/?SID=SV_0p0iv3QZb38UKAB to begin the study.

Thank you for your thoughts and your support of this important research.

From: IMA Director of Research

Subject: FINAL REQUEST – RECEIVE VALUABLE RESEARCH RESULTS FOR YOUR FIRM

Dear IMA Members:

I am writing one last time to ask for your help for a doctoral student at Kennesaw State University (Jim Boyle). He is conducting a very interesting study that focuses on improving our understanding of financial managers' judgments. The study has been awarded a grant through the IMA Research Foundation's Doctoral Student Grant Program. This study is also part of Jim's dissertation research and your help is very much needed to ensure an adequate sample size for project success.

As a participant, you will have the opportunity to receive a summary of the results that may help your firm's financial managers' judgments. In addition, you will be eligible to win one (1) of three \$100 American Express gift certificates.

I encourage you to click on the link below to complete the study, which should take approximately 20-25 minutes. Your responses will be **completely confidential** and will be analyzed only after being combined with the responses of other participants. The researchers will not disclose your name or any other identifying information.

Study Link: https://scranton.co1.qualtrics.com/SE/?SID=SV_0p0iv3QZb38UKAB

Thank you for your help with this important research project.

APPENDIX B – COPY OF CASE INSTRUMENT

Q1



Consent to Participate in “A Study of Financial Managers’ Judgments”

James F. Boyle, CPA, MBA Assistant Professor of Accounting The University of Scranton james.boyle@scranton.edu (570) 955-6924	Dana R. Hermanson, Ph.D. Professor of Accounting Kennesaw State University dhermans@kennesaw.edu (770) 423-6077	Todd DeZoort, Ph.D., CFE Professor of Accounting The University of Alabama tdezoort@cba.ua.edu (205) 348-6694
---	---	---

We are performing a study to better understand financial managers’ project investment judgments. This study is funded by the Institute of Management Accountants (IMA) Research Foundation. There are no risks from completing the study.

We realize that your time is valuable, and to show our appreciation, you have the opportunity to opt-in to a drawing to win a \$100 American Express gift certificate (three certificates will be awarded). Upon completion of the study, you will be prompted to participate in this drawing.

While you will receive no direct benefit for participating, you will be contributing to our understanding of financial managers’ judgments. The procedures involve you evaluating a hypothetical case and responding to a series of questions. Your participation in this study is voluntary, and you can discontinue participation at any time. The study should take approximately 20-25 minutes.

Your completion of this study constitutes informed consent to participate in the study. Your responses will remain strictly confidential and will be analyzed only after being combined with the responses of other participants. We will not access or link any individual identifying information to your response, and we will not collect IP addresses. If you have any additional comments or questions about the study, please contact any of the researchers indicated above.

Research at the University of Scranton and Kennesaw State University that involves human participants is carried out under the oversight of Institutional Review Boards. If you have any questions about your rights as a research participant, or if you believe you have suffered an injury as a result of taking part in the research study, you may contact

Dr. Tabbi Miller-Scandle, IRB Administrator, Office of Research and Sponsored Programs, University of Scranton at (570) 941-5824 or tabbi.miller-scandle@scranton.edu. Questions or problems regarding these activities should also be addressed to the Institutional Review Board, Kennesaw State University, 1000 Chastain Road, #0112, Kennesaw, GA 30144-5591, (678) 797-2268.

We greatly appreciate your help in our efforts to understand financial manager judgments!

- I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time without penalty.
- I do not agree to participate and will be excluded from the remainder of the questions.

Q2

Instructions

1. The pages that follow contain a **hypothetical case** for your consideration. The case includes summary background information and some related questions for you to answer.
2. Please assume that you are working as a **financial manager** for the Company when evaluating the case and answering the questions. As the financial manager, you report to the Controller and are called on to evaluate and recommend whether the Company should pursue project investment opportunities. The success or failure of your investment recommendations is considered in your performance evaluation and in determining your base pay adjustments and any incentive pay (e.g., bonuses).
3. Please complete the materials in the order presented. There are no right or wrong answers, so please answer the questions in a way that reflects your honest opinions and judgments.

Thank you for your participation!

Q3

Main Appliance Manufacturing, Inc.

Company and Industry Background

Main Appliance Manufacturing, Inc. (hereafter “the Company”) is a publicly-traded company, listed on the New York Stock Exchange, that manufactures and distributes a full line of household appliances to retailers throughout the United States. The Company operates in a competitive market affected by brand name, price, quality, and customer service. Customer demand has held steady in recent years, and the industry appears relatively robust. Company and industry sales and profitability have rebounded from the negative financial impact associated with the recent recession.

Financial Performance

The Company has experienced growth and margins over the years that are comparable to average companies in the industry. The following financial data have been derived from the Company’s financial statements. All amounts are in **millions (\$)**.

	2009	2010	2011	2012	2013
Net sales	\$1,012	\$1,053	\$1,055	\$1,115	\$1,136
Net income	25	41	33	32	35
Total assets	809	865	875	900	925

Cash flows from operations have remained positive each year from 2009 to 2013. Profitability and trend level expectations from analysts, institutional investors, and creditors have been optimistic and reasonable.

Capital Budgeting Policy: Required Rates of Return on Project Investments

The Company’s Capital Budgeting Policy was approved by the board of directors’ investment committee and is applicable to all project investments. This policy established the Company’s current 6% minimum required return on project investments.

Top Management

Management has been led for the past 15 years by an experienced CEO. The Company’s CFO has been with the Company for 10 years and is a CPA with public accounting experience in one of the “Big Four” accounting firms. Management compensation is competitive with the industry, and incentive compensation (e.g., bonuses, stock options) is primarily based on operating results, financial position, and cash flow from operations.

Board of Directors and Audit Committee

The Company’s full board meets six times per year. Individual board committees (e.g., compensation, investment, audit, etc.) each set their own meeting schedule (often every quarter) and consist of members with specialized professional expertise appropriate to

their board committee duties.

The Company's audit committee is composed of four independent directors. The audit committee meets seven times per year (every other month plus an additional meeting with the external audit firm at year end). The Audit Committee Chair (ACC) has been a Company director and the ACC for the past eight years. The ACC and two other audit committee members are CPAs with public accounting experience. The fourth audit committee member has a finance degree and significant experience in the household appliance manufacturing industry.

External Independent Auditor

The current audit firm is one of the Big Four accounting firms. The firm has audited the Company for the past five years, with a clean opinion issued each year and no significant audit issues noted during this period.

Internal Audit Department

The Company has an internal audit department that conducts operational audits, performs internal control reviews, and assists the independent audit firm with the annual financial audit.

Q4 – Risk Management Program Type Manipulation – Robust

Risk Management Program

The board of directors has directed management to establish an organization-wide risk management program (i.e., an enterprise risk management (ERM) program) primarily to ensure that the Company is effectively managing its risks. SEC regulations mandate public company board members to disclose their risk oversight role. In addition, New York Stock Exchange (NYSE) standards require that the Company's audit committee discuss the firm's risk management process and major financial risk exposures. The board has delegated responsibility for overseeing the ERM process implemented by management to the audit committee, but the full board monitors the top risk exposures identified by that process. The full board and the audit committee have assumed an active role in providing risk oversight and have placed a high priority on giving attention to risk management. The CEO and CFO share the board's genuine enthusiasm for the Company's ERM program, and they are willing to expend the required resources to ensure that it is properly implemented.

Management has appointed a Chief Risk Officer (CRO), who was previously employed as a CRO for a manufacturing company in a similar industry as the Company, to assume risk oversight responsibilities. The CRO, who has specialized risk management experience, meets with the CEO and the CFO to discuss the Company's risk exposures once each month. The audit committee also meets with the CRO each quarter to engage in substantive risk management discussions about key financial, operational, and

reputational risks. The CRO's risk management recommendations are taken seriously and acted upon in a timely manner.

The internal audit plan includes audits of the ERM program. The internal audit staff receives continuing professional education in risk management practices.

Capital budgeting project investment decisions fall under the Company's ERM program.

Q5 – Risk Management Program Type Manipulation – Ceremonial

Risk Management Program

The board of directors has directed management to establish an organization-wide risk management program (i.e., an enterprise risk management (ERM) program) primarily to demonstrate that the Company is in compliance with regulations. SEC regulations mandate public company board members to disclose their risk oversight role. In addition, New York Stock Exchange (NYSE) standards require that the Company's audit committee discuss the firm's risk management process and major financial risk exposures. The board has delegated responsibility for overseeing the ERM process implemented by management to the audit committee, but the full board is supposed to be informed of the top risk exposures identified by that process. The full board and the audit committee have not assumed an active role in providing risk oversight and have not placed a high priority on giving attention to risk management. The CEO and CFO understand the board's intent of demonstrating compliance with regulations, and they do not support expending resources for an ERM program.

Management has appointed the Controller of the Company to assume risk oversight responsibilities. The Controller, who lacks specialized risk management experience, occasionally mentions the Company's risk exposures to the CEO and the CFO as part of other meetings that focus on financial reporting issues. The Controller ensures that the matter of "risk oversight" appears in the board minutes once each calendar year by including this topic on the agenda of the annual meeting with the audit committee related to internal controls. The Controller does not make any risk management recommendations.

The internal audit plan does not include audits of the ERM program. The internal audit staff receives continuing professional education in internal controls.

Capital budgeting project investment decisions fall under the Company's ERM program.

Q6 – Financial Risk Level Manipulation – High (Large Investment Size)

Possible New Product Introduction

The Company's top management is presently considering a capital budgeting decision for a new product introduction that requires a large financial investment (relative to other project investments). The Company's Capital Budgeting Policy established a 6%

minimum required return on project investments. Missing the minimum required return on relatively large investments significantly impacts the Company's ability to meet its overall profitability goals.

The Company's top management must decide whether to introduce a new household appliance. Manufacturing of the new product will require a large financial investment (relative to other project investments) in production equipment modifications and in the purchase of raw materials. The new appliance is a "swift-cook" oven that uses halogen bulbs to enable reduced cooking times, while retaining conventional oven cooking flavor. The swift-cook oven is not yet widely accepted in the market, and the retail selling price would need to be slightly higher than established conventional oven prices in order to achieve normal gross margins. Manufacturing of the swift-cook ovens would be funded through internal funds. Consultation with the Company's marketing personnel reveals mixed views about whether the new product introduction will meet the Company's 6% minimum required rate of return on project investments.

Q7 – Financial Risk Level Manipulation – Low (Small Investment Size)

Possible New Product Introduction

The Company's top management is presently considering a capital budgeting decision for a new product introduction that requires a small financial investment (relative to other project investments). The Company's Capital Budgeting Policy established a 6% minimum required return on project investments. Missing the minimum required return on relatively small investments modestly impacts the Company's ability to meet its overall profitability goals.

The Company's top management must decide whether to introduce a new household appliance. Manufacturing of the new product will require a small financial investment (relative to other project investments) in production equipment modifications and in the purchase of raw materials. The new appliance is a "swift-cook" oven that uses halogen bulbs to enable reduced cooking times, while retaining conventional oven cooking flavor. The swift-cook oven is not yet widely accepted in the market, and the retail selling price would need to be slightly higher than established conventional oven prices in order to achieve normal gross margins. Manufacturing of the swift-cook ovens would be funded through internal funds. Consultation with the Company's marketing personnel reveals mixed views about whether the new product introduction will meet the Company's 6% minimum required rate of return on project investments.

Q8

As a financial manager charged with evaluating and making recommendations about whether the Company should pursue project investment opportunities, please slide the bar below to indicate the likelihood you would recommend that the Company make the financial investment to manufacture the new swift-cook oven (0 = Not at all likely, 50 = Moderately likely, 100 = Very likely).

Sliding scale 0 to 100

Q9

Please describe the factors you considered in your response to the question above.

Q10

Please slide the bar below to indicate how much time you would take to develop a recommendation for this project investment relative to a typical project investment recommendation (0 = Much less time, 50 = About average time, 100 = Much more time).

Sliding scale 0 to 100

Q11

Please describe the factors you considered in your response to the question above.

Q12

Please slide the bar below to indicate the extent that you would consult with others to develop a recommendation for this project investment relative to a typical project investment recommendation (0 = Much less consultation, 50 = About average consultation, 100 = Much more consultation).

Q13

Please describe the factors you considered in your response to the question above.

Q14

Please indicate the individual(s) with whom you would consult.

Q15 through Q19

Please slide the bar below to indicate the extent that the following factors affected your recommendation about whether the Company should make the project investment (0 = Minimal effect, 50 = Moderate effect, 100 = Significant effect).

Board of directors' attitude toward risk management

Sliding scale 0 to 100

Top managements' attitude toward risk management

Sliding scale 0 to 100

The employee appointed in charge of risk oversight

Sliding scale 0 to 100

Internal audit's level of evaluation of the Company's ERM program

Sliding scale 0 to 100

Relative size of the project investment

Sliding scale 0 to 100

Q20 and Q21

Please slide the bar below to indicate to what extent you feel accountable to the below parties for the risk associated with your recommendation about whether the Company should make the project investment (0 = Minimal accountability, 50 = Moderate accountability, 100 = Significant accountability).

Board of directors

Sliding scale 0 to 100

Top management

Sliding scale 0 to 100

Q22 and Q23

Please slide the bar below to indicate the extent that you believe the below parties are risk averse (0 = Minimal risk aversion, 50 = Moderate risk aversion, 100 = Significant risk aversion).

Board of directors

Sliding scale 0 to 100

Top management

Sliding scale 0 to 100

Q24

Please slide the bar below to indicate the level of risk for this project investment (0 = Low risk, 50 = Moderate risk, 100 = High risk).

Sliding scale 0 to 100

Q25 and Q26

Please slide the bar below to indicate the extent that you believe the below parties support the Company's ERM program (0 = Minimal support, 50 = Moderate support, 100 = Significant support).

Board of directors

Sliding scale 0 to 100

Top management

Sliding scale 0 to 100

Q27

Please answer the following questions without referring back to the prior screens.

Q28 – Manipulation Check – Risk Management Program Type

Please indicate the Company's primary motivation for establishing its ERM program based on the facts of the case:

- To ensure that the Company is effectively managing its risks
- To demonstrate that the Company is in compliance with SEC and NYSE regulations

Q29 – Manipulation Check – Financial Risk Level

Please indicate the relative size of the project investment in this case:

- Large
- Small

Q30

Please slide the bar below to indicate how realistic this case was (0 = Very unrealistic, 50 = Moderately realistic, 100 = Very realistic).

Sliding scale 0 to 100

Q31

Please slide the bar below to indicate how understandable this case was (0 = Very difficult to understand, 50 = Moderately understandable, 100 = Very understandable).

Sliding scale 0 to 100

Please indicate whether you have had any experience with a risk management program in your career.

No

Yes

Q32

The focus of ERM programs varies among organizations. Some organizations merely focus on compliance with regulations (i.e., a compliance-based ERM focus), while other organizations also focus on effectively managing risks (i.e., a risk-based ERM focus). Please slide the bar below to indicate the primary focus of the risk management program(s) you have experienced in your career (0 = Primarily compliance-based ERM focus, 100 = Primarily risk-based ERM focus).

Sliding scale 0 to 100

Q33

Please indicate whether you have had any professional experience in making project investment recommendations or decisions in your career.

No

Yes

Q34

Please slide the bar below to indicate the extent of your professional experience in making project investment recommendations or decisions (0 = Minimal experience, 50 = Moderate experience, 100 = Significant experience).

Sliding scale 0 to 100

Q35

Please slide the bar below to describe the degree that your overall professional experience in making project investment recommendations or decisions has been favorable (0 = Very unfavorable, 100 = Very favorable).

Sliding scale from 0 to 100

Q36 through Q47

The following set of questions relates to general risk-taking situations and is not related to the specific case study.

Please could you tell us if any of the following have ever applied to you, now or in your adult past?

All using 5-point scale (1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very Often)

Recreational risks (e.g., rock-climbing, scuba diving)

Health risks (e.g., smoking, poor diet, high alcohol consumption)

Career risks (e.g., quitting a job without another to go to)

Financial risks (e.g., gambling, risky investments)

Safety risks (e.g., fast driving, cycling without a helmet)

Social risks (e.g., standing for election, publicly challenging a rule or decision)

The questions that follow are for classification purposes only. No effort will be made to identify you based on the information you provide.

Q48

Please indicate your gender.

Male

Female

Q49

Please indicate your total years of professional business experience.

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- 21 to 25 years
- Over 25 years

Q50

Please indicate your current title.

- CFO
- Financial Manager
- Controller
- Assistant Controller
- Staff Accountant
- External Auditor
- Internal Auditor
- Other

Q51

Please indicate below any professional certifications that you hold (check all that apply).

- CMA

- CPA
- CFA
- Other (please indicate below)
- I do not hold any professional certifications

Q52

Please indicate your highest degree.

- High School/Associate's Degree
- Bachelor's Degree
- Master's Degree
- Law Degree
- Doctoral Degree (e.g., Ph.D, DBA)

Q53

Please indicate the segment in which you currently work.

- Public Company
- Private For-Profit Company
- Not-For-Profit
- Government
- Public Accounting
- Other

Q54

Please indicate the approximate annual revenue of your employer.

- Less than \$10 million
- \$10 million to \$100 million
- \$101 million to \$500 million
- \$501 million to \$1 billion
- More than \$1 billion

Q55

Please share any additional thoughts you may have about this case.

Q56

Your responses have been recorded and will remain strictly confidential. If you would like to be entered in the \$100 American Express gift certificate drawing and/or receive a summary report of the aggregate survey responses, please check the appropriate box(es) below and provide an e-mail address where we may contact you for these purposes. (Your e-mail address will only be used for these purposes and will be disassociated from your survey responses.)

- Enter me in the \$100 American Express gift certificate drawing (please provide email address below).
- Please send me a summary report of the survey responses (please provide email address below).

Q57

Please provide email address below if you indicated that you wanted to enter in the drawing and/or be provided a summary report.

We thank you for your time spent taking this survey.
Your response has been recorded.