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Investigating the Impact of Religion Regarding Internal Control in Nonprofit Organizations



Dissertation submitted for the degree of

Doctor of Philosophy

by

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December 2024

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DECLARATION

I, **Paul H. Douglas** confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.



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Investigating the Impact of Religion Regarding Internal Control in Nonprofit Organizations

Abstract

This dissertation first synthesizes existing research on the intersection between religion and two key economic behaviors: financial risk-taking and financial reporting. It then empirically examines how the degree of religiosity of the geographical area surrounding the nonprofit organization – or of the country in which it is located – influences either the likelihood or the number of internal control deficiencies (ICDs) reported by the organization.

The first chapter of the dissertation provides a structured review of selected studies on religion's influence, regarding financial risk-taking and financial reporting. The main insight from these studies is that religion promotes positive economic behaviors, such as ethical financial practices and reduced risk-taking, rooted in its moral guidelines and conservative ethos. Despite this, some research finds negative outcomes associated with religion under certain circumstances. Thus, the context can shift religion's influence on economic behaviors. To facilitate future research, a conceptual model is proposed, highlighting interactions between religion and individuals, organizations, and their respective behaviors. This framework aims to support further exploration into how religious social norms influence economic behaviors in different contexts.

Focusing on nonprofit organizations, the second chapter examines whether the likelihood of ICDs is associated with religiosity. Using U.S. data and factor analysis to develop a religiosity score, this study finds that the higher the degree of religiosity in the geographic area surrounding a nonprofit organization, the more prone the organization is to ICDs. This risk is moderated by organizational size, which aligns with the notion that larger organizations have more resources to establish robust internal controls. My findings highlight the potential

risk posed by religious social norms. This raises important considerations for the management of nonprofit organizations, their external auditors, and funding agencies, such as whether to implement specific governance mechanisms to address the religiosity-associated risk.

The third chapter explores the role of religiosity as a risk factor for Seventh-day Adventist Church entities located in emerging economies, focusing on whether audit committees can moderate the associated risk. Using data of those entities and factor analysis to develop a country-level religiosity score, this study finds an association between the number of newly reported ICDs (hereafter, new ICDs) and the degree of religiosity, corroborating the similar religiosity-associated risk found in the U.S. context of the second chapter. Importantly, I find that the presence of an audit committee — particularly one with financial expertise and at least two meetings per year — moderates the religiosity-associated risk for both repeated and new ICDs. The study reveals that an audit committee can counteract the religiosity-associated risk and enhance financial reporting reliability, providing actionable insights for church leadership, auditors, and regulators in emerging economies where the influence of religiosity is significant.

Together, the studies in this dissertation reveal a nuanced landscape where religious environments characterized by county-level or country-level religiosity scores can foster challenging outcomes in internal controls, besides the beneficial outcomes in other domains documented in prior research. While religion may encourage ethical behaviors and risk aversion, it can also lead to oversight complacency in certain institutional contexts. This dissertation provides a framework for understanding the influence of religiosity on ICDs and highlights the need for robust governance in nonprofit organizations surrounded by religious environments.

Table of Contents

CHAPTER 1	9
<i>The Impact of Religion on Economic Behaviors: A Research Framework</i>	
1.1. INTRODUCTION.....	10
1.2. THEORETICAL AND EMPIRICAL PERSPECTIVES ON RELIGION.....	12
1.2.1 Religion and the Individual.....	12
1.2.2 Religion and the Organization.....	18
1.2.3 Individual and the Organization	24
1.2.4 Toward a Religion Behavioral Model	29
1.3. SELECTION OF RESEARCH LITERATURE	31
1.4. SYNTHESIS OF RESEARCH LITERATURE	33
1.4.1 Research Related to Financial Risk-taking	35
1.4.2 Research Related to Financial Reporting.....	43
1.4.3 Measurement of Religion	46
1.5. SUMMARY AND SUGGESTIONS FOR FUTURE RESEARCH	49
CHAPTER 2	54
<i>Is Being Religious a Plus? A Risk Assessment Based on Internal Control Deficiencies in Nonprofit Organizations</i>	
2.1. INTRODUCTION.....	55
2.2. HYPOTHESES DEVELOPMENT	59
2.2.1. The Characteristics of Religious Individuals	60
2.2.2. The Consequences of Religious Individuals Working at Nonprofit Organizations.....	61
2.3. RESEARCH DESIGN	67
2.3.1. Regression Model.....	67
2.3.2. Measuring Religious Individuals and Classifying Religious Organizations	70
2.3.3. Sample and Descriptive Statistics.....	70

2.4. MAIN RESULTS.....	78
2.4.1. Impact of Religious Individuals on Nonprofit Organizations	79
2.4.2. Impact of Religious Individuals at Different Degrees of Religiosity	88
2.4.3. Impact of Religious Individuals with Different Types of Nonprofit Organizations	88
2.4.4. Impact of Religious Individuals Based on Size and Age of Nonprofit Organization.....	88
2.5. ADDITIONAL ANALYSES	91
2.5.1. Robustness Checks.....	91
2.5.2. An Alternative Measure for Religious Individuals	94
2.5.3. Impact of Religious Individuals on Different Components of ICD.....	97
2.6. CONCLUSION	98
APPENDICES.....	101
2A. Definition of Variables	
2B. Religious Keyword Dictionary	
2C. Internal Revenue Service Codes	
2D. Propensity Score Matching	
CHAPTER 3	105
<i>The Moderating Effect of Audit Committees on Religiosity as a Risk Factor: Evidence from Emerging Economies</i>	
3.1. INTRODUCTION.....	106
3.2. HYPOTHESES DEVELOPMENT AND RESEARCH DESIGN	110
3.2.1. Religiosity and Governance in Emerging Economies.....	111
3.2.2. The Existence and Effectiveness of Audit Committees.....	113
3.2.3. Hypotheses.....	117
3.2.4. Regression Models	121
3.2.5. Measuring Religiosity	123
3.3. SAMPLE AND DESCRIPTIVE STATISTICS	124
3.4. MAIN RESULTS.....	129
3.4.1. The Effect of Audit Committee Existence on Religious Risk Regarding ICDs.....	130
3.4.2. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICDs	139

3.5. ADDITIONAL ANALYSES	150
3.5.1. Robustness Checks.....	150
3.5.2. Alternative Measures for Religiosity	150
3.5.3. Other Aspects of Internal Control and Financial Reporting.....	153
3.5.4. Alternative Sample Configurations.....	155
3.6. CONCLUSION	156
APPENDICES	158
3A. Definition of Variables	
3B. The Effect of Audit Committee Existence and Effectiveness on Religious Risk Regarding ICD	
BIBLIOGRAPHY	161

Chapter 1

The Impact of Religion on Economic Behaviors: A Research Framework

ABSTRACT

This chapter synthesizes existing research on the relationship between religion and two key economic behaviors: financial risk-taking and financial reporting. By focusing on these behaviors, the paper explores whether religion fosters risk aversion and enhances the reliability of financial reporting or introduces complexities that challenge these assumptions. The existing literature reveals that religion often promotes positive economic behaviors, such as ethical financial practices and reduced risk-taking, rooted in its moral guidelines and conservative ethos. However, its impact is not universally beneficial, as variations in religiosity and context can lead to divergent outcomes. Prior studies survey literature on religion's impact on socioeconomic development, economic outcomes through experimental methods, and include religiosity as a local social norm. This study extends prior research by incorporating empirical evidence across diverse religiosity measures and international contexts, offering a broader perspective on religion's multifaceted role in economic behaviors. To provide a framework for future research, the study introduces a conceptual model that delineates three critical domains: the relationship between religion and the individual, between religion and the organization, and the interplay between individuals and organizations in religious contexts. This framework captures the dynamic processes through which religious beliefs and practices influence economic behaviors at multiple levels. The model facilitates systematic exploration of how religiosity affects corporate strategies, governance, and economic outcomes, providing a foundation for addressing unexplored or underexplored dimensions of this growing interdisciplinary field.

1.1. Introduction

Religion's influence on society transcends personal beliefs, extending into the realm of corporate decisions and financial performance, where it shapes behaviors, practices, and outcomes in complex ways. Over the past two decades, there has been a growing scholarly interest to examine the intersection of religion and economic behaviors, with research that spans various financial sectors, including hedge funds, mutual funds, banks, and insurance companies, pointing to the broad applicability of religion's impact on economic activities.

The scope of existing research is not confined to a single religious or geographic context. In religious studies, researchers have compared economic behaviors across denominations, such as Catholics and Protestants, uncovering distinct approaches rooted in their theological and ethical teachings (Shu, Sulaeman, and Yeung 2012). Additionally, differing measures for religiosity have been employed including those constructed from survey responses to assess how varying levels of individual religiosity influence financial decision-making (Chourou 2023).

From these studies, a general pattern emerges where religion often fosters positive economic behaviors, such as reduced risk-taking, and more ethical financial reporting practices. These effects are typically attributed to the moral guidelines and conservative financial ethos inherent in many religious traditions. However, the influence of religion is not universally beneficial. The duality of how religion can either enhance or constrain economic behavior highlights the complexity of its role in economic behaviors and the need for a nuanced, context-specific understanding of its impact.

The purpose of my chapter is to synthesize existing research on the relationship between religion and the economic behaviors of financial risk-taking and financial reporting. Focusing on these two economic behaviors allow for some pertinent issues to be better understood. First, whether there are any variations in risk-taking behaviors given that religion is normally

associated with risk aversion. Second, whether religion enhances or erodes the reliability of financial reporting. Prior studies have surveyed literature regarding the multidimensional effects of religion and socioeconomic development (Basedau, Gobien, and Prediger 2018); the influence of religion on economic behaviors based on experimental evidence (Hoffmann 2013); and the impact of local social norms on a range of financial reporting, decision-making activities, and governance behaviors (Habib, D'Costa, and Al-Hadi 2023). One of the local social norms identified by Habib et al. (2023) is religiosity. However, with a specified intent to focus on variations within a country, the authors do not include in their survey of literature those that utilize a composite country-level religiosity score. My survey of the literature makes its first contribution by extending on these prior studies to specifically focus on literature with empirical evidence regarding the relationship between religion and the economic behaviors of financial risk-taking and financial reporting. Further, all measures for religiosity are considered and as such provides a broader international perspective regarding the impact of religion both within and across countries.

To establish a foundation for understanding this interdisciplinary area, I reviewed theoretical frameworks and empirical studies that address the impact of religion on economic behaviors. From the insights gained from this foundation, I propose a conceptual model designed to illustrate the mechanisms through which religion influences individuals and organizations, leading to distinct economic outcomes. My conceptual model delineates three critical interaction domains: the relationship between religion and the individual, the relationship between religion and the organization, and the interplay between individuals and organizations within religious contexts. With these domains, the model captures the dynamic processes that translate religious beliefs and practices into tangible economic behaviors.

My conceptual model provides a framework to explore the relationship of religion and economic behaviors, including the intricate dynamics at both the individual and organizational

levels, as well as their interconnections within religious contexts. The model not only highlights the distinct pathways through which religion influences economic behaviors but also captures the interplay between personal faith, collective organizational practices, and broader institutional contexts. Using this framework ensures that the multifaceted nature of religion's impact on economic behaviors is fully appreciated and rigorously analyzed.

I believe this framework represents a second contribution as it offers researchers a tool to investigate previously unexplored or underexplored dimensions of this relationship. By identifying and organizing key domains of interaction, the model provides clarity and direction for future inquiries, enabling scholars to systematically address unanswered questions. These questions may include how individual religiosity translates into organizational strategies, how religious norms influence corporate governance, or how varying levels of religiosity at the societal level impact economic outcomes.

The remainder of my chapter is organized as follows: Section 1.2 examines theoretical and empirical perspectives on religion and proposes a religion behavioral model that informs economic behaviors. Section 1.3 describes the selection process for research literature related to the specific economic behaviors of financial risk-taking and financial reporting while Section 1.4 provides a synthesis of that literature. In Section 1.5, summarized remarks are provided with suggestions for future research.

1.2. Theoretical and Empirical Perspectives on Religion

This section examines theoretical and empirical perspectives regarding religion and considers these perspectives in the context of how religion interacts with both individuals and organizations. To illustrate this interaction, a conceptual model is developed and presented.

1.2.1 Religion and the Individual

Firstly, the interaction between religion and the individual is a multifaceted domain that encompasses moral behavior, moral identity, ethical attitudes, risk aversion, and trust.

Considering these aspects along with the influence of cultural and organizational contexts, leads to a nuanced understanding wherein the interaction between religion and the individual may differ because of the environment in which the interaction is present.

Kirchmaier, Prüfer, and Trautmann (2018) explored the association between religion and moral behavior in the Dutch population. Their study found that religious individuals are less accepting of unethical economic behavior, such as tax evasion and bribery, and reported higher levels of volunteering. However, in an experimental game where social behavior was unobservable, religious individuals were equally likely to betray trust as non-religious individuals. While religious individuals may hold stronger moral attitudes, the findings suggested these attitudes did not always translate into different behaviors in all contexts. When different denominations were the context, Catholics betrayed less than non-religious people, while Protestants betrayed more than Catholics and were indistinguishable from non-religious people.

Vitell et al. (2009) examined religiosity as an antecedent to moral identity, focusing on the mediating role of self-control. The study found that intrinsic religiosity positively influences the internalization and symbolization dimensions of moral identity, counterbalancing the negative impact of extrinsic religiosity. This highlights the importance of intrinsic religious motivation in fostering a strong moral identity. Aquino and Americus (2002) delved into the self-importance of moral identity, showing that moral identity is associated with moral cognitions and behavior. The study emphasized the role of moral self-conceptions in explaining moral conduct, suggesting that individuals with a strong moral identity are more likely to engage in ethical behavior.

The logical connection between religion and ethics was questioned by Emerson and Mckinney (2010) in light of Christian CEOs presiding over well-known ethical failures at WorldCom and Enron and previous research not being able to find a strongly positive

relationship. Their study investigated the relationship between religious convictions and attitudes toward ethical dilemmas among business professionals. They found that individuals who report higher levels of religious importance are significantly less accepting of ethically questionable behavior across various scenarios. This effect is more consistent and significant than for those who simply self-identify as "Christian." Additionally, older respondents and females are less accepting of unethical behavior, and professionals at larger organizations tend to be less accepting of unethical behavior than those at smaller organizations. It is worthy to note that ethical failures are not limited to for-profit organizations such as WorldCom and Enron where a Christian CEO may be presiding. News reports provide information of similar ethical failures in nonprofit organizations. Among those news reports is a \$500 million ponzi style scheme by Greater Ministries International defrauding approximately 18,000 persons who were promised by religious leaders that their monies would be doubled¹.

An earlier study by Longenecker, McKinney, and Moore (2004) involving business professionals in the United States presented an empirical investigation into the relationship between religious commitment and business ethics. The study found little relationship between broad faith categories and ethical judgment. However, individuals who consider religious interests important demonstrate higher ethical judgment. Those identified as Evangelical Christians also show higher ethical judgment, indicating that the depth of religious commitment plays a crucial role in ethical decision-making.

Within the context of executives in Indian multinational enterprises, Ananthram and Chan (2016) applied virtue ethics theory to examine how religiosity and spirituality shape ethical behavior. Although often treated as overlapping concepts, the two differ in meaningful ways: religiosity reflects a socially embedded phenomenon grounded in belonging, shared

¹ <https://www.splcenter.org/resources/reports/federal-officials-charge-florida-based-antigovernment-greater-ministries-actually-criminal/>

norms, and collective identity, whereas spirituality denotes a more individualized pursuit of meaning, transcendence, and lived experience. The authors identified five virtues—integrity, flexibility, moral excellence, tolerance, and responsibility—that operate across religious, spiritual, and humanistic domains to support ethical decision-making. While these virtues are anchored in religious traditions and enacted at the individual level, they argue that such traits are equally transferable to contexts beyond India.

In exploring ethical behavior, Weaver (2006) considered how religious role expectations of individuals, internalized as a religious self-identity, influence ethical behavior in organizations. The authors found the salience of religious identity and the orientation of religious motivation moderates the relationship between religious role expectations and behavior. Further, the organizational context plays a significant role in influencing the salience of religious identity, highlighting the complex interplay between individual religiosity and organizational factors. From the perspective of religious attitudes on ethical judgments, Walker, Smither, and DeBode (2012) found that intrinsic religious motivation and a loving view of God are negatively related to endorsing ethically questionable behavior, while extrinsic motivation is positively related. Whereas intrinsic religious motivation fosters ethical behavior, extrinsic motivation may lead to more ethically questionable decisions.

Parboteeah, Hoegl, and Cullen (2008) explained the mixed results of studying the connection between religiosity and ethics. The authors pointed to a tendency for studies to focus on a unidimensional measure of religion such as church attendance or religious affiliation. They also highlighted that some studies focused on a single religion, while other studies did not design measurement instruments to avoid socially desirable responses. Additionally, certain studies used undergraduate and MBA students as their research subjects. Referencing work by Cornwall et al. (1986), the authors empirically tested the connection between religiosity and ethics with religiosity considered from cognitive, affective, and

behavioral dimensions and presented evidence to support a negative relationship between religiosity and justifications of unethical behavior.

A multidimensional approach to religion was used by Noussair et al. (2013) who investigated the relationship between religion and risk aversion by looking at participation with a religious group (belonging) as well as the practice of religious beliefs (believing). Noussair et al. (2013) found that more religious individuals are more risk-averse regarding financial risks. The author noted differences where Protestants are more risk-averse than Catholics, and the link between risk aversion and religion is driven by the social aspects of church membership rather than religious beliefs themselves. Therefore, the social environment associated with religious practice plays a significant role in shaping risk attitudes.

Although the foregoing studies consistently suggest that religiosity is associated with stronger moral attitudes, they also reveal a persistent gap between internalized ethical convictions and actual behavior. This gap calls attention to the boundary conditions under which religion influences moral conduct. For instance, Kirchmaier, Prüfer, and Trautmann (2018) found that religious individuals expressed lower acceptance of unethical behavior in surveys but were no less likely to betray trust in anonymous experimental settings. Such behavioral inconsistency implies that religiously informed moral preferences may depend on social observability and reputational incentives which is consistent with Gervais and Norenzayan's (2012) argument that religion often functions as a reputational monitoring system rather than a universally internalized moral compass.

A limitation in the empirical literature lies in its fragmented conceptualization of religiosity. Although several studies distinguish between intrinsic and extrinsic religious motivation (e.g., Vitell et al. 2009; Walker et al. 2012), few offer an integrative theoretical framework that links these dimensions to contextual and institutional moderators. Weaver (2006), for example, demonstrated that the salience of religious identity fluctuates depending

on organizational cues and role expectations. This observation indicates that religiosity is not a fixed disposition but a socially embedded construct where its expression and the ethical consequences are determined by situational context and the cultural scripts that define “appropriate” behavior (Ashforth & Schinoff, 2016).

Further complexity arises from denominational variation, which challenges the notion of religion as a monolithic determinant of moral behavior. Evidence from Noussair et al. (2013) and others indicates that Protestant and Catholic adherents differ in their ethical orientations and economic behaviors. These denominational differences reflect deeper theological and institutional matters such as how authority, community, and individual agency are conceptualized within each denomination. Protestant theology emphasizes personal conscience and individual accountability before God, thereby fostering an ethic of self-discipline and moral autonomy. While Catholic theology, places greater emphasizes collective morality, sacramental mediation, and obedience to institutional authority.

Max Weber’s ([1905] 2002) *The Protestant Ethic and the Spirit of Capitalism* provides an enduring framework for interpreting these denominational distinctions. Weber argued that the ascetic rationalism of Protestantism, especially in the case of Calvinism, encouraged a disciplined approach to labor, thrift, and moral restraint that laid the cultural foundation for capitalist development. Catholicism, by contrast, directed moral energy toward social harmony and charitable obligation, thereby strengthening communal institutions but limiting the individualistic pursuit of economic advancement. These differing theological orientations, Weber argued, generated distinctive moral psychologies that not only shape individual conduct but also influence the broader social organization of economic life. In this light, religion’s moral influence extends beyond the private sphere, informing civic trust, social cooperation, and the institutionalization of economic rationality.

Despite these implications, empirical studies often overlook the nuances introduced by doctrinal and cultural heterogeneity. By collapsing religious identity into binary categories such as “Christian” versus “non-Christian,” researchers risk erasing the denominational, regional, and historical variation that underlies observed moral behaviors. Moreover, as Parboteeah, Hoegl, and Cullen (2008) note, simplistic measures such as attendance frequency or nominal affiliation do fail to capture the multidimensional character of religiosity, encompassing affective, cognitive, behavioral, and social domains. Reliance on self-reported data further amplifies social desirability bias, particularly in moralized topics like ethics and faith. Future research must move beyond these methodological constraints, employing behavioral measures, experimental designs, and cross-denominational comparisons to isolate the mechanisms through which religion influences ethical behavior.

In summary, religion remains a potent yet complex source of moral identity and ethical orientation. Its behavioral influence is neither uniform nor deterministic but mediated by motivational orientation (intrinsic versus extrinsic), moderated by contextual cues (observability, institutional norms), and conditioned by denominational, cultural, and historical variation. A more integrative theoretical lens that draws from moral psychology, sociology of religion, and organizational behavior is needed to explain how faith traditions cultivate moral identity, construct ethical cognition, and contribute to the broader moral economy of society.

1.2.2 Religion and the Organization

Secondly, the interaction between religion and the organization is explored from various perspectives, providing unique insights into how religious values and organizational practices intersect. It is reasonable to assume that religion would influence the workplace, given its association with morality and ethics. However, several factors determine whether this influence is present and functional. Peifer (2015) conceptualizes religion as an institution and theorizes four inter-institutional processes—*Disengagement*, *Engagement*, *Co-optation*, and

Adjudication—that may shape the influence of religion within the business institution. These processes arise from the impact of boundary-blurring and boundary-building activities, combined with either strong or weak/no exertions of religious moral authority.

The first process, *Disengagement*, stems from boundary-building activities in the absence of meaningful religious moral authority. Here, religion is either rendered irrelevant or ignored in the business context. The second process, *Engagement*, represents the opposite scenario, where boundary-blurring activities coincide with robust religious moral authority, allowing religion to resonate within the business institution. The third process, *Co-optation*, also involves boundary-blurring but occurs when business interests overshadow a passive or absent religious moral authority. Lastly, *Adjudication* emerges from boundary-building activities when religious moral authority is strong, indicating that neither institution depends on the other's resources, thus enabling both religion and business to exert moral authority on each other without constraint.

Van Buren III (2002) looked at religious organizations from another perspective by describing an organizational social capital model and determining its implications. *Associability* and *Trust* represent the two components of this organizational social capital model. In this model, *Associability* refers to the subordination of individual goals for collective goals while *Trust* refers to the fragile or resilient nature of trust existing between an organization and its members; and the dyadic or generalized trust existing between members known or unknown to each other. The author believed that the significance of religious organizations in society stems from the fact that they are both generators and repositories of social capital. The presence of social capital in a religious organization is instrumental to its success as unlike profit organizations there are no incentive mechanisms such as remuneration to inspire desired actions. The author made three propositions regarding religious organizations and organizational social capital. First, religious organizations do better in

reinforcing their values and reaching their mission when there is a high amount of social capital. Second, religious organizations can build their social capital by generating a sense of shared purpose and fostering trust among its members. Third, being able to build social capital will be confronted with challenges that are unique to whether the religious organization is either evangelical or conservative in its orientation.

An organization with high amounts of social capital would be akin to clan-like organizations described by Ouchi (1980) that socialize its members to be in harmony with a common set of values and beliefs. This harmony erases opportunistic behavior and lowers transaction costs required to reconcile expectations between the organization and its members. For religious organizations, Scherer (1988) asserted that they become clan-like as they become institutionalized or endure over time. This assertion corresponds to what Weaver and Stansbury (2014) pointed out that the religiosity of an individual does not itself provide a guarantee for congruent behavior and the organization can either encourage or discourage such behavior depending on what schemas and scripts it chooses to promote.

Another theoretical perspective was offered by Scheitle and Dougherty (2008) who highlighted three theories that have a significant influence on research regarding religious organizations – those theories being organizational ecology, resource dependence, and new institutionalism. The first theory highlighted is organizational ecology which applies an ecological perspective more commonly associated with plants and animals to describe religious organizations. From this perspective, religious organizations are seen as species within the same environment providing similar products and competing for similar resources. The second theory highlighted is resource dependence which considers the power-dependence relationship between two actors. In this relationship, the measure of power by one actor over another corresponds to the dependence on resources provided. The third theory highlighted is new institutionalism which addresses how the structure or behavior of a religious organization

progresses from creation to acceptance. The author enumerated three mechanisms that permit this progress and produce homogenous behaviors among otherwise diverse organizations. Coercive isomorphism is the first of these mechanisms where organizations rely on other actors to set requirements for compliance. Normative isomorphism is the next of these mechanisms where the common adoption of external norms leads diverse organizations to become similar to each other. Memetic isomorphism is the last of these mechanisms where copying the behavior of another organization is done to dilute competitive advantages or drive perceptions of legitimacy.

Social norm theory was highlighted by Berglund and Kang (2013) showing the likely preference for conforming to social influences rather than incurring the social and economic costs of not doing so. Religion research has applied this theory and documents that the social characteristics of where an organization is located do influence its behaviors (McGuire, Omer, and Sharp 2012; Kanagaretum, Lobo, and Wang 2015). The isomorphic mechanism that produces homogenous behaviors is a function of employing from a pool of individuals sharing similar values and beliefs, and exhibiting behaviors consistent with the values and beliefs of where the organization is located.

The influence of religion on organizational behavior is frequently presumed to be normatively beneficial or contributing to ethical discipline, trust, and shared purpose within institutional life. Yet such presumptions often overlook the complexities and contradictions that emerge when religious logics intersect with organizational structures. A closer reading of the theoretical frameworks discussed above reveals that religion's role in organizations is neither inherently virtuous nor uniformly expressed, but rather contingent on power, context, and institutional dynamics.

Peifer's (2015) inter-institutional framework provides an important theoretical entry point, positing that religion and business interact through processes of boundary-blurring

(*Engagement* and *Co-optation*) and boundary-building (*Disengagement* and *Adjudication*). However, the typology assumes relatively stable moral authority within the religious domain. In practice, organizations frequently toggle strategically between these positions based on internal legitimacy demands or external stakeholder pressures. For example, faith-based nonprofits may publicly foreground their religious identity to build donor trust, while simultaneously adopting secular governance frameworks to satisfy regulatory compliance or enhance legitimacy in pluralistic settings. This duality parallels Oliver's (1991) concept of *strategic decoupling*, whereby symbolic alignment with ethical or religious norms coexists with instrumental practices designed to preserve autonomy or secure resources.

Van Buren III's (2002) model of organizational social capital usefully highlights the role of trust and associability in religious organizations. While such cohesion can reduce opportunism and facilitate mission alignment, as also suggested by Ouchi's (1980) concept of clan control, it may mask underlying power asymmetries and suppress dissent. In settings where theological orthodoxy or hierarchical leadership dominates, social capital can reinforce conformity, foster groupthink, and constrain innovation. These concerns are especially relevant for religious institutions with rigid authority structures or traditionalist doctrines, where the cost of internal cohesion may be reduced adaptive capacity or marginalization of nonconforming voices.

Scherer's (1988) notion that religious organizations become increasingly "clan-like" as they institutionalize invites empirical scrutiny. Institutionalization may enhance organizational durability, but it does not guarantee greater ethical performance. In some respects, religious organizations may become more efficient at reproducing norms regardless of whether those norms align with broader ethical, legal, or fiduciary standards. Echoing this concern, Weaver and Stansbury (2014) argue that organizations do not automatically reflect the religiosity of their members. Instead, they selectively activate or suppress religious scripts based on

prevailing institutional logics, cultural schemas, and power dynamics. This highlights the importance of organizational filtering in determining how religious values are operationalized or marginalized in organizational life.

Scheitle and Dougherty's (2008) synthesis of organizational ecology, resource dependence, and new institutionalism further enriches this critique. Religious organizations, like their secular counterparts, are embedded in competitive, resource-scarce, and legitimacy-sensitive environments. As such, they may adapt through processes of coercive isomorphism (e.g., responding to funder mandates), normative isomorphism (e.g., adopting sector-wide ethical norms), or memetic isomorphism (e.g., copying successful peer institutions). These dynamics raise important questions about the authenticity of religious identity within organizational forms. In particular, they invite reflection on the extent to which religious organizations retain their theological distinctiveness or become functionally indistinct from secular counterparts under environmental pressure.

Finally, social norm theory provides a broader lens for understanding how religious influence is both internally shaped and externally constrained. Berglund and Kang (2013), along with empirical studies by McGuire, Omer, and Sharp (2012) and Kanagaretnam, Lobo, and Wang (2015), demonstrate that religious organizations do not merely express internal values but also respond to the normative expectations of the locations in which they operate. In highly religious environments, this may manifest in more conservative reporting, ethical caution, or increased risk aversion though this is not necessarily because of the organization's intrinsic values, but due to external social pressure and reputational concerns.

In summary, the relationship between religion and organizational behavior is multi-layered, strategic, and contested. Religious identity can serve as a source of legitimacy, moral language, and cultural cohesion, yet it may also be symbolically appropriated, ideologically constrained, or structurally diluted. Future research should move beyond binary assumptions of "religious"

versus “secular” organizations and instead adopt multi-level, longitudinal, and comparative approaches to uncover how religious logics are filtered, reconfigured, and negotiated across organizational contexts.

1.2.3 Individual and the Organization

Thirdly, the interaction between the individual and the organization is examined in how individual religiosity influences and is influenced by organizational contexts.

Tracey, Phillips, and Lounsbury (2014) believed that individuals do not set aside their religious beliefs and practices when they become organizational members. It would be expected then that the religious beliefs and practices of individuals inform their behavior in the workplace. The identity of a religious organization is a function of the people that are a part of it along with the organizational ideals that are established and drive normative behavior. There is to some extent a circular influence that emerges in that people have an impact on the identity of an organization while the organization has an impact on expected individual behaviors that are consistent with the stated organizational values or beliefs.

Schneider (1987) and Schneider, Goldstein, and Smith (1995) developed and described a framework for understanding the reciprocal relationship between individuals and organizations. By integrating individual and organizational theories, the framework proposed that an organization is the product of its people as effected by three interrelated processes of *attraction*, *selection*, and *attrition* – the ASA cycle. The process of *attraction* relates to individuals concluding there is congruence between their values and those espoused by the organization. The process of *selection* relates to the hiring and recruitment of individuals that the organization sees as best fit for its structure and culture. The process of *attrition* relates to individuals separating themselves from an organization they do not find to be the right fit. Taken together, these three processes help define what an organization looks like in terms of work environment and attitude.

According to Weaver and Agle (2002), the influence of religion on ethical behavior is more likely complex than commonsense. In response, they developed a theoretical approach from symbolic interactionist theory about self-identity to determine the influence of religion on the behaviors of individuals in an organization. From a symbolic interactionist perspective, role expectations are the product of social interactions which over time formulate the self-identity of an individual. Extending this perspective, the authors considered religious self-identity therefore as a product of religious role expectations that have been defined by religious groups for their members. These religious role expectations influence the ethical behaviors of individuals in an organization. However, this influence depends on the salience of religious self-identity for the individual. Further, organizational contexts can yield variance in ethical behaviors because those contexts either provide support or permit sabotage of the religious self-identity of the individual.

Chan-Serafin, Brief, and George (2013) theorized about two tensions related to religion in the workplace that have the potential to yield adaptive and maladaptive outcomes. The authors found these tensions to stand in contrast to scholarly research implying religion as being a benign and positive force. In the first tension, *virtuousness* represents the character strengths possessed to a greater degree by religious individuals making them better organization members. However, biased self-assessments by these members could lead them to have notions of being "*more virtuous than thou*" when the reality is not so. This reality gap can result in decisions both at the individual and organizational level that have detrimental consequences. In the second tension, *prosociality and ethicality* refer to the espoused values of religion inspiring individual engagement in socially desirable behaviors of doing good. As part of doing good, individuals are then likely to exhibit ethical behaviors because self-interest is not their motive. On the other end of the spectrum of this tension is *egocentrism* which oppositely reflects a self-interest view that could potentiate prejudicial attitudes and behaviors

towards those persons whose characteristics are different from the individual or the group. Within the workplace, this second tension could manifest itself with religious individuals on one hand participating in extra-role behaviors to benefit the organization while on the other hand exhibiting intolerance to persons who are not considered part of the in-group because of differences in areas such as beliefs, gender, or sexual orientation. The presence of these two tensions in the workplace is made more evident by the religious self-identity of the individuals described by Weaver and Agle (2002) and the role expectations that are promoted by the organization.

The patterns of behavior for religious individuals integrating their faith at work were studied by Lynn, Naughton, and VanderVeen (2011) with those patterns differing between high and low levels of integration. The findings of their study indicated that the integration of faith in the workplace was positively correlated with faith maturity, church attendance, and denominational strictness while being negatively so with organizational size. From the study, the authors concluded that Christians do bring their faith to work with this being more likely when there is an intent to display intrinsic religious commitment. However, the authors found that organizational size does have a moderating impact on this intent given the factors related to distance in work relationships, the nature of work being performed, and the culture within the organization. This moderating impact illustrates the ability of an organizational context to cause variance in behaviors related to religious role expectations and religious self-identity (Weaver and Agle 2002).

The interaction between individual religiosity and organizational context is not merely reciprocal or static—it is dynamic, contested, and often fraught with tension. While theoretical frameworks such as the ASA (Attraction–Selection–Attrition) cycle (Schneider, Goldstein, and Smith 1995) and symbolic interactionism (Weaver and Agle 2002) provide a foundation for understanding how individuals and organizations mutually shape each other, a closer

examination reveals that this interaction is marked by asymmetries in power, identity negotiation, and normative alignment. These complexities challenge the overly deterministic view that individuals with strong religious identities naturally “fit” within organizations that appear to share their values.

One of the assumptions in the ASA model is that value congruence facilitates organizational harmony and reduces turnover. However, this assumption has been critiqued for oversimplifying identity–workplace fit, particularly in pluralistic or secular organizations where religious values may be perceived as either irrelevant or intrusive (King and Williamson 2005; Hicks 2003). In such contexts, attraction to a value-aligned workplace may result in disillusionment if the organizational culture either subtly suppresses or superficially accommodates religious expression without integrating it into decision-making structures. This can trigger attrition not merely because of value misalignment, but because of identity invalidation, a more psychologically charged dynamic.

Weaver and Agle’s (2002) adaptation of symbolic interactionism adds important nuance by recognizing that religious self-identity is contingent on the salience of role expectations whether they be religious and organizational. However, the strength of religious identity alone does not determine behavioral outcomes. Instead, behaviors are mediated by how much support or constraint the organizational context provides. For instance, an organization that explicitly encourages “bringing one’s whole self to work” may paradoxically foster environments where expressions of dominant religious identities are privileged while minority faiths are marginalized or exoticized (Hicks 2003). Thus, identity salience must be considered alongside identity safety and organizational receptivity.

The tensions identified by Chan-Serafin, Brief, and George (2013) further complicate the presumed prosociality of religious individuals in organizations. Their conceptualization of religion as both a source of virtuous engagement and potential egocentrism highlights the

importance of examining the motivational orientation of religious behavior. Religious individuals may genuinely exhibit ethical or extra-role behaviors, but such actions are not immune to social comparison, in-group favoritism, or exclusionary tendencies, especially in environments that implicitly reward moral signaling over inclusive conduct.

Additionally, the empirical work by Lynn, Naughton, and VanderVeen (2011) highlights organizational size as a significant moderator of faith–work integration, with larger organizations diluting opportunities for personal religious expression due to structural distance, task fragmentation, or bureaucratic constraints. This insight invites broader reflection on how structural features of the organization such as hierarchy, culture, and formalization may well condition the enactment of religious identity. Even when individuals possess high intrinsic religiosity, their ability to “live out” their faith at work is impacted by institutional acceptance and constraints, not merely by personal conviction.

A critical implication of these dynamics is that congruence between individual and organizational values is not simply about alignment at the point of entry but involves ongoing processes of negotiation, adaptation, and sometimes resistance. Religious employees may reinterpret organizational norms through their faith-based lens or challenge organizational policies that conflict with deeply held beliefs. Conversely, organizations may selectively incorporate religious language or practices to signal inclusivity or moral legitimacy.

In summary, the intersection of individual religiosity and organizational context is a fluid, multi-layered process characterized by identity assertion, contextual moderation, and institutional framing. While religious identity can enhance ethical conduct and contribute to organizational commitment, it can also generate interpersonal tensions, exclusionary behaviors, or ethical blind spots, particularly when unexamined religious norms dominate organizational culture. Future research should further explore these dynamics by integrating insights from organizational identity theory, boundary work, and moral pluralism, employing

both qualitative and longitudinal methods to capture the evolving nature of religion-in-practice within organizational life.

1.2.4 Toward a Religion Behavioral Model

The foregoing theoretical and empirical perspectives on religion motivate a conceptual model that seeks to illustrate interactions regarding religion and individuals, religion and the organization, and the individuals themselves working in those organizations (See Figure 1). In particular, the conceptual model draws upon the sociological framework of symbolic interactionism, theory of planned behavior, ASA framework, and inter-institutional processes between religion and the organization.

The framework of symbolic interactionism, as espoused by George Herbert Mead, focuses attention on the meanings individuals attach to objects, events, and behaviors. The resulting actions and attitudes of the individual are molded by social interaction and modified by the interpretation of the meanings attached. This perspective of symbolic interactionism is well-suited to understanding how individuals interpret and act upon their religious beliefs within social contexts. Gary R. Weaver (2006) applied this theory to explain the development of religious identity and how that influences ethical actions.

The theory of planned behavior is foundational in understanding how attitudes, subjecting norms, and perceived behavioral control influence intentions and behaviors. Ajzen (1991) posits that an individual's intention to engage in a behavior is the primary predictor of that behavior. Mainardes et al. (2021) examined the antecedents and consequents of loyalty to an organization using this theory and found intention as one of the factors that would foster such loyalty. Given this loyalty, individuals would then be more likely to be committed to their beliefs and practices indicating a strong link between religious commitment and organizational loyalty. This finding underscores the importance of internal attitudes and social norms in maintaining religious adherence within organizations.

The Attraction-Selection-Attrition (ASA) framework developed by Schneider (1987) and Schneider, Goldstein, and Smith (1995) posits that organizations become defined by the collective characteristics of their members. Over time, organizations become homogeneous as individuals who fit the organizational culture are attracted, selected, and retained, while those who do not fit leave. This foundational theory provides a lens through which to understand how individual religiosity can shape and be shaped by organizational dynamics.

Peifer (2015) identified and described the inter-institutional processes regarding religion and the organization as *Engagement*, *Disengagement*, *Co-optation*, and *Adjudication*. These processes described earlier provide a unique lens to understand the complex dynamics of how religious values and organizational business practices intersect. In exploring how religious moral authority is exerted in an organization, Peifer (2015) highlighted the importance of analyzing symbolic boundaries (*boundary-building* and *boundary-blurring*) that accompany attempts by religious individuals to influence the organization. These interactions contribute to the ethical climate of the organization and influence how individuals perceive and enact ethical behavior.

Figure 1 illustrates that religion has an impact on both individual and organizational behaviors. In its separate dimensions, the interaction between religion and the individual is captioned as *attitude* exhibited by the individual; the interaction between religion and the organization is captioned as *atmosphere* engendered at the organization; and the interaction between the individual and the organization is captioned as *attraction* expressed between both.

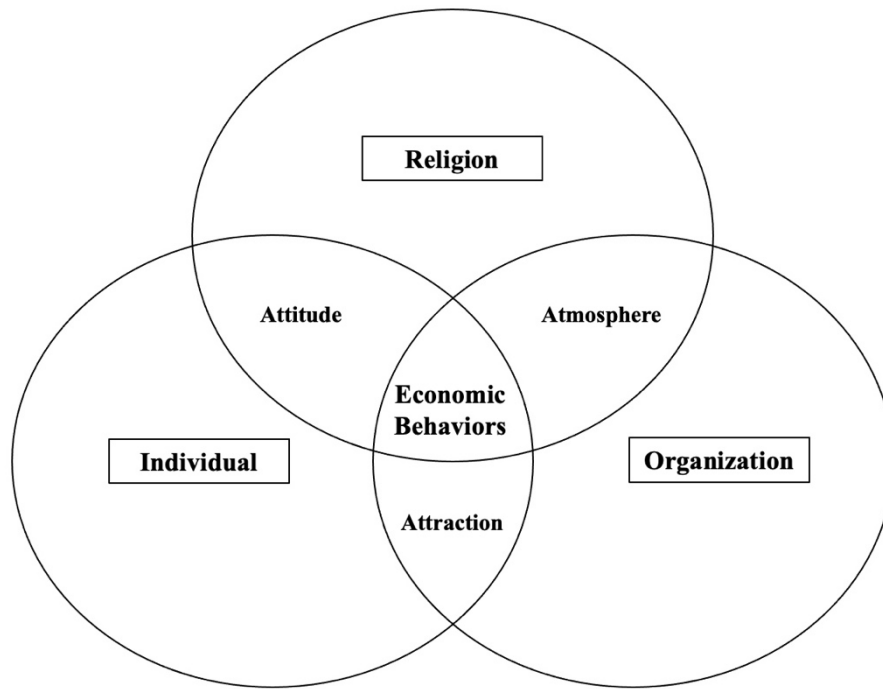


Figure 1: Religion Behavioral Model

This figure represents a conceptual model premised on the sociological framework of symbolic interactionism, theory of planned behavior, Attraction-Selection-Attrition (ASA) framework, and inter-institutional processes between religion and the organization. In this conceptual model, both individual and organizational behaviors are impacted by religion. Separate dimensions are presented wherein the interaction between religion and the individual is captioned as *attitude* exhibited by the individual; the interaction between religion and the organization is captioned as *atmosphere* engendered at the organization; and the interaction between the individual and the organization is captioned as *attraction* expressed between both.

From the perspective of this conceptual model, economic behaviors arise at the intersection of individual religious attitudes, organizational atmospheres, and the mutual attraction—or fit—between individuals and organizations where they work. On the individual side, personal faith informs decisions such as investment strategies, savings habits, or ethical compliance, reflecting the “attitude” dimension. Simultaneously, organizational environments that foster particular religious or moral values—captured as “atmosphere”—can influence

economic behaviors such as: financial risk-taking and financial reporting. When personal beliefs align with an organization's cultural ethos, described here as "attraction," employees and management tend to collaborate more harmoniously, resulting in enhanced trust, reduced conflict, and potentially more conservative and transparent economic choices. Conversely, mismatches between individual religiosity and organizational norms or the complacency that could emerge because of the prevailing high trust environment may lead to incongruous and imprudent economic behaviors. Together, these dynamic interactions illustrate the multifaceted impact religion can exert on the economic behaviors of individuals and the organizations where they work and as well inspire the ethical climate, risk appetite, and governance practices.

1.3. Selection of Research Literature

Building on my review of studies towards a religion behavioral model, I then focus my attention on selecting extant literature regarding the impact of religion on the economic behaviors of financial risk-taking and financial reporting. To identify scholarly papers regarding these economic behaviors for review, a wildcard search using the term "*religio**" was performed. With the Boolean operator OR, this search term was applied to the title and abstract fields of research papers found in the EBSCOHost, ProQuest, and ScienceDirect databases. From a practical sense, my search was limited to the period years of 2000-2024. Although I searched over the period beginning 2000, there was no paper meeting my selection criteria until 2009. Further, although I make no claim that the search results represent the complete body of work that has been published for my areas of focus, I believe that the papers selected provide a substantive sense regarding current research and their conclusions. For my study, I define financial risk-taking as those economic activities involving uncertainty or the potential for loss; and define financial reporting as those economic activities related to the quality and reliability of information presented.

In Table 1, summary statistics are provided that highlight the name and year of the academic journals in which the selected scholarly papers were published. In the first decade of the 21st century, there does not appear to have been much of an interest in this area of research. However, an uptick of interest can be seen in the second decade (i.e., 2010-2019) where 53.1 percent of the papers reviewed have been published. Notably, the other 46.9 percent of the papers reviewed have been published in less than half (i.e., 2020-2024) of the time suggesting a continued growth of research interest in this area. Of the scholarly 32 papers reviewed, more than 60 percent were published in the following: *Journal of Banking and Finance*, *Journal of Behavioral and Experimental Finance*, *Journal of Business Ethics*, *Journal of Business Finance and Accounting*, *Journal of Corporate Finance*, *Journal of International Accounting Research* and *Research in International Business and Finance*.

1.4. Synthesis of Research Literature

This section provides a synthesis of the papers reviewed regarding the impact of religion on the economic behaviors of financial risk-taking and financial reporting and a summary of the various measures of religion employed by researchers in their studies. As part of my synthesis, I will compare the selected studies and summarize the contributions made to the study of religion from economic science. Table 2 provides a listing of the papers reviewed in the order mentioned in this section.

TABLE 1
Summary of Selection and Year of Research Journals

Journal Name	Journal Year																Total Articles by Journal	Percentage Selected by Journal
	2009	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
Accounting and Finance													1			1	3.1%	
Accounting Forum											1					1	3.1%	
Accounting Review			1													1	3.1%	
Applied Economic Letters															1	1	3.1%	
British Accounting Review												1				1	3.1%	
European Accounting Review											1					1	3.1%	
International Journal of Disclosure and Governance		1														1	3.1%	
Journal of Banking and Finance									1	1						2	6.3%	
Journal of Behavioral and Experimental Finance						1								1		2	6.3%	
Journal of Business Ethics					1	1					1	1				4	12.5%	
Journal of Business Finance and Accounting			1					1			1		1			4	12.5%	
Journal of Corporate Finance							1	1			1	1				4	12.5%	
Journal of Financial Economics	1															1	3.1%	
Journal of Financial and Quantitative Analysis						1										1	3.1%	
Journal International Accounting Research										1	1					2	6.3%	
Journal of Management														1		1	3.1%	
Journal of Management, Spirituality and Religion								1								1	3.1%	
Management Science			1													1	3.1%	
Research in International Business and Finance					1										1	2	6.3%	
Total Articles By Year	1	1	3	0	2	3	1	3	1	2	6	3	2	2	2	32		
Percentage Selected By Year	3.1%	3.1%	9.4%	0.0%	6.3%	9.4%	3.1%	9.4%	3.1%	6.3%	18.8%	9.4%	6.3%	6.3%	6.3%		100%	

1.4.1 Research Related to Financial Risk-taking

The influence of religiosity on risk-taking behaviors has been a prominent focus of recent financial research, with findings revealing complex and context-dependent effects across various financial domains. Gao, Wang, and Zhao (2017) find that local religiosity is significantly negatively related to both total and idiosyncratic volatilities of hedge funds, particularly among young and small funds. This is attributed to local managers and investors being economically more important in these funds suggesting that religious norms may instill a more cautious approach to risk management within these funds. In contrast, Shu, Sulaeman, and Yeung (2012) report that mutual funds in low-Protestant or Catholic areas exhibit higher return volatilities, suggesting that local religious beliefs can lead to higher risk-taking behaviors in mutual funds. The observed divergence in impact between hedge funds and mutual funds could stem from differences in their structures or the specific characteristics of the religious populations studied.

Cantrell and Yust (2018) and Kumar and Agrawal (2016) provide insights into how religiosity affects private and public banks differently. Cantrell and Yust (2018) find that religiosity is associated with greater asset risk-taking in private banks but lower solvency risk and return on asset (ROA) volatility. This nuanced effect is reconciled by the observation that banks in more religious areas recognize larger fees from riskier lending, leading to higher ROAs and fewer failures which would indicate that while religiosity may encourage some forms of risk-taking, it also promotes overall financial health and stability. Conversely, Kumar and Agrawal (2016) show that public banks in more religious areas exhibit lower stock return volatility, lower tail risk, and lower idiosyncratic risk, suggesting a more straightforward risk-averse behavior in public banks. Further, these banks also tend to be farther from default, as indicated by higher z-scores. To further support this, Chircop et al. (2017) show that branch religiosity is negatively related to bank risk-taking. This effect is additive to headquarters

TABLE 2

Summary of research on the impact of religion on financial related behaviors (presented in the order in which the papers appear in Section 4)

Authors (year) and Journal Name	Focus of Study	Measurement of Religion	Summary of Major Findings
<i>Panel A: research related to financial risk-taking</i>			
Gao et al. (2017) <i>Journal of Corporate Finance</i>	Examines the relationship between local religiosity and hedge fund risk-taking behaviors.	A county-level religiosity ratio calculated as the total number of adherents for all congregations divided by the the total population in the county	Local religiosity is significantly negatively related to hedge fund risk-taking, as measured by total and idiosyncratic volatilities. This negative relationship is primarily driven by semi-directional hedge fund strategies, while it is reversed for directional strategies and non-existent for non-directional strategies. Hedge funds located in more religious counties tend to hold less risky stocks and diversify their portfolios more, which contributes to their lower risk-taking.
Shu et al. (2012) <i>Management Sciences</i>	Examines the relationship between local religious beliefs and mutual fund risk-taking behaviors using a large sample of mutual funds over a 21-year period from 1988 to 2008.	A "Protestant Ratio", "Catholic Ratio", and "Total Religiosity Ratio" for each county, calculated as the number of adherents of each denomination divided by the total county population	Mutual funds located in areas with higher Protestant population or lower Catholic population take less risk, as evidenced by lower fund return volatilities. The differences in risk-taking are driven by portfolio-level decisions, such as higher portfolio concentration and more aggressive interim trading, rather than individual stock selection. Mutual funds in areas with lower Protestant population or higher Catholic population exhibit stronger "tournament" risk-taking behavior, where midyear losers take more risk in the second half of the year.
Cantrell and Yust (2018) <i>Journal of Banking and Finance</i>	Multi-site study that examines the relationship between county-level religiosity and private bank outcomes from 1991-2010.	The proportion of religious adherents in the county divided by the total population of the county	Religiosity is associated with increased risk-taking but also higher performance for private banks, driven by more efficient risk-taking, lower exposure to risky real estate loans, and higher fees from cross-selling services. Religiosity is also associated with higher quality financial reporting, including more conservative accounting practices.
Kumar and Agrawal (2016) <i>Journal of Corporate Finance</i>	Examines the relationship between local religiosity and risk-taking by publicly traded US banks from 1994 to 2010.	The proportion of religious adherents in the county divided by the total population of the county	Banks headquartered in more religious areas take less risk, achieved through more conservative policies like slower asset growth, safer assets, less non-interest income, and lower executive risk incentives. The effect is stronger for banks where local investors and executives are more important, suggesting the channel is the risk aversion of local stakeholders.
Chircop et al. (2017) <i>Journal of Business Finance and Accounting</i>	Using branch-level data on 1,578 public and private US banking institutions from 2000-2010 to examine the relationship between branch religiosity and bank risk-taking behavior.	The logarithmic transformation of the weighted average of the number of religious adherents per 1,000 population in the counties where the bank has branches, with the weights based on the bank's deposit share in each county.	Branch religiosity is negatively associated with bank risk-taking, even after controlling for headquarter religiosity. This suggests that the religiosity of the geographic area where a bank's branches are located, not just the religiosity of the headquarters location, influences the bank's risk-taking behavior. The effect of branch religiosity on risk-taking is additive and not fully captured by just looking at headquarter religiosity.
Niu et al. (2022) <i>Journal of Business Finance and Accounting</i>	Using survey data from the World Business Environment Survey to examine the relationship between country-level religiosity and perceived corruption in bank lending across a sample of 3,254 firms in 32 countries.	Religiosity at the country level using three aspects: 1) Religious beliefs/knowledge (proportion of respondents who identify as religious), 2) Emotional importance of religion (proportion who say religion is important), and 3) Behavioral religious involvement (proportion who attend religious services more than once a year). These three aspects are combined into an overall "Religiosity" measure using principal component analysis.	Firms in more religious countries perceive higher levels of corruption in bank lending. The positive effect of religiosity on lending corruption is weaker in countries with more bank competition, more foreign bank ownership, and less government bank ownership. The positive relationship between religiosity and lending corruption is reflected in worse bank loan performance.
Kanagaretnam et al. (2015) <i>Journal of Behavioral and Experimental Finance</i>	Examines the relationship between measures of religiosity and bank risk-taking in an international sample of banks from 30 countries over the 2000-2006 period, as well as the relationship between religiosity and bank financial trouble/failure during the 2007-2009 financial crisis.	Religiosity using three variables: Member of religion, Religion importance, and Religion services, which capture the cognitive, affective, and behavioral dimensions of religiosity, respectively. The study also creates an aggregate religiosity measure using the first principal component of these three variables.	Banks in countries with higher religiosity took less risk and were less likely to encounter financial difficulty or fail during the 2007-2009 financial crisis.
Abakah and Li (2023) <i>Journal of Behavioral and Experimental Finance</i>	Examines the relationship between the Catholic-Protestant ratio and bank risk-taking behavior using a sample of 848 federally chartered banks over 15 years from 2003 to 2017.	Religiosity using three variables: (1) the ratio of Catholic adherents to total county population, (2) the ratio of Protestant adherents to total county population, and (3) the ratio of Catholic to Protestant adherents in each county. The data comes from the Association of Religion Data Archive (ARDA), which is constructed by the Association of Statisticians of American Religious Bodies (ASARB) every decade. The authors linearly interpolate the religion data to fill in the missing years from 2003-2017.	Banks located in areas with higher concentrations of Catholics relative to Protestants take less risk. This effect is driven primarily by local banks that operate in only one county, where local investors are more economically important. These locally concentrated banks make safer investments and generate less revenue from riskier nontraditional banking activities.

TABLE 2 (continued)

Summary of research on the impact of religion on financial related behaviors (presented in the order in which the papers appear in Section 4)

Authors (year) and <i>Journal Name</i>	Focus of Study	Measurement of Religion	Summary of Major Findings
<i>Panel A: research related to financial risk-taking (continued)</i>			
Chircop et al. (2020) <i>Journal of Corporate Finance</i>	Using a dataset of 91,020 VC investments from 1980-2014 to examine the relationship between the religiosity of the geographic area where the VC firm is located and the VC firm's investment decisions	Religiosity using two variables: 1) ADHERENTS, which is the total number of religious adherents scaled by county population, and 2) DENOMINATIONS, which is the number of religious denominations per 1000 county population.	Venture capital firms located in more religious areas tend to be more risk averse in their investment decisions, as evidenced by their greater involvement in staging and syndication, and their higher propensity to invest in later and expansion stages of portfolio companies.
Berry-Stölzle and Irlbeck (2021) <i>Journal of Corporate Finance</i>	Using detailed financial statement data from U.S. property-liability insurance companies to examine the effect of religiosity on firm risk taking through local religious norms and risk-sensitive demand.	Religiosity as the ratio of total religious adherents to total population in a county, using data from the American Religion Data Archive (ARDA) surveys conducted in 1990, 2000, and 2010. For non-survey years, the religiosity ratio is linearly interpolated.	Religiosity reduces firm risk taking through both local religious norms at the firm's headquarters and risk-sensitive demand from the firm's customers. For firms with one salient geographic market, the religiosity of the largest market is negatively related to the firm's risk taking.
Hilary and Hui (2009) <i>Journal of Financial Economics</i>	Examines how the religiosity of a firm's local environment affects its corporate behavior such as risk exposure, investment, and growth.	The ratio of the number of religious adherents in a county to the total population of that county, using data from the American Religion Data Archive (ARDA) and the US Census Bureau. For years where ARDA data is not available, the authors linearly interpolate the values.	Firms located in more religious counties exhibit lower risk exposure, as measured by lower variances in returns on assets and equity returns. These firms require a higher internal rate of return before investing, leading to higher undiscounted profits but lower investment rates and lower long-term growth. CEOs are more likely to join firms with a similar religious environment as their previous employer.
Chen et al. (2023) <i>Journal of Management</i>	Using a large sample of U.S. publicly listed companies to examine how CEOs' pre-career exposure to religion affects their firms' risk-taking and innovation	CEO religiosity or pre-career exposure to religion using two main approaches: 1) A dummy variable RELIGION coded as 1 if the CEO attended any religious school during their tertiary education, and 0 otherwise, and 2) CEO's religious affiliation from the Marquis Who's Who database as a supplementary measure.	CEOs who attended religious colleges are more likely to develop or reinforce a risk-averse mentality, which carries over to their professional life and leads to less risk-taking behavior in their firms. The negative relationship between CEO's pre-career religious exposure and firm risk-taking is stronger when the firm has more board members with similar pre-career exposure. The firm's risk-taking behavior mediates the negative relationship between CEO's pre-career religious exposure and firm innovation.
Baxamusa and Jalal (2014) <i>Research in International Business and Finance</i>	Examines the relationship between the religious environment of a region and the capital structure of firms located in that region, using a sample of publicly traded, non-financial, non-utility U.S. firms from 1971 to 2008.	Religiosity using three variables: Catholic Religiosity (ratio of Catholic adherents to total population), Protestant Religiosity (ratio of Protestant adherents to total population), and % Catholic (ratio of Catholic adherents to total adherents of all religions) at the county level.	Firms located in counties with higher Protestant religiosity have lower leverage and issue debt less frequently compared to firms in counties with higher Catholic religiosity. The religiosity of the county affects the speed at which firms adjust their capital structure towards their target leverage, with firms in Protestant-majority counties adjusting faster if their leverage is above the target, and firms in Catholic-majority counties adjusting faster if their leverage is below the target. These differences in leverage and capital structure adjustment between Catholic and Protestant regions are observed both in the U.S. and in an international sample of firms.
Zhang et al. (2024) <i>Research in International Business and Finance</i>	Examines the impact of culture and religion on capital structure, with the moderating role of corporate social responsibility (CSR).	Religiosity using dummy variables for the three major religions (Islam, Hinduism, and Christianity) in the sample countries. The dummy variables take a value of 1 if the firm is located in a country where the respective religion is the dominant religion, and 0 otherwise.	Cultural dimensions such as power distance and uncertainty avoidance have a negative effect on firms' capital structure, while individualism has a positive effect. Firms operating in Islamic countries have lower debt ratios compared to firms in Christian and Hindu-majority countries, which rely more on debt financing. CSR negatively moderates the relationship between culture, religion, and firms' financing decisions.
Callen and Fang (2015) <i>Journal of Financial and Quantitative Analysis</i>	Multi-site study of branch-level data on 1,578 public and private US banking institutions from 2000-2010 to examine how branch religiosity affects bank risk-taking, non-performing loans and probability of failure	The number of religious adherents in the county compared to the total population in the county, based on data from the Association of Religion Data Archives (ARDA).	Firms headquartered in counties with higher levels of religiosity exhibit lower levels of future stock price crash risk. The negative relation between religiosity and future crash risk is stronger for riskier firms and firms with weaker governance mechanisms. The findings provide insights into how social norms (religion) interact with corporate monitoring mechanisms to reduce agency costs.

TABLE 2 (continued)

Summary of research on the impact of religion on financial related behaviors (presented in the order in which the papers appear in Section 4)

Authors (year) and <i>Journal Name</i>	Focus of Study	Measurement of Religion	Summary of Major Findings
<i>Panel B: research related to financial reporting</i>			
Du et al. (2014) <i>Journal of Business Ethics</i>	Using a sample of 11,357 firm-year observations from the Chinese stock market from 2001-2011 to investigate the relationship between religion and earnings management.	Religiosity using the number of Buddhist monasteries and Taoist temples within a certain distance (200 km, 250 km, 300 km) around a firm's registered address, as a proxy for the religious atmosphere in the region.	Religion (specifically Buddhism and Taoism) is negatively associated with earnings management in Chinese listed firms. The negative association between religion and earnings management is less pronounced for firms that are closer to regulatory centers, implying a substitutive effect between religion and regulatory intensity in mitigating earnings management. The negative association between religion and earnings management is more pronounced for firms with lower state shareholding compared to firms with higher state shareholding.
McGuire et al. (2012) <i>Accounting Review</i>	Examines the association between religious social norms and financial reporting irregularities, as well as the association between religious social norms and earnings management methods.	Religiosity as an MSA-level score constructed from the percentage of respondents in each county who answered affirmatively to three Gallup questions capturing cognitive, affective, and behavioral dimensions of religiosity. The county-level scores are aggregated to the MSA level using factor analysis.	Firms headquartered in areas with strong religious social norms experience fewer financial reporting irregularities, such as accounting restatements and accounting-related shareholder lawsuits. Managers in religious areas prefer real earnings management over accruals manipulation. The influence of religiosity on financial reporting irregularities is stronger when external monitoring is low.
Dyreng et al. (2012) <i>Journal of Business Finance and Accounting</i>	Multi-site study examining the association between religious adherence and financial reporting outcomes.	Religiosity as the total number of religious adherents in the county where the firm's headquarters is located, divided by the total county population.	Firms located in areas with high religious adherence are less likely to restate earnings, have lower risk of financial misreporting, have better mapping of accruals to cash flows, report accruals closer to expected levels, are less likely to engage in tax sheltering, and are more forthcoming with bad news in voluntary disclosures. These findings suggest that religious social norms, particularly the norms of honesty, influence the financial reporting and disclosure decisions of corporate managers.
Cai et al. (2020) <i>Journal of Business Ethics</i>	Using a panel data approach on a sample of public firms listed on the Shanghai and Shenzhen stock exchanges in China from 2001 to 2015 to examine the use of accrual-based earnings management and the use of real earnings management, and how these are related to religiosity and risk aversion.	Religiosity as the decile of the number of religious facilities within a 200-km radius of each firm's headquarters.	Firms in more religious regions engage in more real earnings management and less accrual earnings management. This relationship is driven by risk aversion rather than ethical reasons, as religious firms prefer the less risky real earnings management over accrual earnings management. The relationship is more pronounced when firms face lower litigation risk or have less reputable auditors.
Bjornsen et al. (2019) <i>Journal of International Accounting Research</i>	A cross-country study examining the association between country-level religiosity and accounting conservatism using a sample of firm-year observations from 27 countries over 1987-2015.	The principal component calculated from three items in the World Values Survey: religion membership, the importance of religion, and attendance at religious services.	Religiosity is positively associated with accounting conservatism across countries. The positive association between religiosity and accounting conservatism is stronger in countries that use IFRS or US GAAP accounting standards, and weaker in countries with high uncertainty avoidance, strong legal enforcement, and greater diversity of religions.
Swenson (2020) <i>Journal of International Accounting Research</i>	Examines the association between world religions and accounting conservatism using a large sample of firms across 39 countries from 1995-2010, as well as a smaller sample of non-U.S. firms cross-listed on major U.S. exchanges from 1995-2007.	The type of religion practiced (Western vs. Eastern)	Firms domiciled in countries with a larger presence of Western religions report more conservative earnings compared to firms in countries with a larger presence of Eastern religions. This relationship holds even when controlling for other country-level institutional factors and when looking at a sample of non-U.S. firms reporting under U.S. GAAP. The type of religion practiced appears to be more important than the overall strength of religiosity in explaining cross-country differences in earnings conservatism.
Ma et al. (2020) <i>European Accounting Review</i>	Examines whether religiosity influences the adoption of accounting conservatism	Religiosity as the number of adherents in the county where the firm's headquarters is located, divided by the total population of that county, based on data from the Association of Religion Data Archives (ARDA) and the US Census Bureau.	Firms located in areas with a higher degree of religiosity exhibit greater accounting conservatism. This relationship is driven more by the religious environment where the firm is located rather than the personal religious beliefs of the CEO.
Cai et al. (2019) <i>Journal of Banking Finance</i>	Examines how CEO religious beliefs influence firm behavior in the area of earnings management	Religiosity whether CEO attended an undergraduate college with a religious affiliation	Firms managed by religious CEOs engage in less earnings management compared to firms managed by non-religious CEOs. This effect is more pronounced when CEOs have greater equity-based incentives or when firms face higher cash flow volatility, but is attenuated after the passage of the Sarbanes-Oxley Act.

TABLE 2 (continued)

Summary of research on the impact of religion on financial related behaviors (presented in the order in which the papers appear in Section 4)

Authors (year) and <i>Journal Name</i>	Focus of Study	Measurement of Religion	Summary of Major Findings
<i>Panel B: research related to financial reporting (continued)</i>			
Chen et al. (2022) <i>Accounting and Finance</i>	Examines whether CEO religiosity improves financial reporting quality	CEO religiosity using a proxy based on whether the CEO graduated from a religious-affiliated university, as identified from the Integrated Postsecondary Education Data System (IPEDS) and verified through review of the universities' mission statements and curriculum requirements.	CEO religiosity improves financial reporting quality. This effect is more pronounced when the firm is located in an area with higher geographical religiosity or more social capital. Firms led by a religious CEO have more accurate analyst forecasts and fewer analysts following them.
Callen et al.(2011) <i>International Journal of Disclosure and Governance</i>	A cross-country study to investigate the impact of culture and religion on earnings management.	Religiosity using multiple dimensions, including religious observance (frequency of attendance at religious services) and intrinsic religiosity, based on the World Values Survey and computed at the country level.	Earnings management is unrelated to religiosity or religious denomination at the country level. Earnings management is significantly negatively related to individualism and positively related to uncertainty avoidance, which are cultural metrics. The relationship between the legal environment and earnings management is mediated by culture.
Kanagaretum et al. (2015) <i>Journal of Business Ethics</i>	Examines the relationship between country-level religiosity and bank earnings management across an international sample of banks from 1995-2006.	Religiosity using three dimensions - cognitive, affective, and behavioral - captured by three variables from the World Values Survey to create an aggregate religiosity measure by taking the first principal component of these three variables.	Higher religiosity is associated with lower earnings management and better accounting outcomes in the banking industry, both in the pre-crisis period and during the financial crisis.
Montenegro (2017) <i>Journal of Management, Spirituality and Religion</i>	Examines the association between religiosity and financial reporting quality in a sample of Portuguese privately-held firms	Two measures of religiosity are provided. The first is a computation for total number of adherents by Portuguese region divided by total residents in that region. The second is a dummy variable taking the value of 1 if a firm is located in the largest area of religious cult (the district of Leira where the sanctuary is located), otherwise 0	Firms located near the religious cult area generally experience lower incidence of earnings management. Also when religious social norms are coupled with external financial monitoring it can serve as a mechanism to reduce agency costs.
Alsaadi (2021) <i>Journal of Business Ethics</i>	A cross-sectional approach to examine the relationship between Shariah-compliant index membership and earnings management.	Religiosity is a firm's inclusion in the Shariah-compliant investment index, which uses financial ratio screening to determine if a firm is Shariah-compliant based on its leverage, cash reserves, and account receivables.	Shariah-compliant firms are more likely to engage in earnings management through accrual manipulation compared to non-Shariah-compliant firms. Shariah-compliant firms with low scores in board functions, shareholder rights, and vision and strategy are more likely to engage in earnings management. Shariah-compliant firms in Coordinated Market Economies (CME) are more likely to manipulate earnings than those in Liberal Market Economies (LME).
Doan and Mai (2024) <i>Applied Economics Letters</i>	Using a modified gravity model with panel data from 87 countries over the period 1990-2018, to analyze the impact of religiosity on trade misinvoicing	Religiosity is measured using three variables from the World Values Survey: the share of respondents affiliated with a religion, the perceived importance of religion, and the frequency of religious service attendance. These three variables are then averaged to create an aggregate measure of religiosity, and the absolute difference between the religiosity measures of two countries is used to determine the distance of religiosity.	Negative correlation between religious distance and both export under-invoicing and import over-invoicing. Religious proximity can foster trust and trade, but it can also be manipulated to increase trade misinvoicing. Countries with religious proximity should enhance coordination to monitor and deter trade misinvoicing, and governments should prioritize inspection in specific sectors that experience increased misinvoicing due to religious proximity.
Chourou et al. (2020) <i>Journal of Business Finance and Accounting</i>	Using stratified analysis to examine the differential effect of religiosity based on firm monitoring mechanisms.	Religiosity as the number of adherents in the county where the firm's headquarters is located, divided by the total population of that county, based on data from the Association of Religion Data Archives (ARDA) and the US Census Bureau.	Firms headquartered in more religious areas issue management earnings forecasts that are less optimistically biased. Religiosity curbs pessimistic bias in MEFs for firms in low litigation industries, but has no effect on pessimistic bias for firms in high litigation industries. The effect of religiosity in reducing bias is more pronounced for firms with weak internal and external monitoring.
Boahen and Mamatzakis (2020) <i>Accounting Forum</i>	Multi-site study that examines the relationship between the religiosity of a firm's environment, corporate governance characteristics, audit practices, and the misclassification of revenue and expense items.	Religiosity as the total number of religious adherents per capita in each US county, using data from the Religious Congregations and Membership Study (RCMS) published by the Association of Religion Data Archive (ARDA).	Religiosity of the firm's environment negatively impacts classification shifting, acting as a deterrent to unethical managerial behavior. Religiosity complements corporate governance and auditor characteristics to further mitigate classification shifting. The negative relationship between religiosity and classification shifting holds for firms in both rural and urban areas, as well as for geographically centralized firms.
Abdelsalam et al. (2021) <i>British Accounting Review</i>	Cross-sectional and longitudinal study to analyze the relationship between religiosity and earnings quality for a sample of 1283 banks across 39 countries from 2002 to 2018.	Religiosity using a composite variable that is the principal component of three dimensions: the proportion of respondents who indicate that (a) religion is important to them, (b) they are affiliated with a religion, and (c) they attend religious services, based on data from the World Values Survey.	Religiosity has a significant positive impact on the earnings quality of banks. The impact of religiosity on earnings quality is more pronounced for banks headquartered in countries where religion is an important part of national identity and in countries with weak legal protection. The effect of religiosity on earnings quality is more intense during the global financial crisis period.

religiosity, indicating that local religious norms can significantly influence branch-level decision-making.

The broader implications of religiosity on bank lending practices and corruption are examined by Niu et al. (2022) and Kanagaretnam et al. (2015). Niu et al. (2022) find that banks in more religious countries perceive higher levels of bank lending corruption, although this is mitigated by larger foreign ownership and more competition in the banking sector suggesting that while religiosity can influence ethical perceptions, other market forces can counterbalance these effects. Kanagaretnam et al. (2015) demonstrate that banks in more religious countries exhibit lower levels of risk in decision-making and are less likely to fail during the financial crisis, highlighting the role of religiosity in promoting financial stability. This stability is attributed to enhanced internal and external monitoring, facilitated by the timely recognition of future loan losses. Another study by Abakah and Li (2023) comparing Catholics and Protestants find that banks in areas with higher concentrations of Catholics take fewer risks, driven by safer investments and less revenue from nontraditional banking activities.

Venture capitalists (VCs) also reflect a more risk-averse approach as Chircop, Johan, and Tarsalewska (2020) find that VCs in more religious areas are more likely to engage in staging and syndication and prefer later-stage investments. This cautious approach is aimed at mitigating risk through incremental funding and shared investment responsibilities. While in the insurance sector, Berry-Stölzle and Irlbeck (2021) demonstrate that both the religiosity at the headquarters and the religiosity of their largest geographic markets are negatively related to risk-taking. This suggests that religiosity influences not only internal corporate culture but also organizations adapting their strategies to align with the risk preferences of their customer base, leading to more conservative financial practices.

At the corporate level, religiosity affects decision-making and leadership behaviors. Hilary and Hui (2009) and Chen et al. (2023) examine how religiosity influences corporate

decision-making and CEO behavior. Hilary and Hui (2009) find that organizations in more religious counties display lower degrees of risk exposure, lower investment rates, and less growth, but generate more positive market reactions to new investments. Such a response is indicative that the market perceives these organizations as more reliable and less prone to risky ventures, enhancing investor confidence. Chen et al. (2023) extend this by showing that CEOs with pre-career exposure to religion tend to lead organizations with less risk-taking behavior, resulting in lower levels of innovation. This risk-averse mentality, developed or reinforced during their formative years, carries over into their professional lives, influencing corporate strategies and decision-making processes. Kumar and Agrawal (2016) support this by showing that the religiosity of bank CEOs contributes to the overall risk-averse behavior of banks in more religious areas. These banks grow their assets more slowly, hold safer assets, and provide fewer incentives for executives to take risks.

At the individual level, cultural attitudes towards gambling and risk-taking further illustrate the impact of religion. Regions with higher Catholic-Protestant ratios exhibit stronger gambling propensities, which could translate into higher leverage due to a greater acceptance of financial risk (Kumar, Page, and Spalt 2011). This finding suggests cultural differences in risk tolerance between Catholics and Protestants, with Catholics displaying a higher propensity for risk-taking and financial speculation. However, this cultural difference is not consistent relating to corporate decisions by CEOs and the value of organizations they lead. The inconsistency is evident as Baxamusa and Jalal (2016) examine the religious affiliations of CEOs (Catholic vs. Protestant) and find that Catholic CEOs make more conservative decisions that are associated with lower organizational value. Jiang et al. (2015) consider family organizations founded by religious entrepreneurs and find those adhering particularly to Western religions, have lower leverage and less investment in fixed and intangible assets. This suggests that religious founders are generally more risk-averse, leading to conservative

financial practices. However, this finding primarily holds for Western religions and not for Eastern religions, indicating different risk attitudes and cultural influences.

Another area in which religiosity exhibits an impact is in its ability to mitigate stock price crash risk for firms with higher levels of risk-taking and for firms with weak governance mechanisms. Callen and Fang (2015) find that organizations headquartered in counties with higher levels of religiosity exhibit lower levels of future stock price crash risk. This is attributed to religiosity curbing bad news-hoarding activities by managers, promoting greater transparency and ethical behavior, and showing religiosity as having the capacity to interact with governance mechanisms to reduce agency costs.

In summary, religiosity plays a significant and multifaceted role in influencing financial risk-taking behaviors across various domains, from hedge funds and mutual funds to banking, venture capital, and corporate decision-making. While religiosity often fosters risk aversion and stability, as evidenced by lower volatilities, reduced leverage, and conservative investment strategies, its effects are nuanced and context dependent. For instance, religiosity promotes cautious decision-making in banks, venture capital, and insurance firms, aligning strategies with ethical norms and the risk preferences of stakeholders. At the individual level, cultural and denominational differences further influence risk tolerance, with Catholics showing a greater propensity for financial speculation compared to Protestants, though Catholic CEOs tend to make more conservative decisions. Religiosity also mitigates stock price crash risks by enhancing transparency and reducing agency costs, as seen in organizations located in highly religious areas. However, the relationship between religiosity and risk-taking is not uniform across regions, financial sectors, or cultural contexts, with variations often impacted by local norms, governance mechanisms, and religious doctrines. These findings emphasize the importance of religiosity as a critical factor regarding financial risk-taking while highlighting

the need for further research to explore its complex interplay with institutional and cultural influences.

1.4.2 Research Related to Financial Reporting

Religiosity often functions as a moral compass, promoting ethical behavior and deterring unethical financial practices. Du et al. (2014) demonstrate that religion acts as a set of social norms that mitigate corporate unethical behavior, such as earnings management. This ethical influence is further supported by McGuire, Omer, and Sharp (2012), who find that organizations in religious areas are less likely to engage in financial reporting irregularities. The presence of religious social norms reduces the acceptance of unethical business practices, leading to more transparent and honest financial reporting.

Dyreng, Williams, and Williams (2012) extend this understanding of showing religious social norms affecting corporate financial reporting by showing religious adherence is associated with lower likelihoods of financial restatements and misrepresentations, accruals that better reflect true organizational performance, less engagement in tax sheltering, and more forthcoming disclosure of bad news. In contrast, Cai, Li, and Tang (2020) find that religiosity is associated with more real earnings management and less accrual-based earnings management and concludes that this is driven by risk aversion rather than ethical considerations.

Religiosity is also linked to higher risk aversion, which influences financial reporting behaviors. Bjornsen, Do, and Omer (2019) find that managers in more religious societies report more conservatively, reflecting a preference for reducing risks such as bankruptcy and stock price crashes. Real earnings management is perceived to be less risky, as it involves actual business operations rather than accounting manipulations. This preference for less risky methods highlights the dual role of religiosity in promoting ethical behavior and managing financial risks. Linking lower risk preference with more conservative financial behavior,

Swenson (2020) compared Western and Eastern religions around the world and finds that organizations in countries with a larger Western religious presence exhibit more conservative earnings reporting. Ma et al. (2020) looked more specifically at the U.S. and came to the same conclusions that firms located in areas with a higher degree of religiosity exhibit greater accounting conservatism.

When the personal religiosity of CEOs is considered, it is seen as playing a crucial role in transparency and reporting quality. Cai et al. (2019) highlight that organizations managed by CEOs who attended church-affiliated colleges engage in less earnings management compared to organizations managed by non-religious CEOs, and this effect is more pronounced when CEOs have greater equity-based incentives or when their organizations face higher cash flow volatility. Chen et al. (2022) find that organizations with religious CEOs, as measured by graduation from a religious university, improve their financial reporting quality, and this effect is stronger when the organizations are in an area with higher geographical religiosity or social capital.

The impact of religiosity on financial reporting behaviors varies across different geographical and cultural contexts. Cross-country analyses from Callen, Morel, and Richardson (2011) reveal that earnings management is unrelated to religiosity or religious denomination but is negatively related to individualism and positively related to uncertainty avoidance across countries. However, Du et al. (2014) and Kanagaretum, Lobo, and Wang (2015) show that the mitigating effect of religion on earnings management is more pronounced in certain regions and under specific regulatory conditions. For instance, Montenegro (2017) considered the specific region of a known religious cult in Portugal and find firms located near this region generally experience lower incidence of earnings management. In another instance, Du et al. (2014) note that the negative association between religion and earnings management is less pronounced for organizations closer to regulatory centers, indicating a substitutive effect

between religion and regulatory oversight. For Kanagaretum, Lobo, and Wang (2015), the authors find banks in more religious countries had a lower probability of asset deterioration and poor performance during the financial crisis with religiosity negatively related to opportunistic earnings management. Interestingly, Alsaadi (2021) finds that Shariah-compliant organizations, despite their religious index membership, are more likely to engage in accruals manipulation. This suggests that the religious label may serve as an impression management tool rather than a true indicator of ethical behavior. Religious index membership, such as Shariah-compliant indices, may not always indicate good corporate governance.

Different dimensions of religiosity can have varying impacts on economic behaviors. Doan and Mai (2024) present a unique finding that religious service attendance facilitates trade misinvoicing, contrasting with the general view that religiosity deters unethical behavior. This suggests that while belief and the importance of religion act as deterrents to trade misinvoicing, religious service attendance may have a different influence. This complexity highlights the need to consider multiple dimensions of religiosity when analyzing its impact on financial reporting.

Religiosity interacts with corporate governance and regulatory mechanisms to influence financial reporting behaviors. Chourou, He, and Zhong (2020) find that religiosity enhances the quality of management earnings forecasts, particularly in organizations with weak monitoring mechanisms. Similarly, Boahen and Mamatzakis (2020) demonstrate that religiosity complements corporate governance and auditor characteristics to mitigate classification shifting, highlighting the interplay between religious norms and formal oversight structures. Religiosity also promotes often leads to more conservative economic behaviors, as evidenced by several studies such as Abdelsalam et al. (2021), who demonstrate that religiosity significantly improves earnings quality in the banking sector, particularly in countries where religion is a key element of national identity and during financial crises. These findings suggest

that religious beliefs instill a sense of caution and prudence in financial reporting, reducing the likelihood of aggressive accounting practices.

In summary, religiosity influences financial reporting behaviors through its role as an ethical compass and its association with risk aversion and conservative practices. Studies consistently demonstrate that religiosity reduces financial reporting irregularities, enhances earnings quality, and promotes transparency. These effects are evident across diverse contexts, from the mitigating influence of religious norms on earnings management to the role of religious CEOs in improving financial reporting quality. However, the impact of religiosity is not uniform; cultural, geographical, and institutional factors, such as regulatory oversight and societal norms, play a critical moderating role. While religiosity often complements governance mechanisms and fosters ethical financial reporting, exceptions such as the manipulation of Shariah-compliant labels and the facilitation of trade misinvoicing in certain contexts accentuate its complexity. These findings highlight the dual nature of religiosity, acting as both a driver of ethical practices and, in some cases, a tool for impression management. Understanding these nuances requires a multidimensional approach to analyzing religiosity, incorporating its cognitive, affective, and behavioral dimensions, as well as its interaction with corporate governance and cultural frameworks. Further research is essential to disentangle these dynamics and explore the conditions under which religiosity consistently promotes ethical and transparent financial reporting.

1.4.3 Measurement of Religion

The measurement of religiosity is a pivotal aspect of studies examining its influence on the economic behaviors of financial risk-taking and financial reporting. Researchers employ a variety of methodologies, leveraging both local and country-level indicators to capture the multifaceted dimensions of religiosity.

In studies on financial risk-taking, religiosity is often quantified using regional metrics, particularly at the county level in the U.S. Gao et al. (2017) use a county-level religiosity ratio—the number of religious adherents divided by the total population—to investigate its impact on hedge fund risk-taking, emphasizing the localized effects of religious norms. Similarly, Cantrell and Yust (2018) and Kumar and Agrawal (2016) adopt the proportion of religious adherents to county population to explore its influence on private and public bank risk-taking behaviors, respectively. Shu et al. (2012) extend this framework by incorporating denominational metrics, such as "Protestant," "Catholic," and "Total Religiosity Ratios," calculated as the number of adherents of each denomination divided by the county population, to analyze mutual fund risk-taking.

More granular measures include Chircop et al. (2017), who use a weighted logarithmic transformation of religious adherents per 1,000 population across counties, with weights based on a bank's deposit share, to assess branch-level religiosity and its effect on risk-taking. This approach accounts for the geographic dispersion of banking operations. At the country level, Niu et al. (2022) employ a composite religiosity measure derived from survey data on religious beliefs, importance, and behavioral involvement, using principal component analysis to capture its multidimensional nature. Similarly, Kanagaretnam et al. (2015) create an aggregate measure combining cognitive, affective, and behavioral religiosity variables, highlighting the global applicability of such metrics in cross-country analyses of bank risk-taking.

Denominational distinctions further enrich the understanding of religiosity's effects. Abakah and Li (2023) analyze Catholic-Protestant ratios at the county level, exploring how these denominational differences influence bank risk-taking. Chircop et al. (2020) introduce two variables—total religious adherents scaled by county population and religious denomination diversity—to examine venture capital investment decisions, reflecting the broader economic influence of local religiosity.

In studies on financial reporting, religiosity is similarly measured through local and composite indicators. McGuire et al. (2012) aggregate county-level religiosity metrics, based on cognitive, affective, and behavioral dimensions from Gallup surveys, into Metropolitan Statistical Area (MSA) scores using factor analysis, providing a nuanced measure for studying financial reporting irregularities. Dyreng et al. (2012) and Chourou et al. (2020) employ the number of religious adherents per county, scaled by population, to explore the relationship between religiosity and financial reporting quality.

Country-level analyses often adopt broader composite measures. Bjornsen et al. (2019) and Abdelsalam et al. (2021) use principal component analysis to combine variables such as religious affiliation, importance of religion, and service attendance, capturing religiosity's multidimensional effects on accounting conservatism and earnings quality. This approach is echoed by Kanagaretnam et al. (2015), whose cross-country study aggregates similar dimensions to examine earnings management practices in banks.

Cultural and denominational contexts also influence measurement strategies. Du et al. (2014) use proximity to Buddhist monasteries and Taoist temples as a proxy for the regional religious atmosphere in China, while Cai et al. (2020) and Montenegro (2017) rely on the density of religious facilities within a specified radius or region to assess religiosity's impact on accrual-based and real earnings management. CEO religiosity is another dimension, as explored by Chen et al. (2022) and Cai et al. (2019), who use proxies such as attendance at religious-affiliated universities to examine its influence on financial reporting quality and earnings management.

The diversity in religiosity measurement reflects the complexity of capturing its influence on economic behaviors. While local-level metrics provide granular insights into regional religious norms, composite measures and denominational distinctions offer broader perspectives on cultural and institutional dynamics. These methodologies underline the

importance of tailoring religiosity metrics to the specific contexts and research questions of financial studies, ensuring robust and nuanced analyses of its impact on financial risk-taking and financial reporting behaviors.

1.5. Summary and Suggestions for Future Research

This study explores the complex relationship between religion and two key economic behaviors: financial risk-taking and financial reporting. The review of existing literature reveals that religiosity often promotes positive economic behaviors, including reduced risk-taking and improved financial reporting quality, driven by moral guidelines and a conservative ethos.

Religiosity has been shown to influence decision-making at both the individual and organizational levels, fostering ethical practices, reducing financial irregularities, and encouraging stability. However, the findings are not uniformly positive or universal. The impact of religiosity varies by denominational, cultural, and institutional contexts, with certain scenarios, such as Shariah-compliant indices or trade misinvoicing, highlighting its dual nature as a driver of ethical practices and a potential tool for impression management. Additionally, while religiosity often complements governance mechanisms, its role can vary based on regulatory environments and local norms. The diversity in how religiosity is measured further highlights the need for a nuanced approach to studying its effects. Metrics range from local-level adherence ratios to composite indices that incorporate cognitive, affective, and behavioral dimensions. While these methodologies provide valuable insights, they highlight the complexity of capturing religiosity's influence across different contexts and economic behaviors.

The conceptual model developed in my study provides a structured framework for examining how religion influences economic behavior through three interrelated domains: religion and the individual, religion and the organization, and the interaction between

individuals and organizations. Each domain highlights distinct points of interaction—attitude, atmosphere, and attraction—through which religiosity influences perceptions, decisions, and governance processes. By building on and extending beyond the conceptual model, several avenues for future research can deepen understanding of religion’s multifaceted role in economic life.

Existing research frequently establishes that religiosity correlates with prosociality, ethical conduct, and risk aversion, yet it seldom specifies how personal religious beliefs translate into concrete economic actions. There remains a need to unpack the micro-level mechanisms such as moral salience, afterlife beliefs, or internalized stewardship norms through which religion affects saving, investment, or entrepreneurship. Future research could employ experimental or longitudinal designs to test whether religiosity influences financial risk preferences, time-discounting, or socially responsible investment choices, especially under conditions of uncertainty or crisis. Such investigations would validate the attitudinal link in the conceptual model, clarifying how internalized religious meaning impacts decision heuristics and behavioral consistency across contexts.

At the organizational level, the literature provides limited insight into how firms and nonprofits adapt governance, ethics, and strategy to religious environments. While prior studies identify associations between regional religiosity and corporate conservatism, few explore how organizations deliberately align or decouple from local religious norms. Future research could examine whether leadership religiosity, faith-informed mission statements, or community religious intensity affect internal control quality, CSR investment, and innovation outcomes. Comparative work across industries and nations could reveal how institutional religiosity conditions organizational culture, extending the model’s “atmosphere” domain by linking environmental norms to structural governance choices and financial performance.

The intersection between individual and organizational religiosity remains underdeveloped. Research rarely examines whether value congruence or diversity within organizations influences trust, cooperation, and performance. Studies could test whether shared religious identity enhances psychological safety, ethical climate, and productivity especially in mission-oriented sectors such as education or healthcare or whether religious heterogeneity fosters creative tension or ethical conflict. Analyses of audit committees or board composition could further illuminate how shared faith backgrounds affect internal control reliability. These inquiries would empirically specify the model's "attraction" mechanism, showing how religious alignment (or misalignment) between employees and institutions drives both ethical and economic outcomes.

Beyond the conceptual model, a pressing theoretical gap concerns the heterogeneity of religious traditions and contexts. Existing research often aggregates religiosity, overlooking doctrinal and cultural distinctions that influence economic behavior. Comparative analyses across denominations, regions, and cultural settings could reveal when and why religion promotes or restrains entrepreneurial risk and ethical conservatism. For example, Catholic, Protestant, Islamic, and Buddhist frameworks articulate divergent moral teachings on stewardship, fairness, and debt, yet their behavioral implications remain unevenly studied. Addressing this gap would yield a more contextually grounded understanding of religion's economic effects and enhance the model's cross-cultural validity.

The literature also lacks evidence on how the effects of religiosity evolve over time. Most studies use static or cross-sectional designs, leaving unclear whether religion's influence on ethical decision-making or risk tolerance persists during periods of economic or regulatory turbulence. Longitudinal research could test the stability of faith-based behaviors during crises—such as financial downturns or institutional reforms revealing whether religiosity functions as a stable disposition or an adaptive coping mechanism. Integrating temporal

dynamics into the framework would enrich understanding of how moral norms endure or adapt in changing institutional environments.

Another unexplored domain concerns how religiosity interacts with formal governance structures. While governance research emphasizes mechanisms such as audit committees and board independence, few studies test whether these structures act as substitutes or complements to religious moral norms. Future analyses could model interaction effects between religiosity and audit committee characteristics—independence, expertise, or meeting frequency—to determine whether religiosity amplifies or mitigates governance effectiveness. Such work would bridge behavioral ethics and corporate governance literatures, advancing theory on how formal and informal control systems jointly sustain accountability.

A methodological frontier involves the development of multidimensional religiosity indices. Many empirical studies rely on single proxies (e.g., attendance or belief importance), which fail to capture the interplay between personal faith, practice, and social reinforcement. Future work could employ composite or factor-analytic measures that integrate belief, practice, and contextual religiosity at multiple levels (individual, regional, societal). Incorporating these richer constructs into archival and survey analyses would enhance validity, comparability, and causal inference, strengthening each domain of the conceptual model by grounding its key constructs in more nuanced empirical measures.

Finally, religion's risk-averse tendencies may have ambiguous implications for innovation and growth. While moral restraint can reduce opportunism and ethical failure, it may also constrain creativity and experimentation in high-innovation sectors. Research could assess whether religiously influenced firms exhibit distinct innovation patterns such as lower short-term risk-taking but greater long-term sustainability or whether faith-based moral codes limit entrepreneurial agility. Industry-specific studies could identify conditions under which

religious norms foster sustainable innovation rather than inhibit it, extending the conceptual model into domains of creativity and strategic dynamism.

Collectively, these research directions illuminate several persistent gaps in the religion–economy literature. They address (1) the *contextual gap*, by differentiating denominational and regional influences; (2) the *temporal gap*, by assessing stability and change in religion’s behavioral effects; (3) the *structural gap*, by integrating religiosity with governance systems; and (4) the *methodological gap*, by advancing multidimensional measurement and cross-level analysis.

By pursuing these directions, scholars can move beyond documenting correlations to reveal conditional, dynamic, and institutionally embedded mechanisms linking religion to economic behavior. Such work would enhance the explanatory scope of my conceptual model—illuminating not only *whether* but also *when*, *how*, and *why* religion influences individual decision-making, organizational governance, and the broader moral architecture of economic life.

In recent times, research interest in the relationship between religion and economic behaviors has continued to grow suggesting there is a growing recognition of the importance to understand this social norm. As future research uncovers deeper insights into the multifaceted influence of religion on economic behaviors, it will provide actionable knowledge for policymakers, corporate leaders, and financial professionals navigating religiously diverse contexts.

Chapter 2

Is Being Religious a plus? A Risk Assessment Based on Internal Control Deficiencies in Nonprofit Organizations

ABSTRACT

Previous studies have documented both the positive and negative influences of religion on the economic behaviors of organizations. Focusing on the nonprofit sector, my study examines the potential negative consequences of religion on internal control. Despite the critical role of internal control in ensuring financial integrity and regulatory compliance, scholarly research in this area remains limited, particularly concerning the influence of religion. Motivated by social norm theory, I develop a conceptual model of religious risk and use it to examine whether nonprofit organizations located in areas with a high concentration of religious individuals face an increased risk of ICDs. Utilizing data from the United States, the study employs factor analysis to develop a religiosity score for the locations surrounding nonprofit organizations and a keyword dictionary to differentiate those that are religious from nonreligious. I find that nonprofit organizations in locations with a concentration of religious social norms for individuals face an increased risk of ICD with no moderation of this risk related to the organizational characteristics of size and age. Overall, my study contributes new empirical evidence and insights into the impact of religion on internal control within nonprofit organizations, offering valuable information for funding agencies, audit firms, and nonprofit organizations seeking to enhance governance practices and mitigate risks associated with religious influences.

2.1. Introduction

Religion dominates the social landscape of Western countries like the United States and Britain. For instance, approximately 70% of the adult population in the United States identify as Christian;² while nearly 60% of the population in England and Wales reported their religion as Christian.³ With such a substantial portion of the population adhering to religious beliefs and practices, it is reasonable to anticipate their influence on decision-making behaviors.

Previous researchers have presented differing perspectives on the influence of religion. Chan-Serafin, Brief, and George (2013) argue that there exists a tension between the positive and negative consequences of religion and noted that the literature has predominantly focused on the positive aspects. Studies supporting the positive include findings that religion is associated with firms having lower levels of risk exposure, eliciting positive market reactions when announcing new investments (Hilary and Hui 2009), and fewer instances of financial reporting irregularities (McGuire, Omer, and Sharp 2012). Studies supporting the negative include how biased self-assessments regarding religious virtues impact individual and organizational-level decision-making, leading to detrimental consequences (Chan-Serafin et al., 2013), and how religious affiliated nursing homes have more severe violations (Mohliiver and Ody-Brasier 2023). Further, Koerber and Neck (2006) argue that the presence of religion in the workplace increases the risk of fraud, particularly for religious organizations that may prioritize trust at the expense of appropriate oversight.

The purpose of my study is to investigate the risk associated with religion regarding its potential negative consequences on internal control within nonprofit organizations. The existing research examining the relationship between religion and accounting/finance is

² 2014 U.S. Religious Landscape Study (www.pewforum.org)

³ <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/religion/articles/howreligionhaschangedinenglandandwales/2015-06-04>, https://en.wikipedia.org/wiki/United_Kingdom.

surprisingly scarce (Carmona and Ezzamel 2006). Internal control plays a crucial role in helping organizations reasonably assure achievement of the objectives of producing reliable financial reports, conducting operations effectively and efficiently, and complying with applicable laws and regulations (Auditing Standards Board [ASB], 2015). Achieving these objectives is essential to prevent errors and irregularities that can result in financial and reputational loss. The critical importance of internal control was underscored by notable events such as the misrepresentation of company earnings by Enron and WorldCom, which ultimately precipitated the collapse of these for-profit entities.⁴ However, such failures are not confined to the corporate sector. Nonprofit and religious organizations have also experienced significant control breakdowns, revealing vulnerabilities that are sometimes intensified by trust-based cultures, volunteer dependence, and limited oversight. For example, the Baptist Foundation of Arizona—a faith-based financial institution—engaged in a decade-long scheme involving fictitious investments and Ponzi-style transactions, culminating in the largest nonprofit bankruptcy largest collapse of its kind in U.S. history.⁵ Similarly, the United Way of America scandal⁶ in which its long-time chief executive was convicted of defrauding the charity through unauthorized benefits and personal expenses, demonstrated how even highly reputable organizations can suffer from weak governance and ineffective monitoring. Additional cases, such as financial mismanagement within the Archdiocese of Boston during the early 2000s and the diversion of funds at the Red Cross following several major disaster appeals, further illustrate that nonprofit entities are not immune to fraud, misuse of donor funds, or material internal-control deficiencies. Collectively, these examples highlight the importance of examining how religion—through its norms, structures, and governance environments—may

⁴ <https://corporatefinanceinstitute.com/resources/accounting/top-accounting-scandals/>

⁵ <https://www.phoenixnewtimes.com/news/fraudulent-practices-6420337>

⁶ https://www.washingtonpost.com/local/obituaries/united-way-leaders-fraud-scandal-marred-charitable-legacy/2011/11/14/gIQALnwbMN_story.html

shape internal control effectiveness within the nonprofit sector.

Understanding internal control practices has long been an important topic in accounting research. However, the majority of studies on internal control focus on for-profit organizations (e.g., Ashbaugh-Skaife, Collins, and Kinney 2007; Doyle, Ge, and McVay 2007; Ge and McVay 2005). One notable exception is the research conducted by Petrovits, Shakespeare, and Shih (2011) who investigate the causes and consequences of internal control deficiencies in the nonprofit sector. Their findings indicate that nonprofit organizations facing financial difficulties, rapid growth, increased complexity, and/or smaller size are more susceptible to reporting internal control problems.

My study deepens the understanding of internal control risks in nonprofit organizations by investigating (i) whether an environment of religious social norms where the nonprofit organization is located increases the likelihood of internal control deficiencies; (ii), whether this relation, as a way to quantify religious risk, exacerbated or moderated by the factors of organizational size and organizational age; and (iii) whether the religious risk is different for religious and nonreligious nonprofit organizations. Prior research reports that larger and older organizations are more likely to have an internal audit function in place, which is expected to result in a lower likelihood of internal control deficiencies (Greenlee et al. 2007; Petrovits et al. 2011). Therefore, I include these factors in my analysis to examine whether they can affect religious risk, besides their direct effects on the likelihood of internal control deficiencies.

Due to data availability considerations, I focus on the United States in this study to test several hypotheses regarding religious risk. The Federal Audit Clearinghouse provides public access to archival data of audited information about nonprofit organizations receiving federal funding. The data is supplemented with information from the National Center for Charitable Statistics. I find that nonprofit organizations located in environments with a concentration of religious social norms for individuals have an increased risk of ICD and that both religious and

nonreligious nonprofit organizations are similarly affected. I also find no moderation to this risk when the organizational characteristics of size and age are considered.

A challenge to overcome in this study is to develop a measure for the religious social norms of individuals in various geographical locations. I overcome this challenge by applying factor analysis on Gallup US Daily Poll data to create a dimension-reduced religiosity score for three questions related to religion representing religious individuals residing in a particular geographic location. Another challenge is to differentiate between religious and nonreligious nonprofit organizations. This is overcome by developing a keyword dictionary to separately identify religious and nonreligious nonprofit organizations. By doing so, it provides an opportunity for comparative studies between these two types of organizations, following the suggestion of Cordery (2015) that such studies would be an avenue to extend knowledge in accounting and religion research.

My research has three main contributions. First, I provide empirical evidence and new insights on the religious risk in nonprofit organizations in terms of an elevated likelihood of internal control deficiencies, extending prior work in related areas (Koerber and Neck 2006; McGuire, Omer, and Sharp 2012; Petrovits, et al. 2011; Hilary and Hui 2009). Second, I classified nonprofit organizations into the religious and nonreligious categories based on the name and purpose fields on the nonprofit organization regulatory filings, using a keyword dictionary derived from prior research (Jeavons 1998; Scheitle 2009) and the IRS codes associated with religious activities, foundations, and entities. I made the religious-nonreligious categorization data and the keyword dictionary publicly available saving other researchers' effort and also ensuring the replicability of the categorization process. Third, I developed a conceptual model of religious risk that aligns with social norm theory and includes a measurement component specifically tailored for religious individuals. The model takes into

account both the geographical location of these individuals and the potential impact they may have on the nonprofit organizations to which they are associated.

The results of my study should be of interest to funding agencies, audit firms, and nonprofit organizations. Funding agencies providing resources to nonprofit organizations want assurance that these resources are being administered within an environment that reasonably assures their safeguard and best use. Audit firms engaged by nonprofit organizations welcome additional information about risks to better tailor the nature and extent of their audit procedures in response to those risks. Nonprofit organizations themselves can utilize the study's findings to become more cognizant of the religious risk that may be present in the environment around their locations and to ensure that internal control adequate to size and complexity is present and functioning. Further, nonprofit organizations can be motivated by these findings to implement appropriate governance oversight functions such as an audit committee. Nonprofit organizations that are more cognizant of risks and implement best practice measures to mitigate these risks are better positioned to avoid complications of fraud or other irregularities because of complacency.

The remainder of the study is organized as follows: Section 2.2 discusses hypothesis development. Section 2.3 presents the research design and describes the data sources and the sample selection process. Section 2.4 presents the main results. Additional analyses, including robustness checks, are discussed in Section 2.5. Conclusions are given in Section 2.6.

2.2. Hypotheses Development

This section develops the theoretical foundation for my study by examining the characteristics and behavioral consequences of religious individuals and by introducing a conceptual model grounded in social norm theory. Understanding how religious identities shape individual cognition, affect, and behavior is essential for explaining how these influences extend into organizational settings. Social norm theory provides a coherent framework for interpreting how

the religiosity of the surrounding community may impact workplace behavior, organizational processes, and oversight dynamics. Building on these insights, the section presents a model of “religious risk” that highlights the potential vulnerabilities nonprofit organizations may face when located in environments characterized by strong religious social norms. These elements together establish the basis for my empirical hypotheses that follow.

2.2.1. The Characteristics of Religious Individuals

The prospect of positive or negative outcomes from religion in the workplace conjures up an image of complex religious individuals. The complex image encompasses both good individuals exhibiting behaviors aligned with organizational expectations and bad individuals exhibiting behaviors that are not aligned and that may be opportunistic. An expanded complex image presents individuals exhibiting behaviors that are sometimes good and sometimes bad, with changes in behavior between good and bad dependent on environmental triggers.

Religious individuals possess self-identities that are produced by the religious role expectations that have been defined for them by their religious groups. These religious role expectations influence the behaviors of individuals in an organization depending on the salience of their religious identities (Gary R. Weaver and Agle 2002). Beyond behaviors based on role expectations that have been defined, religious individuals will display differing behaviors based on the depth of their religious beliefs.

Religious individuals can be further understood by referencing the conceptual model developed and tested by Cornwall et al. (1986). Three dimensions of religious individuals are presented: those being cognitive (knowing), affective (feeling), and behavioral (doing). First, the cognitive dimension relates to the religious beliefs of individuals. Second, the affective dimension relates to the feelings individuals may have towards religious beings, objects, or institutions; which form an essential part of the religious commitment necessary to maintain their religious identities. Third, the behavioral dimension relates to how the religious beliefs

and commitment of individuals translate into actions such as participating in religious activities (e.g., church attendance), practicing religious disciplines (e.g., personal bible study and prayer), and producing ethical behaviors. The enduring nature of this multidimensional conceptual model is affirmed by the fact that many research studies have applied it as part of determining the impact of religiosity on matters such as financial reporting irregularities and earnings management (McGuire, Omer, and Sharp 2012); and risk-taking (Kanagaretnam et al. 2015). Although other dimensions of religiosity have been applied in other research studies such as religious education and religious guidance (Torgler 2006) and intensity of religious beliefs (Doran and Natale 2011), those dimensions appear to be similar in substance to the conceptual model espoused by Cornwall et al. (1986).

2.2.2. The Consequences of Religious Individuals Working at Nonprofit Organizations

Social norm theory provides a vehicle to know or assume more about the context in which religious individuals make their choices. As the theory posits, individual behavior will conform to the normative behavior of the group to which they belong. Callen and Fang (2015) applied this theory in three ways to show how it would work relative to religion in the workplace. First, a person internalizes social norms; second, a person pays a high price in social stigma for violating those social norms; and third, a person in a religious environment who has internalized social norms is inspired to be a potential whistleblower. McGuire, Omer, and Sharp (2012) and Berglund and Kang (2013) applied social norm theory and found that organizations are influenced by the social characteristics of where they are located. This influence is consistent with the expectations of Tracey, Phillips, and Lounsbury (2014) that individuals do not set aside their religious beliefs and practices when they become organizational members; rather those beliefs and practices inform their behavior in the workplace. Findings by Diener, Tay, and Myers (2011) suggest that the profile of an

organization will be different based on whether the demographic distribution of the religious population at its location represents a majority or minority.

Figure 1 presents a conceptual model grounded in social norm theory that illustrates how the concentration of religious social norms within a community can elevate the risk of internal control deficiencies in nonprofit organizations. In this study, internal control deficiencies are understood as organizational failures to reasonably assure the objectives of producing reliable financial reports, conducting operations effectively and efficiently, and complying with applicable regulations (Auditing Standards Board [ASB], 2015). It is important to acknowledge that internal control deficiencies may also arise from inherent organizational complexities—such as size, operational scale, or structural fragmentation—independent of any normative influences associated with religiosity.

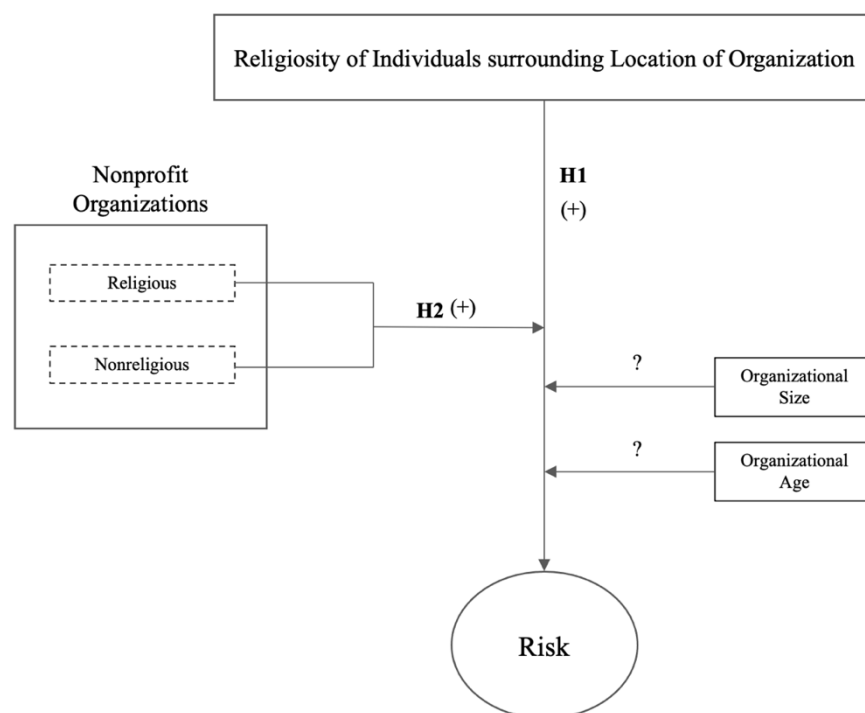


Figure 1: Religious Risk Model

This figure represents a conceptual model premised on social norm theory to illustrate the increased risk (i.e., likelihood) of internal control deficiencies to nonprofit organizations located in environments with a concentration of religious social norms for individuals. Included in this conceptual model are the factors of organizational size and organizational age seen as moderating the risk.

The model depicts religiosity—captured through the prevalence of religious individuals in the surrounding environment—as an external normative force that may shape individual behavior and organizational processes, thereby increasing the likelihood of internal control weaknesses. It also incorporates organizational characteristics, such as size, as moderating factors that may intensify or attenuate this relationship. This conceptualization aligns with prior research suggesting that religion can generate negative or maladaptive outcomes (Chan-Serafin, Brief, and George 2013) and that religious identification does not guarantee consistent or congruent behavior across contexts (Weaver and Stansbury 2014). These elements provide the theoretical foundation for examining how religiosity may translate into organizational vulnerabilities, setting the stage for the hypotheses that follow.

The multidimensional nature of religious individuals and the mechanisms emphasized by social norm theory suggest clear pathways through which religiosity can influence organizational behavior across multiple levels. Religious identities—formed through cognitive, affective, and behavioral commitments (Cornwall et al. 1986)—influence individual behavior in ways that become particularly salient when reinforced by the surrounding social environment (Weaver and Agle 2002). Social norm theory predicts that individuals internalize prevailing norms, incur social costs for deviating from them, and may even act as enforcers or whistleblowers when such norms are violated (Callen and Fang 2015). Prior research further shows that organizations are not insulated from these dynamics: they absorb and reflect the social characteristics of the communities in which they are embedded (McGuire, Omer, and Sharp 2012; Berglund and Kang 2013). As Tracey, Phillips, and Lounsbury (2014) emphasize, individuals do not leave their religious beliefs at the organizational doorstep; rather, they carry these commitments into their work roles, shaping ethical perceptions, judgments, and responses to oversight structures. Thus, in environments where religious social norms are strongly concentrated, nonprofit organizations may face heightened risks of inconsistent internal control

practices—arising not from religion alone but from the interaction of identity, context, and organizational oversight.

A full understanding of these processes requires distinguishing and integrating the three principal dimensions of religiosity that impact nonprofit behavior: individual, community, and organizational religiosity. *Individual religiosity* informs how employees interpret their roles, obligations, and moral responsibilities through cognitive convictions, affective attachments, and behavioral habits (Cornwall et al. 1986; Weaver and Agle 2002). *Community or location-based religiosity* strengthens these commitments by creating a normative environment that rewards conformity and imposes social stigma for deviation (Callen and Fang 2015). *Organizational religiosity* emerges through mission statements, leadership identity, governance arrangements, and cultural expectations that reflect both employee beliefs and the religious climate of the surrounding community. These dimensions are mutually reinforcing in that individuals shape organizational culture, organizations institutionalize community norms, and communities amplify the salience of individual religious identities. This multilevel alignment creates a powerful normative ecosystem that can enhance cohesion but may also elevate trust-based assumptions, suppress critical oversight, and weaken internal monitoring—conditions with direct implications for internal control quality.

These theoretical mechanisms clarify why religiously homogenous environments may heighten organizational vulnerability to internal control deficiencies. At the *individual level*, religiosity can elevate in-group trust and reduce skepticism, weakening monitoring behaviors (Koerber and Neck 2006). At the *community or location-based level*, strong religious norms can encourage symbolic compliance—public displays of moral alignment—while masking inconsistencies or opportunistic behaviors under contextual pressures (Chan-Serafin, Brief, and George 2013). At the *organizational level*, employees and leaders embedded in religiously homogeneous environments may be less inclined to report irregularities, reducing opportunities

for timely detection (Mohliver and Ody-Brasier 2023). When these mechanisms operate simultaneously across multiple levels, nonprofit organizations located in communities with concentrated religious norms may experience greater internal control vulnerabilities. Accordingly, I state the following hypothesis:

Hypothesis 1: Nonprofit organizations located in areas with higher concentrations of religious social norms exhibit a higher likelihood of internal control deficiencies.

The multilevel interplay of religiosity is likely to be even more pronounced in religious nonprofit organizations, whose missions, cultures, and stakeholder relationships are deeply intertwined with the religious communities that surround them. This alignment strengthens the transmission of community norms into organizational practices and intensifies the resonance between individual and organizational identities. As a result, religious nonprofits may be particularly susceptible to governance challenges arising from heightened interpersonal trust, reduced formal oversight, and the assumption that moral virtue substitutes for control rigor. Their staffing and volunteer structures often further embed them within local religious networks, amplifying pressures toward conformity and deepening the normative influence of the surrounding community. These dynamics magnify the mechanisms linking community religiosity to internal control weaknesses—especially reduced skepticism, suppressed dissent, and reliance on symbolic virtue. This leads to my second hypothesis.

Hypothesis 2: Religious nonprofit organizations exhibit a greater increase in the likelihood of internal control deficiencies, relative to nonreligious nonprofits, as the concentration of religious social norms in their surrounding area rises.

The hypotheses rest on the premise that the religiosity factor employed in this study captures the concentration of religious individuals in the community surrounding each

nonprofit organization and that such location-based religiosity serves as a proxy for the religiosity influencing the organization itself. This approach is grounded in social norm theory and supported by evidence that employees transport their religious identities, beliefs, and moral expectations into the workplace (Tracey, Phillips, and Lounsbury 2014; Weaver and Stansbury 2014). Organizations are permeable to local cultural environments, and the normative climate of the surrounding community affect internal dynamics—including ethical behavior, reporting quality, risk-taking, and oversight practices (McGuire, Omer, and Sharp 2012; Berglund and Kang 2013). Additionally, the demographic composition of local religious populations influences organizational behavior, particularly when a dominant religious worldview structures expectations and governance patterns (Diener, Tay, and Myers 2011). Measuring religiosity at the community or location-based level therefore offers a theoretically coherent and empirically grounded proxy for the norms that individuals internalize and bring into their organizational roles, reinforcing the conceptual logic underlying both hypotheses.

I also include organizational size and organizational age as covariates in the conceptual model of religious risk and examine whether they exacerbate or moderate the religious risk. These two factors were identified by Greenlee et al. (2007) who expected there to be a lower likelihood of internal control deficiencies when organizations are larger and older. Their expectation is based on larger and older organizations being reported to have a greater likelihood of an internal audit function in place that would reduce internal control deficiencies. While the factors should have a direct effect of reducing the likelihood of internal control deficiencies, a priori it is not clear whether they would exacerbate or moderate the religious risk measured in terms of the heightened likelihood associated with a religiosity factor. Therefore, I make no prediction in the directions of their effects.

2.3. Research Design

This section outlines the research design employed to empirically test my study's hypotheses, beginning with the regression model used to estimate the relationship between community or location-based religiosity and internal control deficiencies. It then defines the dependent variable capturing organizations' internal control outcomes and explains the construction of the composite religiosity score representing the concentration of religious individuals across metropolitan statistical areas. The section also details the procedure used to classify nonprofit organizations as religious or nonreligious, enabling a structured comparison across organizational types. It concludes by describing the sample of nonprofit organizations included in the analysis and presenting the descriptive statistics that summarize their key characteristics.

2.3.1. Regression Model

I use the following baseline logit regression model to estimate whether the concentration of religious social norms for individuals where nonprofit organizations are headquartered heightened the likelihood of internal control deficiencies and whether the factors of organizational size and organizational age have any effect on this religious risk:

$$\begin{aligned} Prob(ICD) = & f(\beta_0 + \beta_1 REL_individuals + \beta_2 REL_individuals * SIZE + \beta_3 REL_individuals \\ & * AGE + \beta_4 SIZE + \beta_5 AGE + Control\ variables \\ & + \text{Fixed effects of } TYPEOFENTITY \text{ and } AUDITYEAR) \end{aligned} \quad (1)$$

All variables are defined in Appendix 2A. The dependent variable for my regression model is the probability of *ICD*.⁷ Nonprofit organizations receiving federal awards are subject to audit requirements stipulated in the Office of Management and Budget Circular A-133

⁷ U.S. Auditing Standards (ASB, 2015) defines a deficiency in internal control as a function of its design and operation as follows: Deficiency - A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A deficiency in *design* exists when (a) a control necessary to meet the control objective is missing, or (b) an existing control is not properly designed so that, even if the control operates as designed, the control objective would not be met. A deficiency in *operation* exists when a properly designed control does not operate as designed or when the person performing the control does not possess the necessary authority or competence to perform the control effectively.

(hereafter A-133). *ICD* is any instance of significant deficiency, material weakness, material non-compliance, or questioned costs noted from the A-133 audits. According to the U.S. Auditing Standards, a *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance; *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A-133 defines *material noncompliance* as noncompliance with provisions of law, regulations, contracts, or grant agreements related to a major program; *questioned costs* as costs related to audit findings resulting from violations and costs not supported by adequate documentation or that appear to be unreasonable. Including material non-compliance and questioned costs in the dependent variable acknowledges that instances of deficiencies in these areas are a function of failures in internal control.

My first main variable of interest is *REL_individuals*. *REL_individuals* is a measure of the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding where nonprofit organizations are located. Organizational size (*SIZE*) and organizational age (*AGE*) are also included in the baseline regression model to understand whether these organizational-level variables affect the likelihood of internal control deficiencies as well as their relation with the degree of religiosity. My second main variable of interest is *REL_ORG*, which equals 1 for religious nonprofit organizations and 0 for nonreligious nonprofit organizations. The baseline regression model will be expanded to include the main and interaction effects of *REL_ORG* to test Hypothesis 2.

Consistent with prior research (McGuire, Omer, and Sharp 2012; Hilary and Hui 2009), I control for demographic variables at the Metropolitan Statistical Area⁸ (MSA) level suggested to be determinants of religiosity to assure it only captures the effect of social norms. The MSA-level demographic variables include population (*POPULATION*), median household income (*INCOME*), education level (*EDUCATION*), political affiliation (*POLITICS*), age (*AGE_ind*), and racial composition (*RACE*). I also control for certain organizational-level variables that were examined by Petrovits, Shakespeare, and Shih (2011) and found to be factors associated with internal control deficiencies in nonprofit organizations. These factors include the rate of growth (*GROWTH*), the reporting of a surplus (*SURPLUS*), the risk classification by the audit firm (*LOWRISK*), the inclusion of a going-concern matter by the audit firm (*GOINGCONCERN*), and the type of audit firm (*BIG4*, *Top-Tier*, and *Top-Regional*). Petrovits, Shakespeare, and Shih (2011) determined these and other factors based on research by Ashbaugh-Skaife, Collins, and Kinney (2007), categorizing internal control deficiencies by risk exposures leading to their existence and incentives leading to their detection in publicly traded companies. Factors were also determined based on research by Keating et al. (2005) that found the type of audit firm, specific industry, size, federal award amount, and risk classification to be relevant in nonprofit organizations. Given my interest in nonprofit organizations receiving federal funding, I also control for their independence (*INDEPENDENCE*) from government sources of income that are likely to create an incentive effect for nonprofit organizations to not have internal control deficiencies so as not to lose a major funding source. I also control for time-invariant unobservable heterogeneity of organization type by adding fixed effects related to the various types of nonprofit organizations

⁸ The United States Office of Management and Budget (OMB) has defined 384 Metropolitan Statistical Areas (MSAs) for the United States and seven for Puerto Rico. The OMB defines a Metropolitan Statistical Area as one or more adjacent counties or county-equivalents that have at least one urban core area of at least 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. (Source: United States Census Bureau official website at www.census.gov).

(*TYPEOFENTITY*) and year fixed effects related to audit years in my sample (*AUDITYEAR*). The various types of nonprofit organizations include those that can be grouped into categories of organizations related to arts, education, health, human services, and others. The audit years for these nonprofit organizations in my sample are for the period 2008-2013. Standard errors are clustered at the organizational-type level by *TYPEOFENTITY*.

2.3.2. Measuring Religious Individuals and Classifying Religious Organizations

To develop a measure for the religious social norms of individuals in various geographical locations, I utilize the adult population's responses to three questions related to religion (See Table 1) on the Gallup US Daily Poll⁹. The first question addresses the *cognitive* dimension by respondents indicating their affiliation with a particular religion; the second question addresses the *affective* dimension by respondents indicating the importance of religion to their daily life; and the third question addresses the *behavioral* dimension by respondents indicating they attend church services at least weekly. From more than 2.1 million responses to each of these three questions for the years 2008-2013, the concentration of religious social norms is determined by calculating the proportion of affirmative responses to the total Gallup respondents in each MSA. In other words, I measure the degree of religiosity in each MSA for the three dimensions based on the proportion of affirmative responses with a higher proportion indicating a higher degree of religiosity. Thereafter, the dimension reduction technique of factor analysis with varimax rotation was used to construct a religiosity score for each MSA. The proportion of variance explained by the single factor used for this religiosity score was 77 percent which is well above the threshold of 60 percent for a construct to be valid (Hair, J.F., Black, W.C., Babin, B.J. and Anderson 2014).

⁹ Gallup conducts a daily survey asking 1,000 U.S. adults about various political, economic, and well-being topics. Location data, such as ZIP codes, allow researchers to map the responses to particular parts of the country and accumulate data for local-level comparison and interpretation.

To classify nonprofit organizations as religious, the identifying characteristics such as formal self-identity, and the religiosity of goals, products, or services were considered (Jeavons 1998). To measure these characteristics, I use a dictionary of keywords similar to Scheitle (2009) for identifying a religious term in the name and the purpose fields on the regulatory filing of a nonprofit organization (Appendix 2B). Additionally, IRS codes associated with religious activities, foundations, and entities were used (Appendix 2C). The keyword searches were performed using databases available at CitizenAudit¹⁰.

2.3.3. Sample and Descriptive Statistics

Investigating whether a religious environment increases the likelihood of internal control deficiencies in nonprofit organizations was performed utilizing Gallup US Daily Poll response data for three questions related to religion and an empirical study of archival data obtained from two primary sources the Federal Audit Clearinghouse (FAC) and National Center for Charitable Statistics (NCCS).

FAC provides public access to data regarding audits in compliance with A-133 requirements with summarized information about the auditee, auditor, type of audit performed, type of opinion rendered, type of internal control deficiencies noted in the A-133 audit, and the total amount of federal funds expended. NCCS provides a user-friendly version of Internal Revenue Service (IRS) Core Files containing financial information captured from annual filings of IRS Form 990, which is required of certain nonprofit organizations.

Table 1 presents descriptive statistics for a full sample of 95,703 entity-year observations regarding the proportional responses to the three questions related to religion from the Gallup US Daily Poll by the adult population in 361 MSAs. These responses were used to construct the measure for religious individuals (*REL_individuals*) which is my variable of

¹⁰ CitizenAudit.org is a comprehensive source for United States nonprofit tax data. It allows for keyword searches through millions of documents in its full-text searchable database of IRS Form 990 filed by nonprofit organizations.

interest. Panel A presents univariate statistics for the responses to the three questions related to religion, where 81 percent of respondents indicated affiliation with a particular religion (*REL_affiliation*); 58 percent indicated religion was important to their daily life (*REL_importance*); and 38 percent indicated that they attend religious services at least weekly (*REL_attendance*). Panel B shows a very high correlation (Pearson above and Spearman below) between the responses to the three questions related to religion which is reasonably expected. Panel C presents a comparison of the MSAs as ranked by the single constructed religiosity score for each MSA.

Table 2 – Panel A shows data obtained from FAC for the years 2008-2013 and that contained the summarized results of A-133 audits required of organizations expending federal funds above an audit requirement threshold. There were 262,046 organizations reporting A-133 audit results for this period, with 138,052 representing nonprofit organizations. Merging FAC and NCCS data resulted in 95,703 observations¹¹ of A-133 audit results and available financial information reported to the IRS. The full sample was partitioned into samples related to religious nonprofit organizations with 16,900 entity-year observations and nonreligious nonprofit organizations with 78,803 entity-year observations.

Table 2 – Panel B shows the full and partitioned samples classified by type of entity into five major categories using the National Taxonomy of Exempt Entities (NTEE)¹² system

¹¹ I removed outliers, totaling 3,886 observations, where the balance of total assets was negative and the ratio of year-end to year-beginning total assets exceeded 10. The removed observations amount to 3.9% of the sample before removal.

¹² NTEE Classifications: AR - Arts (Major Group A), ED - Education (Major Group B), HE - Health (Major Groups E, F, G, H), HU - Human Services (Major Groups I, J, K, L, M, N, O, P), OT - Other (Major Groups C, D, Q, R, S, T, U, V, W, X, Y, Z)

Table 1. Measuring Religious Individuals**Panel A: Responses to Religious Questions and a Score for Religious Individuals**

	Mean	SD	Q1	Median	Q3
<i>REL_affiliation</i>	81.31	5.83	78.00	82.00	86.00
<i>REL_importance</i>	58.44	13.84	51.00	60.00	68.00
<i>REL_attendance</i>	37.90	10.63	31.00	38.00	45.00
<i>REL_individuals</i>	-0.33	0.86	-0.87	-0.32	0.25

Panel B: Correlations among Responses to Religious Questions

	(1)	(2)	(3)
(1) <i>REL_affiliation</i>	-	0.567	0.684
(2) <i>REL_importance</i>	0.608	-	0.959
(3) <i>REL_attendance</i>	0.699	0.963	-

Panel C: Comparison of Top and Bottom Metropolitan Statistical Areas (MSAs) as Ranked by Religious Individuals

Top MSAs	Bottom MSAs
1 Provo-Orem, Utah	1 Ithaca, New York
2 Logan, Utah	2 Corvallis, Oregon
3 Jackson, Tennessee	3 Bend, Oregon
4 Pine Bluff, Arkansas	4 Boulder, Colorado
5 Jackson, Mississippi	5 Santa Rosa-Petaluma, California
6 Hattiesburg, Mississippi	6 Reno-Sparks, Nevada
7 Alexandria, Louisiana	7 Medford, Oregon
8 Dubuque, Iowa	8 Santa Cruz-Watsonville, California
9 Florence-Muscle Shoals, Alabama	9 San Francisco-Oakland-Fremont, California
10 St. George, Utah	10 Kingston, New York

This table presents descriptive statistics for the proportional responses by the adult population in 361MSAs to three religion questions from the Gallup US Daily Poll. Panel A presents univariate statistics for the responses to three religion questions and a score for religious individuals, Panel B presents Pearson (above) and Spearman (below) correlations, and Panel C presents a comparison of the MSAs as ranked by the single constructed score for religious individuals. The variables are defined as follows: *REL_affiliation* - the proportion of Gallup respondents in each MSA who indicate they are affiliated with a particular religion; *REL_importance* - the proportion of respondents in each MSA who indicate religion is important to their daily life; *REL_attendance* - the proportion of Gallup respondents in each MSA who indicate they attend religious services at least weekly; and *REL_individuals* - a dimension reduced score using factor analysis with varimax rotation for responses to the three religion questions.

Table 2. Sample Description

	Full Sample	Religious Organizations	Nonreligious Organizations
Panel A: Sample Selection			
Organizations receiving A-133 Audit	262,046		
Nonprofit Organizations receiving A-133 Audit	138,052		
Nonprofit Organizations receiving A-133 Audit and merged with available IRS and Gallup Data	95,703		
Total Observations	95,703	16,900	78,803
Panel B: Observations by Type of Entity			
AR - Arts	1,222	89	1,133
ED - Education	10,756	2,344	8,412
HE - Health	16,673	1,896	14,777
HU - Human Services	52,963	10,297	42,666
OT - Other	14,089	2,274	11,815
Total Observations	95,703	16,900	78,803
Panel C: Observations by Type of Audit Firm			
Big 4	3,960	958	3,002
Top Tier	2,766	474	2,292
Top Regional	4,312	1,452	2,860
Other	84,665	14,016	70,649
Total Observations	95,703	16,900	78,803
Panel D: Observations by Type of Religious Group			
Baptist	587	587	
Catholic	1,769	1,769	
Jewish	471	471	
Lutheran	1,244	1,244	
Methodists	465	465	
Other	12,364	12,364	
<i>No Religious Affiliation</i>	78,803		78,803
Total Observations	95,703	16,900	78,803

This table summarizes the sample selection process showing the full sample along with partitions into observations for religious and nonreligious organizations. Additional panels are provided that categorize observations to facilitate research analysis.

developed by NCCS and used by the IRS for nonprofit organizations. Human Services accounted for 55%, 6%, and 54% of the full, religious, and nonreligious samples, respectively. The next two highest categories for the full sample were Health and Other, at 17% and 15%, respectively; for the religious sample, Education and Other, at 14% and 13%, respectively; and for the nonreligious sample, Health and Other, at 19% and 15%, respectively.

Table 2 – Panel C shows the full and partitioned samples classified by type of audit firm based on 2013 rankings of the Top 100 accounting firms, as published by *Accounting Today*. For the full sample, Big 4 firms accounted for 4.14% of the audit engagements while the remainder were accounted for by Top Tier firms with 2.89%, Top Regional firms with 4.51%, and Other Firms with 88.46%. For the religious sample, Big 4 firms accounted for 5.67% of the audit engagements while the remainder were accounted for by Top Tier firms with 2.80%, Top Regional firms with 8.59%, and Other Firms with 82.93%. For the nonreligious sample, Big 4 firms accounted for 3.81% of the audit engagements while the remainder was accounted for by Top Tier firms with 2.91%, Top Regional firms with 3.61%, and Other Firms with 89.65%.

Table 2 – Panel D shows the full and partitioned samples classified by type of religious group. This panel presents the religious groups with the most matches from the dictionary of religious keywords. The Catholic and Lutheran religious groups are identified as the most prevalent.

Table 3 shows descriptive statistics for the full and partitioned samples, with Panel A presenting univariate statistics and Panel B presenting Pearson correlations for demographic and organizational-level variables along with the dependent variable *ICD*, a variable for religious organizations (*REL_ORG*), and my variable of interest regarding religious individuals (*REL_individuals*). As expected, there is a positive correlation between *ICD* and my variable of interest *REL_individuals*.

Table 3. Descriptive Statistics (continued)

Panel A: Univariate Statistics (Continued)

	Full Sample	Religious Organizations (a)	Nonreligious Organizations (b)	Difference (a) - (b)	t-stat
Organizational-level Continuous Variables					
<i>SIZE</i>					
mean	6.59	6.75	6.56	0.19 ***	28.206
SD	0.81	0.84	0.80		
Q1	6.06	6.19	6.03		
Median	6.49	6.58	6.46		
Q3	6.98	7.18	7.00		
<i>AGE</i>					
mean	1.35	1.48	1.33	0.15 ***	224.770
SD	0.33	0.32	0.33		
Q1	1.18	1.32	1.15		
Median	1.42	1.53	1.38		
Q3	1.58	1.76	1.56		
<i>GROWTH</i>					
mean	1.07	1.05	1.08	-0.03 ***	-8.904
SD	0.42	0.36	0.43		
Q1	0.96	0.96	0.96		
Median	0.99	0.99	1.00		
Q3	1.09	1.06	1.10		
<i>INDEPENDENCE</i>					
mean	0.38	0.36	0.71	-0.35 ***	-7.957
SD	0.35	0.36	0.35		
Q1	0.00	0.00	0.00		
Median	0.33	0.27	0.35		
Q3	0.71	0.70	0.71		
Organizational-level Indicator Variables					
<i>SURPLUS</i>	51.96%	49.72%	52.44%	-2.72% ***	-6.413
<i>LOWRISK</i>	65.53%	70.82%	64.40%	6.42% ***	16.492
<i>GOINGCONCERN</i>	1.21%	1.02%	1.26%	-0.24% ***	-2.762
<i>BIG4</i>	4.13%	5.67%	3.81%	1.86% ***	9.759
<i>Top_Tier</i>	2.89%	2.81%	2.91%	-0.10%	-0.739
<i>Top_Regional</i>	4.51%	8.59%	3.62%	4.97% ***	21.993
Total Observations	95,703	16,900	78,803		

Table 3. Descriptive Statistics (continued)

Panel B: Pearson Correlations among Demographic Variables - Full Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) <i>REL_ORG</i>	-	0.067	0.016	-0.015	-0.018	-0.023	0.070	-0.018	-0.009
(2) <i>REL_individuals</i>		-	0.062	-0.252	-0.448	-0.428	0.793	0.273	-0.145
(3) <i>ICD</i>			-	-0.032	0.000	-0.022	0.049	0.013	-0.057
(4) <i>POPULATION</i>				-	0.373	0.391	-0.307	-0.369	0.473
(5) <i>INCOME</i>					-	0.840	-0.459	-0.461	0.254
(6) <i>EDUCATION</i>						-	-0.463	-0.382	0.262
(7) <i>POLITICS</i>							-	0.303	-0.212
(8) <i>AVERAGE_AGE</i>								-	-0.540
(9) <i>RACE</i>									-

Panel C: Pearson Correlations among Organizational-level Variables - Full Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) <i>REL_ORG</i>	-	0.067	0.016	0.093	0.181	-0.026	-0.027	-0.021	0.051	-0.008	0.036	-0.002	0.091
(2) <i>REL_individuals</i>		-	0.062	-0.095	-0.053	0.013	-0.080	-0.019	-0.054	-0.008	-0.038	-0.014	0.035
(3) <i>ICD</i>			-	0.068	0.005	0.032	0.049	-0.002	-0.313	0.082	0.064	0.032	0.028
(4) <i>SIZE</i>				-	0.340	-0.103	0.472	0.152	0.062	-0.029	0.445	0.153	0.083
(5) <i>AGE</i>					-	-0.097	0.266	0.131	0.136	-0.022	0.116	0.066	0.032
(6) <i>GROWTH</i>						-	0.032	0.222	-0.071	-0.023	-0.007	-0.006	-0.007
(7) <i>INDEPENDENCE</i>							-	0.234	-0.054	0.001	0.188	0.099	0.010
(8) <i>SURPLUS</i>								-	-0.006	-0.050	0.056	0.025	0.007
(9) <i>LOWRISK</i>									-	-0.063	0.042	0.008	0.025
(10) <i>GOINGCONCERN</i>										-	0.011	-0.006	-0.002
(11) <i>BIG4</i>											-	-0.036	-0.045
(12) <i>Top_Tier</i>												-	-0.037
(13) <i>Top_Regional</i>													-

This table presents descriptive statistics for a full sample of nonprofit organizations receiving an A-133 audit for the years 2008-2013. See Appendix 2A for definition of all variables. Panel A presents univariate statistics for the dependent, demographic and firm-level variables. Panels B and C present Pearson correlations. Coefficients are bolded when significant from at least $p < .10$ (two tailed tests). *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

2.4. Main Results

This section presents the results estimating the probability of internal control deficiencies based on regression analyses. For brevity, the coefficients related to controlling for demographic variables, other organizational-level variables, and the fixed effects of type of entity and audit year were not tabulated. Those coefficients reconfirmed aspects of the research by Petrovits, Shakespeare, and Shih (2011) regarding factors associated with internal control deficiencies.

In presenting the results, I use a matched sample to address concerns regarding potential imbalances between the religious and nonreligious nonprofit organizations in the sample. As shown in Table 3, *t-tests* reveal significant differences between these two groups across observable characteristics such as organizational size (*SIZE*), organizational age (*AGE*), and *INDEPENDENCE*. To address this imbalance and improve the comparability of the treatment (*REL* = 1) and control (*REL* = 0) groups, I employ propensity score matching (PSM), a widely accepted technique in empirical research (Dehejia and Wahba 2002).

$$Prob(REL = 1) = f(\beta_0 + \beta_1 SIZE + \beta_2 AGE + \beta_3 INDEPENDENCE) \quad (2)$$

This model incorporates key observable characteristics, including *SIZE*, *AGE*, and *INDEPENDENCE*. Larger organizations are hypothesized to have the resources necessary to implement effective internal controls, reducing ICD risk, while older organizations are expected to possess a more mature operational culture conducive to internal control implementation. The variable *INDEPENDENCE* is included to account for external oversight pressures, such as those imposed by the federal government, which may incentivize nonprofit organizations to avoid ICDs to maintain funding eligibility.

The PSM process groups observations by *AUDITYEAR* and *TYPEOFENTITY*, as detailed in Appendix 2D, to ensure that the matching accounts for temporal and organizational

differences. This approach allows for the creation of a matched sample that balances observable characteristics, thereby reducing bias and improving the validity of causal inferences.

Although PSM was not employed as a corrective tool for endogeneity, its use nonetheless helps enhance the comparability of organizations in the treatment and control groups. By improving balance on key observable characteristics, PSM supports a more credible examination of the association between religiosity and internal control deficiencies. However, the use of PSM does not preclude the possibility that endogeneity concerns—such as unobserved heterogeneity, measurement error, or reverse causality—may still be present. These concerns are important to acknowledge, but I do not believe will prove fatal to my study's inferences. As with much archival research in accounting and nonprofit studies, the goal is not to claim definitive causality but to provide well-supported evidence of patterns that are theoretically meaningful and empirically robust.

2.4.1. Impact of Religious Individuals on Nonprofit Organizations

Table 4 presents the regression results for the matched sample, as well as for sub-samples of religious nonprofit organizations ($REL = 1$) and nonreligious nonprofit organizations ($REL = 0$). For the sample, the results indicate that the concentration of religious social norms among individuals surrounding the location of nonprofit organizations significantly increases the likelihood of ICDs. The coefficient for this relationship is positive (0.345, $SE = 0.085$) and statistically significant at the 0.01 level. The average marginal effect for this result (0.068, $SE = 0.007$) emphasizes the substantive impact of religious social norms, reinforcing the notion that the sociocultural environment plays a pivotal role in influencing organizational governance outcomes.

When examining the sub-samples, a similar pattern emerges. Both religious nonprofit organizations ($REL = 1$) and nonreligious nonprofit organizations ($REL = 0$) exhibit a likelihood of ICDs when located in areas with a strong concentration of religious social norms.

Table 4. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies (Matched and Sub-Samples)

	Matched Sample		Sub-Samples	
	Main (1)	Average Marginal Effects (2)	Religious Organizations (3)	Nonreligious Organizations (4)
<i>REL_individuals</i>	0.345 *** (0.085)	0.068 *** (0.007)	0.364 *** (0.105)	0.309 *** (0.065)
<i>SIZE</i>	0.176 *** (0.012)	0.034 *** (0.005)	0.247 *** (0.036)	0.089 * (0.042)
<i>AGE</i>	0.079 0.053	0.015 *** (0.010)	-0.079 (0.114)	0.250 * (0.121)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	12,199	12,199
Log Likelihood	-12,927.230	-	-6,532.040	-6,342.820
AIC	25,910.450	-	13,120.080	12,741.650

This table presents results of whether the religious social norms of individuals surrounding the location of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest, *REL_individuals*, is a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. The measure is represented by a religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In Column 1, the main results related to the matched sample are presented followed in column 2 with average marginal effects of those results. In columns 3 and 4, the results related to sub-samples of religious and nonreligious nonprofit organizations, respectively, are presented. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

Specifically, the coefficient for religious nonprofit organizations is 0.364 ($SE = 0.105$), while for nonreligious organizations it is 0.309 ($SE = 0.065$), both statistically significant at the 0.01 level. This finding suggests that the influence of religious social norms on ICDs is pervasive, transcending organizational classifications based on religious affiliation.

For a nonprofit organization with a median size and age, the incremental effect of being surrounded by a religious environment on the log-odds of observing internal control deficiency is estimated to be 1.656 (i.e., $0.345 + (0.176)6.76 + (0.079)1.53$), which according to a Wald

test is significantly different from zero ($X^2 = 33.6$, $df = 2$, $p(>X^2) = 0.000$). The results as confirmed by a Wald test support my first hypothesis, affirming that nonprofit organizations located in areas with a higher concentration of religious individuals are more susceptible to ICDs. This finding aligns with my assertion that the influence of religious social norms at the individual level provides a richer and more comprehensive explanation for risk-related behaviors than merely categorizing organizations as religious or nonreligious.

The results also explore the role of organizational size (*SIZE*) and organizational age (*AGE*) as potential factors influencing the likelihood of ICDs. Contrary to expectations derived from prior research, which suggests that larger and older organizations are likely to have lower ICD risks due to established governance mechanisms such as internal audit functions (Greenlee et al. 2007; Petrovits et al. 2011), the findings reveal a different narrative. For both the matched sample and sub-samples, the main effect of *SIZE* shows a positive relationship with the likelihood of ICDs, indicating that larger organizations are more prone to ICDs. Regarding *AGE*, a statistically significant effect is only observed in the nonreligious sub-sample.

The unexpected positive relationship between *SIZE* and ICDs in the main effects warrants further interpretation. While larger organizations are theoretically better equipped to implement robust internal control systems due to greater resource availability, their size and complexity may introduce inherent challenges. These challenges, such as increased operational intricacy and potential agency costs, can predispose larger organizations to ICDs. The positive relationship regarding *AGE* in nonreligious organizations suggests that organizational maturity may mitigate risk in some contexts but exacerbate it in others.

In Table 4a columns 2-4, I replace my primary variable of interest, *REL_individuals*, with its underlying components—*REL_affiliation*, *REL_importance*, and *REL_attendance*—to assess whether the observed effects are robust across these individual dimensions. These components represent different aspects of religiosity: *REL_affiliation* captures the proportion

of individuals identifying with a religion, *REL_importance* measures the perceived significance of religion in daily life, and *REL_attendance* reflects participation in religious activities. The estimates for each component are consistent with those for *REL_individuals* in column 1, confirming the robustness of the results. This consistency confirms the validity of using the dimension-reduced score obtained through factor analysis as a comprehensive measure of religious social norms.

Table 4a. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies (Matched Sample)

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.345 *** (0.085)	3.194 ** (1.113)	2.523 *** (0.589)	2.758 *** (0.677)
<i>SIZE</i>	0.176 *** (0.012)	0.179 *** (0.013)	0.177 *** (0.012)	0.176 *** (0.012)
<i>AGE</i>	0.079 (0.053)	0.075 (0.055)	0.076 (0.053)	0.079 (0.053)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,927.230	-12,942.470	-12,932.110	-12,923.230
AIC	25,910.450	25,940.940	25,920.230	25,910.460

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

2.4.2. Impact of Religious Individuals at Different Degrees of Religiosity

To explore the impact of religious social norms on nonprofit organizations more thoroughly, I analyzed the relationship between the likelihood of ICDs and the degree of religiosity by dividing the sample into two regions: below (or equal to) and above the median degree of religiosity. The results are presented in Table 5, which are based on regression analyses using a median split of the degree of religiosity.

For nonprofit organizations located in areas where the degree of religiosity is below or equal to the median, the likelihood of ICDs increases as religiosity rises. The estimated effect is 0.354 ($SE = 0.089$), indicating that even modest increases in religiosity in less intensely religious areas also have an impact on ICD risk. This finding suggests that in environments where religiosity is not overwhelmingly dominant, shifts in religious social norms may create notable changes in organizational behavior and governance dynamics, leading to an increase in ICD likelihood.

Conversely, for nonprofit organizations situated in areas where religiosity exceeds the median, the rate of increase in ICD likelihood is relatively the same, with an estimate of 0.334 ($SE = 0.055$). This result suggests that nonprofit organizations located in more religious areas do not experience any greater risk of ICD.

To formally test whether the relationship between the degree of religiosity and ICD likelihood differs between the two regions, I introduce a dummy variable, *ABOVE_MEDIAN*, which takes a value of 1 for observations from the upper-region subsample (above the median religiosity) and 0 otherwise. This approach allows for a statistical evaluation of the differential effects of religiosity on ICD likelihood across the two regions.

The results of this test are presented in Table 5a, column 1. When *ABOVE_MEDIAN* = 0 (i.e., for observations in the lower-region subsample), the ICD likelihood increases at a rate of 0.390 ($SE = 0.060$) as religiosity rises within this region. However, when *ABOVE_MEDIAN*

= 1 (i.e., for observations in the upper-region subsample), the likelihood of ICDs increases at relatively the same rate as compared to the lower region.

Table 5. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies
(Above Median and Below Median Religious Areas)

	Sub-samples	
	Below Median (1)	Above Median (2)
<i>REL_individuals</i>	0.354 *** (0.089)	0.334 ** (0.055)
<i>SIZE</i>	0.217 *** (0.041)	0.148 *** (0.036)
<i>AGE</i>	0.145 (0.089)	0.032 (0.073)
Control Variables:		
Demographic variables	Included	Included
Organizational-level variables	Included	Included
Fixed Effects:		
Type of Entity	Included	Included
Audit Year	Included	Included
Intercept	Included	Included
Observations	10,897	13,501
Log Likelihood	-5,507.870	-7,391.730
AIC	11,071.740	14,839.450

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. These results are presented in sub-samples for locations that are considered as having a degree of religiosity below the median (column 1) and above the median (column 2) value for the continuous variable *REL_individuals*, respectively. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest, *REL_individuals*, is a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. The measure is represented by a religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

Table 5a. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies (Matched Sample)

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.390 *** (0.060)	2.294 *** (0.505)	3.079 *** (0.546)	3.126 *** (0.475)
<i>X*ABOVE_MEDIAN</i>	-0.059 (0.104)	1.592 (1.444)	-0.830 (0.895)	-0.482 (0.821)
<i>ABOVE_MEDIAN</i>	-0.024 (0.121)	-1.178 (1.109)	0.503 (0.445)	0.178 (0.235)
<i>SIZE</i>	0.176 *** (0.012)	0.178 *** (0.012)	0.178 *** (0.012)	0.176 *** (0.012)
<i>AGE</i>	0.079 (0.053)	0.073 (0.055)	0.076 (0.053)	0.079 (0.053)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,926.990	-12,937.060	-12,930.960	-12,926.980
AIC	25,913.980	25,934.110	25,921.920	25,913.960

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

These findings presented in Tables 5 and 5a have important implications for nonprofit governance. In less religious regions, even moderate increases in religiosity can significantly heighten ICD risks, highlighting the need for heightened vigilance and stronger internal controls in these environments. Organizations operating in these regions should recognize the outsized influence of shifting religious norms and proactively implement governance measures

to counteract potential risks. In more highly religious regions, while the incremental impact of religiosity on ICD risk is relatively the same, organizations must still maintain robust governance practices to mitigate underlying risks. The presence of religious norms may provide some informal control through shared values and trust, but this does not eliminate the need for formalized internal controls, particularly in larger or more complex organizations.

2.4.3. Impact of Religious Individuals with Different Types of Nonprofit Organizations

In Table 6, I formally test whether there are differences in likelihood of ICDs across religious and nonreligious nonprofit organizations. To do so, I introduce a dummy variable ($REL_ORG = 1$) to identify organizations classified as religious resulting in an estimate for REL_ORG in column 1 (0.075, $SE = 0.035$) that is statistically significant at the .10 level. This result corresponds to my previous assertion that simply categorizing nonprofit organizations as religious is insufficient to explain the complexities of ICD risk and it is necessary for a more nuanced approach that considers the broader sociocultural environment in which these organizations operate.

Column 1 also presents the results for $REL_individuals$, my primary measure of the religious social norms for the surrounding environment where the nonprofit organization is located. The estimate (0.338, $SE = 0.071$) is positive and statistically significant at the 0.01 level, continuing to indicate a strong association between religious environments and an increased likelihood of ICDs.

While the expectation for religious individuals is often that they exhibit inherent risk aversion—supported by Kanagaretnam et al. (2015), who argue that religious beliefs reduce uncertainty—my findings suggest a more complex dynamic. Koerber and Neck (2006) argue that religion in organizational settings may increase the risk of fraud, particularly in religious organizations, due to an overreliance on trust at the expense of oversight. My results support

this broader perspective, indicating that religious environments introduce risks that transcend prevailing assumptions of inherent risk aversion.

Table 6. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies (Matched Sample)

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.338 *** (0.071)	3.099 ** (1.053)	2.531 *** (0.556)	2.,697 *** (0.560)
<i>X*REL_ORG</i>	0.005 (0.067)	0.089 (0.939)	-0.099 (0.383)	0.048 (0.539)
<i>REL_ORG</i>	0.075 * (0.035)	0.005 (0.753)	0.134 (0.213)	0.055 (0.194)
<i>SIZE</i>	0.177 *** (0.012)	0.180 *** (0.013)	0.179 *** (0.012)	0.177 *** (0.012)
<i>AGE</i>	0.075 (0.055)	0.072 (0.057)	0.073 (0.056)	0.076 (0.055)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,924.290	-12,939.240	-12,929.120	-12,924.280
AIC	25,908.590	25,938.480	25,918.230	25,908.560

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

To further investigate the argument by Koerber and Neck (2006), I include an interaction term to assess whether religious nonprofit organizations located in highly religious environments exhibit a different ICD risk compared to nonreligious organizations. The resulting estimate (-0.005 , $SE = 0.067$) is not statistically significant, suggesting no differential risk between religious and nonreligious organizations in such environments. This lack of support for my second hypothesis aligns with previous findings that both religious and nonreligious nonprofit organizations are similarly affected by the presence of strong religious social norms, highlighting the broad influence of the external environment regardless of organizational classification.

2.4.4. Impact of Religious Individuals Based on Size and Age of Organization

To understand the extent to which organizational size and organizational age would moderate the likelihood of ICD, I included interaction terms without making any predictions. This moderation analysis offers a nuanced perspective on how organizational characteristics may impact the relationship between religious social norms and internal control deficiencies. Interaction terms for *SIZE* and *AGE* were included using the matched sample and the results shown in Table 7a using the composite score show no evidence of moderation. However, at the component level, a more differentiated pattern emerges where larger and older organizations appear better positioned to mitigate the heightened ICD risk associated with strong religious environments, likely because their more formalized controls, professionalized staff, and established governance routines counterbalance trust-based dynamics embedded in religious social norms. In contrast, when examining nonprofits classified as religious (Table 7b), no moderating effects are observed at either the composite or component level, suggesting that the internal cultural and operational features of religious nonprofits may interact differently with external norms.

Table 7a. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies (Matched Sample)

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.750 *** (0.215)	10.902 *** (3.072)	5.079 *** (1.356)	5.997 *** (1.727)
<i>X*SIZE</i>	-0.038 (0.023)	-0.962 * (0.430)	-0.230 * (0.146)	-0.304 (0.183)
<i>X*AGE</i>	-0.094 (0.052)	-0.685 * (0.340)	-0.643 * (0.311)	-0.756 (0.416)
<i>SIZE</i>	0.170 *** (0.012)	0.970 ** (0.355)	0.318 *** (0.092)	0.298 *** (0.074)
<i>AGE</i>	0.061 (0.052)	0.633 (0.280)	0.469 * (0.204)	0.379 * (0.185)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,922.870	-12,935.870	-12,927.610	-12,922.910
AIC	25,905.730	25,391.750	25,915.230	25,905.820

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

Table 7b. The Effect of Religious Individuals on the Probability of Internal Control Deficiencies
(Matched Sample)

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.481 ** (0.151)	7.209 ** (2.500)	3.680 *** (0.991)	3.817 ** (1.219)
<i>X*REL_ORG</i>	0.544 (0.296)	8.157 (5.564)	2.750 (1.822)	4.417 (2.387)
<i>X*REL_ORG*SIZE</i>	-0.092 (0.065)	-1.146 (1.039)	-0.614 (0.400)	-0.741 (0.522)
<i>X*REL_ORG*AGE</i>	0.073 (0.145)	0.021 (1.960)	0.963 (0.984)	0.557 (1.160)
<i>REL_ORG</i>	0.405 (0.237)	-6.460 (4.751)	-1.370 (1.167)	-1.447 (1.053)
<i>SIZE</i>	0.167 *** (0.027)	0.565 (0.399)	0.117 *** (0.128)	0.143 *** (0.112)
<i>AGE</i>	0.210 * (0.092)	0.670 (1.132)	0.949 (0.517)	0.650 (0.444)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,913.620	-12,926.770	-12,918.180	-12,913.640
AIC	25,899.250	25,925.550	25,908.350	25,899.270

This table presents results of whether the religious social norms of individuals surrounding the locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding the locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses based on standard errors clustered by type of entity.

Overall, these findings emphasize the importance of tailoring governance practices to environmental conditions and organizational capacity. Funding agencies must consider the interplay between local social norms and organizational maturity when evaluating risk; audit

firms should incorporate these contextual factors into risk assessments and engagement planning; and nonprofit managers should recognize that the effectiveness of internal controls may depend not only on organizational design but also on the broader normative landscape in which they operate.

2.5. Additional Analyses

2.5.1. Robustness Checks

To ensure the robustness of the regression results presented in this study, I reanalyze the matched sample using an alternative econometric model, a variation in the clustering of standard errors, and a full sample design. This approach is consistent with best practices in econometric research, ensuring that the findings are not unduly influenced by the choice of model specification or methodological assumptions. The results of these robustness checks are presented in Table 8, providing evidence that the main findings remain consistent across different approaches.

The primary model employed in this study is the *logit* model, chosen for its interpretability in terms of log odds, particularly in the context of estimating the likelihood of ICDs. However, recognizing the potential for model-dependent results, I re-estimate the key regressions using the *probit* model, which has been utilized in prior research, such as Petrovits, Shakespeare, and Shih (2011). As shown in Table 8 – Panel A, the results derived from the *probit* model are consistent with those obtained using the *logit* model. This demonstrates that the findings are robust to the choice of econometric model, as the significance, direction, and magnitude of the key estimates remain largely unchanged.

To complement this analysis, Table 8 – Panel B presents results from the *logit* model with standard errors clustered at the levels of *TYPEOFENTITY* and *AUDITYEAR*. By clustering standard errors in this manner, I account for potential within-group correlation in the data, ensuring that the reported standard errors are appropriately adjusted for any grouping effects.

The results continue to align with the main findings, with my variable of interest, *REL_individuals*, and its components remaining statistically significant in increasing the likelihood of ICDs. These findings provide further confidence that the results are not sensitive to alternative assumptions regarding error clustering.

The full sample was presented in Table 8 – Panel C, and the overall pattern of results remains consistent with those of the matched sample, with the exception that the coefficient for *AGE* becomes positive and statistically significant, indicating a higher likelihood of ICD when using the composite score. This difference may reflect the influence of greater organizational heterogeneity in the unmatched data considering that older nonprofits in the full sample may tend to vary more widely in size, mission complexity, and governance structures than those retained in the matched sample. Because PSM reduces this heterogeneity by balancing observable characteristics across groups, the matched analysis may dampen relationships that are more detectable when the full spectrum of organizational age and complexity is present. Consequently, the shift in the *AGE* coefficient is plausible and reflects underlying sample-composition differences rather than a contradiction in my overall pattern of findings.

The robustness checks corroborate the validity of my primary findings, indicating that higher levels of religious social norms in the surrounding location of the nonprofit organization significantly increase the likelihood of ICDs. By demonstrating that the estimated effects persist across alternative econometric specifications, clustering strategies, and the full sample, these procedures reduce concerns that the results are driven by model-specific assumptions or idiosyncratic sample features. The convergence of evidence across these complementary tests enhances the credibility of the analysis and provides greater confidence that the documented relationship is stable, not an artifact of estimation choices, and is reasonably generalizable within the context of nonprofit organizations.

Table 8. Robustness Checks**Panel A: Probit econometric model**

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.204 *** (0.052)	1.852 ** (0.667)	1.479 *** (0.359)	1.627 *** (0.417)
<i>SIZE</i>	0.103 *** (0.008)	0.105 *** (0.008)	0.104 *** (0.008)	0.103 *** (0.008)
<i>AGE</i>	0.047 (0.030)	0.045 (0.032)	0.046 (0.031)	0.048 (0.030)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,926.640	-12,942.200	-12,931.810	-12,926.630
AIC	25,909.270	25,940.400	25,919.620	25,909.250

Table 8. Robustness Checks (continued)**Panel B: Two-way cluster-adjusted standard errors**

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.345 *** (0.079)	3.194 ** (1.058)	2.523 *** (0.517)	2.758 *** (0.629)
<i>SIZE</i>	0.176 *** (0.019)	0.179 *** (0.019)	0.177 *** (0.020)	0.176 *** (0.019)
<i>AGE</i>	0.079 (0.061)	0.075 (0.064)	0.076 (0.062)	0.079 (0.061)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	24,398	24,398	24,398	24,398
Log Likelihood	-12,927.300	-12,942.470	-12,932.110	-12,927.230
AIC	25,910.450	25,940.940	25,920.230	25,910.460

Table 8. Robustness Checks (continued)**Panel C: Full Sample**

<i>X</i> =	<i>REL_individuals</i> (1)	<i>REL_affiliation</i> (2)	<i>REL_importance</i> (3)	<i>REL_attendance</i> (4)
<i>X</i>	0.218 *** (0.039)	2.087 ** (0.783)	1.643 *** (0.331)	1.740 *** (0.303)
<i>SIZE</i>	0.127 *** (0.023)	0.128 *** (0.023)	0.128 *** (0.023)	0.127 *** (0.023)
<i>AGE</i>	0.092 *** (0.028)	0.093 *** (0.027)	0.091 ** (0.028)	0.093 *** (0.028)
Control Variables:				
Demographic variables	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included
Fixed Effects:				
Type of Entity	Included	Included	Included	Included
Audit Year	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Observations	95,703	95,703	95,703	95,703
Log Likelihood	-47,150.450	-47,171.260	-47,153.760	-47,150.660
AIC	94,362.890	94,404.510	94,369.510	94,363.320

This table presents results of robustness checks on whether the religious social norms of individuals surrounding headquarters locations of nonprofit organizations increase the likelihood of internal control deficiencies. The dependent variable, *ICD*, is an indicator variable equal to one if the A-133 audit noted any internal control deficiency, otherwise zero. The independent variable of interest is identified by the letter *X* for four separate regressions. In column 1, *X* is for *REL_individuals* being a measure for the religious social norms of individuals that comprise the Metropolitan Statistical Area (MSA) population surrounding headquarters locations of nonprofit organizations. This measure is the religiosity score obtained from using the dimension reduction technique of factor analysis of proportional responses made by the adult population in 361MSAs to three religion questions on the Gallup US Daily Poll. In columns 2-4, *X* represents the component scores regarding the three religion questions for *REL_affiliation*, *REL_importance*, and *REL_attendance*, respectively. Panel A shows the results based on the probit econometric model, instead of the logit econometric model. Panel B shows the results based on the logit econometric model but with two-way cluster-adjusted standard errors (by audit year and type of entity), instead of one-way cluster-adjusted standard errors (by type of entity). Panel C shows the results based on the logit econometric model but using a full sample, instead of the matched sample. Demographic variables, firm-level variables, and the fixed effects for type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 2A for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

2.5.2. An Alternative Measure for Religious Individuals

In the research literature examining the relationship between religion and economic behaviors, an alternative measure of religiosity frequently employed is the proportion of the religious population (*REL_pop*) in the geographic area surrounding an organization. This measure, derived by comparing the known Metropolitan Statistical Area (MSA) of an organization to

religion census data from the Association of Religion Data Archives¹³, has been widely utilized in prior studies (Callen and Fang 2015; Dyreng, Williams, and Williams 2012; Hilary and Hui 2009). This proxy captures the broader religious environment in which organizations operate and is used to assess the influence of religiosity on organizational behaviors, particularly those related to financial decision-making and governance practices.

To evaluate whether this alternative measure of religiosity corroborates or challenges the findings of my primary analysis, I conducted additional regressions for both the matched sample and the full sample using *REL_pop* as the independent variable. While these results are not tabulated, the key findings align with my primary results, albeit with some notable differences in statistical significance depending on the sample employed.

For the matched sample, the regression results reveal a significantly positive relationship between the likelihood of ICDs and the degree of religiosity as measured by *REL_pop*. Specifically, the estimate (2.660 *SE* = .758) is positive and statistically significant, providing further evidence that religiosity in the surrounding population heightens the risk of ICDs in nonprofit organizations. This result is consistent with the findings from my primary analysis using *REL_individuals* as the measure of religiosity, reinforcing the argument that religious social norms exert a meaningful influence on governance risks within nonprofit organizations.

However, the results for the full sample using *REL_pop* are less conclusive. The estimate (0.493, *SE* = 0.443) is positive but not statistically significant, suggesting that the relationship between religiosity and ICD likelihood may be more context-dependent when the

¹³ 2010 U.S. Religion Census: Religious Congregations & Membership Study. Collected by the Association of Statisticians of American Religious Bodies (ASARB) and distributed by the Association of Religion Data Archives (www.theARDA.com). This study designed and carried out by the Association of Statisticians of American Religious Bodies (ASARB), compiled data on the number of congregations and adherents for 236 religious groups in each county of the United States. The 236 groups reported a total of 344,894 congregations with 150,686,156 adherents, comprising 48.8 percent of the total U.S. population of 308,745,538 in 2010.

sample is broader and not balanced in terms of observable characteristics. This discrepancy highlights the importance of controlling for sample imbalances, as done in the matched sample analysis, to draw more reliable conclusions about the effects of religiosity.

The results based on *REL_pop* provide additional robustness to the findings of this study but also raise important considerations regarding the nuances of measuring religiosity and its impact on organizational governance. The significant results in the matched sample suggest that religiosity, whether measured at the individual level (*REL_individuals*) or population level (*REL_pop*), plays a consistent role in increasing ICD likelihood in nonprofit organizations. This finding reinforces the idea that religious social norms shape the cultural and behavioral environment surrounding organizations, which in turn affects their governance outcomes.

The lack of statistical significance in the full sample, however, suggests that the influence of religiosity may not be uniform across all nonprofit organizations and that the relationship is likely moderated by other factors, such as organizational size, age, or external oversight. It is also possible that measurement differences between *REL_individuals* and *REL_pop* contribute to this variation. While *REL_individuals* captures religiosity based on survey responses reflecting individual beliefs and behaviors, *REL_pop* aggregates religious affiliation data at the population level, potentially diluting the intensity of religiosity in highly heterogeneous MSAs.

The findings from the *REL_pop* regressions signal the importance of carefully selecting and interpreting measures of religiosity in research on the intersection of religion and organizational behavior. While *REL_pop* is a widely used measure, its effectiveness in capturing the nuances of religious social norms may depend on the context and the characteristics of the sample. Researchers must remain cognizant of the potential limitations

and differences in interpretability between individual-level and population-level measures of religiosity.

2.5.3. Impact of Religious Individuals on Different Components of ICD

To further my understanding of the impact a religious environment has on internal control deficiencies, I performed an additional test using the underlying components for my dependent variable *ICD*. These results were not tabulated.

$$\begin{aligned} & Prob(SD_FS \text{ or } MW_FS \text{ or } SD_MP \text{ or } MW_MP \text{ or } COMPFINDS_MP) \\ & = f(\beta_0 + \beta_1 REL_individuals + \beta_2 REL_ORG + \beta_3 SIZE + \beta_4 AGE \\ & \quad + Control\ variables + \text{Fixed effects of } TYPEOFENTITY \text{ and } AUDITYEAR) \end{aligned} \quad (3)$$

The underlying components for my dependent variable can be categorized as internal control deficiencies related to financial reporting and internal control deficiencies related to compliance. The first category of financial reporting includes the presence of a significant deficiency (*SD_FS*) or a material weakness (*MW_FS*) at the financial statement level. The second category of compliance includes the presence of a significant deficiency (*SD_MP*), or a material weakness (*MW_MP*), or a material non-compliance (*COMPFINDS_MP*) at the major program level. These categories correspond to two of the three objectives that an organization seeks to reasonably assure by designing and implementing internal control. Both variables related to the financial reporting category were statistically significant in indicating the religious areas where nonprofit organizations are located increased the risk of internal control deficiencies. For the compliance category, all three of the variables were also statistically significant in indicating a similar increased risk.

The statistically significant results across both categories suggest that the influence of religiosity on ICDs is not limited to one specific domain of internal control but spans across financial reporting and compliance objectives. This broad impact highlights the pervasive role of religious social norms in influencing organizational behavior and governance outcomes.

2.6. Conclusion

By differentiating between religious and nonreligious organizations, my study contributes to a deeper understanding of internal control deficiencies within the nonprofit sector. The empirical findings revealed that both religious and nonreligious nonprofit organizations surrounded by a concentration of religious social norms for individuals face an increased risk of internal control deficiencies.

My research offers several contributions to the field. Firstly, I have developed a keyword dictionary that aids in identifying religious organizations. Additionally, I have extended the framework proposed by Jeavons (1998) to classify the distinguishing features of these organizations. Lastly, I have proposed a religious risk model that sheds light on the unique risks associated with religious individuals.

These contributions are of significant interest to various stakeholders. Funding agencies can benefit from the insights provided by this research when making grantmaking decisions. Audit firms can incorporate the findings into their risk assessment processes, particularly when dealing with religious organizations. Similarly, religious organizations themselves can utilize this research to enhance their governance activities. Lastly, nonprofit researchers will find value in these contributions for future investigations related to religious risk and how that impacts religious and nonreligious organizations.

While my research specifically focused on nonprofit organizations in the United States, I believe that the findings hold relevance for a broader global audience. Over the past two decades, both national and international funders have shown an increased interest in gaining a better understanding of and collaborating with religious organizations. Notably, prominent

fundors such as the World Bank and European Union Member States have established stringent rules concerning the efficient utilization and financial regulation of donations.¹⁴

There are at least three potential avenues for further investigation by researchers focusing on nonprofit organizations. The first area of future research involves determining whether specific types of nonprofit organizations are more susceptible to religious risk compared to others. This exploration would provide valuable insights into the varying degrees of risk faced by different organizational types. The second area of potential research lies in examining whether external environmental factors, such as the state of the economy, influence religious risk. Investigating the interplay between external factors and religious risk would contribute to a comprehensive understanding of the broader context in which nonprofits operate. Additionally, a third area for investigation involves examining the potential impact of internal control deficiencies on the financial performance of nonprofit organizations that are exposed to religious risk. This line of inquiry would provide valuable insights into the consequences and implications of internal control deficiencies in the presence of religious factors.

The limitations of my research also highlight areas that warrant further in-depth exploration regarding religious risk on internal control deficiencies. One notable limitation is the absence of perspectives from employees and other stakeholders within the nonprofit organizations, whose insights could have provided measurable indicators of the presence or absence of religious influences. Additionally, it is important to acknowledge that my study focused solely on nonprofit organizations that receive government grants and are subject to an A-133 audit. This specific population may have a built-in incentive effect that could potentially lower internal control deficiencies. To gain a more comprehensive understanding of the

¹⁴ Briefing to European Parliament, November 2017. (Source European Union Think Thank www.europarl.europa.eu)

influence of religious social norms on internal control, future research should consider incorporating the perspectives of various stakeholders within nonprofit organizations. Further, expanding the scope to include a broader range of nonprofit organizations, beyond those receiving government grants, would provide a more diverse and representative sample for analysis.

The sociological impact of religion on nonprofit organizations presents a rich area for academic research and empirical investigation. The findings of this study offer compelling evidence for the significance of measuring and understanding religious risk. Further studies building upon this research, as well as studies exploring different aspects of the impact of religious risk at the individual and organizational levels, would be valuable avenues for analysis. Pursuing such research endeavors will contribute to addressing the current scarcity of academic inquiry in this field.

Appendix 2A. Definition of Variables

Dependent Variable

ICD = An indicator variable that equals 1 if the A-133 audit noted any internal control deficiency including instances of significant deficiency or material weakness or material non-compliance or questioned costs or compliance findings for the financial statement or major program (SF-SAC Part II Questions 3-5 and SF-SAC Part III Questions 6k, 7h, 7i and 7k), otherwise 0.

Religious Individuals

REL_individuals = A measure quantifying the concentration of religious social norms for individuals in the Metropolitan Statistical Area (MSA) surrounding the locations of nonprofit organizations. The measure is represented by a religiosity score obtained from using the dimension reduction technique of factor analysis on the proportion of Gallup respondents in each MSA who indicate they are affiliated with a particular religion (*REL_affiliation*), the proportion of respondents in each MSA who indicate religion is important to their daily life (*REL-importance*), and the proportion of Gallup respondents in each MSA who indicate they attend religious services at least weekly (*REL_attendance*). All organizations residing in the same MSA will have the same religiosity score.

REL_pop = An indicator variable that equals 1 if the population in the metropolitan area where the religious organization is located is greater than 667 adherents per 1000, otherwise 0

Religious Organizations

REL_ORG. = An indicator variable that equals 1 if any part of the organization name on IRS Form 990 has a match in the keyword dictionary shown in Appendix 2B, otherwise 0 (*REL_name*); or, an indicator variable that equals 1 if any word in the organization purpose field of IRS Form 990 has a match in the keyword dictionary shown in Appendix 2B or the organization is identified by any of the IRS codes shown in Appendix 2C, otherwise 0, (*REL_purp*).

Demographic Control Variables

POPULATION = The log of the United States Census Bureau's estimate of the population for each MSA.

INCOME = The United States Census Bureau's estimate of median household income for each MSA.

EDUCATION = The percentage of the adult population in each MSA with a college education from respondents to the Gallup US Daily Poll.

POLITICS = The percentage of the adult population in each MSA affiliated with the Republican party from respondents to the Gallup US Daily Poll.

<i>AGE_ind</i>	=	The average age of residents in each MSA from respondents to the Gallup US Daily Poll.
<i>RACE</i>	=	The percentage of racial minorities in each MSA from respondents to the Gallup US Daily Poll.

Organizational-level Control Variables

<i>SIZE</i>	=	The log value of Beginning of Year total assets (IRS Form 990 Part X Question 16(A)).
<i>AGE</i>	=	The log value for number of years the organization has been tax-exempt (Audit Year - IRS Rule Date).
<i>GROWTH</i>	=	The growth in assets, measured as the ratio of End of Year total assets (IRS Form 990 Part X Question 16B) to Beginning of Year total assets (IRS Form 990 Part X Question 16A).
<i>SURPLUS</i>	=	An indicator variable that equals 1 if an organization has a current year surplus (IRS Form 990 Part VIII Question 12 – Part IX Question 25A) = Yes, otherwise 0.
<i>LOWRISK</i>	=	An indicator variable that equals 1 if an organization qualifies as low risk (SF-SAC Part III Question 3) = Yes, otherwise 0.
<i>GOINGCONCERN</i>	=	An indicator variable that equals 1 if an organization has a going concern paragraph in the audit report (SF-SAC Part II Question 2) = Yes, otherwise 0.
<i>BIG4</i>	=	An indicator variable that equals 1 if the name of the primary auditor shown on (SF-SAC Part I Question 6) is one of the Big 4 accounting firms; otherwise, 0.
<i>Top_Tier</i>	=	An indicator variable that equals 1 if the name of the primary auditor shown on (SF-SAC Part I Question 6) is one of the top-tier accounting firms other than the BIG 4; otherwise, 0.
<i>Top_Regional</i>	=	An indicator variable that equals 1 if the name of the primary auditor shown on (SF-SAC Part I Question 6) is one of the Top Regional accounting firms; otherwise, 0.
<i>INDEPENDENCE</i>	=	The level of independence represented by the proportion of organizational expenses (<i>exps</i>) attributed to the total federal funds expended (<i>TOTFEDEXPEND</i>) using the following formula: $1 - (TOTFEDEXPEND/exps)$.
<i>BELOW_MEDIAN</i>	=	An indicator variable that equals 1 if the nonprofit organization is located in an MSA that is below the median value for the continuous variable <i>REL_individuals</i> ; otherwise, 0.
<i>ABOVE_MEDIAN</i>	=	An indicator variable that equals 1 if the nonprofit organization is located in an MSA that is above the median value for the continuous variable <i>REL_individuals</i> ; otherwise, 0.

Appendix 2B. Religious Keyword Dictionary

'Christian'	'Faith-based'	'Saints'	'Disciples'
'Christianity'	'Gospel'	'Baptist'	'Mennonite'
'Evangelical'	'Jesus'	'Baptists'	'Apostolic'
'Evangelism'	'Christ'	Buddhist'	'Apostles'
'Catholic'	'God'	'Buddhists'	'Reformed'
'Protestant'	'Commission'	'Hindu'	'Quaker'
'Religion'	'Ministry'	'Methodist'	'Hope'
'Religious'	'Jewish'	'Wesleyan'	'Trinity'
'Beliefs'	'Bible'	'Lutheran'	'Incarnate'
'Sacred'	'Spiritual'	'Episcopalian'	'Samaritan'
'Salvation'	'Spirituality'	'Anglican'	'Ministries'
'Church'	'Mormon'	'Nondenominational'	'Saint'
'Temple'	'Latter-day'	'Seventh-day'	'Theology'
'Synagogue'	'Jehovah's'	'Adventist'	'Theological'
'Diocese'	'Witness'	'Holiness'	'Clergy'
'Archdiocese'	'Muslim'	'Holy'	'Pilgrim'
'Faith'		'Nazarene'	

Appendix 2C. Internal Revenue Service Codes

Activity:	National Taxonomy of Exempt Entities (NTEE):	X12: Fund Raising and/or Fund Distribution X19: Nonmonetary Support N.E.C. X20: Christian X21: Protestant X22: Roman Catholic X30: Jewish X40: Islamic X50: Buddhist X70: Hindu X80: Religious Media, Communications Organizations X81: Religious Film, Video X82: Religious Television	X83: Religious Printing, Publishing X84: Religious Radio X90: Interfaith Issues X99: Religion Related, Spiritual Development N.E.C.
001: Church, synagogue, etc. 002: Association or convention of churches 003: Religious order 004: Church auxiliary 005: Mission 006: Missionary activities 007: Evangelism 008: Religious publishing activities 029: Other religious activities Foundation: 10: Church	X01: Alliance/Advocacy Organizations X02: Management & Technical Assistance X03: Professional Societies, Associations X05: Research Institutes and/or Public Policy Analysis X11: Single Organization Support		

Appendix 2D. Propensity Score Matching

Propensity Score Matching (PSM) was utilized to provide for more comparable treatment and control groups. However, since the matching was done in a group-wise manner by *AUDITYEAR* and *TYPEOFENTITY*, the results presented below compare the unmatched sample to the median values for 36 sets of PSM regressions based on the following logit model: $Prob(REL = 1) = f(\beta_0 + \beta_1 SIZE + \beta_2 AGE + \beta_3 INDEPENDENCE)$. The dependent variable, *REL_ORG*, is an indicator equal to 1 if the nonprofit organization is classified as religious, otherwise zero. Conducting more formal pre-matching and post-matching balance tests that would have included plotting absolute standardized difference in means between the unmatched and matched samples were not considered a practical exercise given the group-wise manner in which the PSM regressions were performed and summarized. All the variables are defined in Appendix 2A. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

	Dependent Variable = <i>REL_ORG</i>	
	Unmatched Sample	Matched Sample
<i>SIZE</i>	0.269 *** (0.013)	0.257 *** (0.117)
<i>AGE</i>	1.822 *** (0.035)	0.625 ** (0.278)
<i>INDEPENDENCE</i>	-0.995 *** (0.030)	0.396 ** (0.293)
Intercept	Included	Included
Observations	95,703	24,398

Chapter 3

The Moderating Effect of Audit Committees on Religiosity as a Risk Factor: Evidence from Emerging Economies

ABSTRACT

Despite the common perception that religiosity has a positive influence, it can also represent a potential risk, necessitating robust governance mechanisms to ensure effective oversight. This study examines such risk within Seventh-day Adventist Church entities across emerging economies, exploring whether religiosity correlates with an increase in ICDs and assessing if an audit committee can moderate this risk. While prior research has examined the general influence of religiosity on governance, this study focuses on the role of audit committees in addressing ICD risks linked to religiosity. A religiosity score, derived from factor analysis of responses to three religion-related questions from the World Values Survey, measures country-level religiosity. Results indicate religiosity correlates with an increase in new ICDs, suggesting that religiosity may adversely impact governance practices and oversight rigor. However, when an audit committee is present, this risk is moderated for new and repeated ICDs, pointing to the committee's value as a risk-moderating factor. Further, audit committees with certain effectiveness characteristics—e.g., financial expertise, making recommendations, and meeting a substantive number of times per year—are associated with reducing both types of ICDs, emphasizing the importance of committee characteristics in reducing risk. Additional analysis supports the effectiveness of audit committees in enhancing the quality of internal control systems and the reliability of financial reporting. This study contributes empirical insights into the relationship between religiosity and governance, offering implications for controlling boards, audit firms, and regulatory bodies by highlighting the need to consider religiosity as a potential risk factor.

3.1. Introduction

Being religious does not always mean being righteous. Media reports have brought to our attention that religion does not necessarily preclude individuals or institutions from engaging in unethical or unlawful behaviors. Notably, allegations of illicit activities by the founding pastor of Gateway Church in Texas have emerged, revealing significant governance and accountability failures.¹⁵ Similarly, in Nicaragua, regulatory scrutiny resulted in the closure of approximately 700 religious organizations due to prolonged non-compliance with financial reporting requirements, with lapses spanning from one to 35 years.¹⁶

It is generally assumed that religiosity exerts a positive influence on individual and organizational behaviors. While empirical studies frequently corroborate this assumption, they also present evidence to the contrary. Research findings supporting the positive influence of religiosity indicate associations with lower levels of risk-taking (Gao, Wang, and Zhao 2017), reduced earnings management (Dyreng, Williams, and Williams 2012), and fewer financial reporting irregularities (McGuire, Omer, and Sharp 2012). Conversely, studies have documented cases where religiosity correlates with increased risk-taking behaviors (Cantrell and Yust 2018) and heightened perceptions of corruption (Niu et al. 2022). This duality in the literature suggests a nuanced and complex relationship between religiosity and ethical or economic behaviors.

Motivated by the paradoxical influence of religiosity on individual and organizational conduct, this study investigates whether country-level religiosity constitutes a risk factor associated with an increased incidence of ICDs and evaluates the extent to which an audit committee's governance role can moderate this risk. Prior research has commonly measured country-level religiosity by using the proportional responses to three questions related to

¹⁵ <https://www.cbsnews.com/texas/news/gateway-church-investigation-robert-morris-abuse-governance-failure/>

¹⁶ <https://www.cnn.com/2024/08/19/americas/nicaragua-ban-church-organization-civil-society-intl-latam/index.html>

religion from the World Values Survey¹⁷ and applying factor analysis to derive a dimensionally reduced country-level religiosity score (Callen, Morel, and Richardson, 2011; Kanagaretum, Lobo, and Wang, 2015; Bjornsen, Do, and Omer, 2019; Abdelsalam et al., 2021; Chourou, 2023). Using the responses to those three questions related to religion allow for understanding the importance of religion for the population of a country and how that may inform behaviors in the workplace, as the expectation is for individuals to bring their religious beliefs into the workplace (Tracey, Phillips, and Lounsbury, 2014). In Chapter 2, I described religious individuals as being complex leading to the prospect of positive and negative outcomes in the workplace and those outcomes associated with the contextual influences that can result in incongruent behavior (Weaver and Stansbury, 2014). Understanding the contexts that lead to religion's varied influences will allow for the identification and implementation of governance mechanisms designed to moderate the potential risks associated with religiosity.

The potential for religiosity to be a risk factor reflects the view of religious individuals prioritizing trust within the organization at the expense of appropriate oversight which can lead to an increased risk of fraud (Koerber and Neck 2006). Prior research shows that the audit committee plays a risk-moderating role in financial reporting quality (Klein 2002), audit risk management (Contessotto and Moroney 2014), and internal control disclosure (Ashfaq and Rui 2019). While evidence highlights the audit committee's benefits, the religious risk may persist due to complacency—wherein shared beliefs and communal fellowship are mistakenly viewed as substitutes for strict oversight, leading to a disregard for necessary agency costs. Addressing such complacency requires intentional governance efforts to establish audit committees that

¹⁷ **The World Values Survey** is an international research program devoted to the scientific and academic study of social, political, economic, religious, and cultural values of people in the world. The project's goal is to assess which impact values stability or change over time has on the social, political, and economic development of countries and societies. The main research instrument of the project is a representative comparative social survey which is conducted globally every 5 years. <https://www.worldvaluessurvey.org/WVSCContents.jsp>

are substantive rather than symbolic, ensuring they possess characteristics that enhance their effectiveness and mitigate religiosity-associated risks.

The focal context of my study for hypothesis testing is the Seventh-day Adventist Church (SDA Church). This context provides a unique lens through which to examine risk, as the organization is both a religious institution and subject to the broader religious environments of the countries in which it operates. Furthermore, access to proprietary data not typically available to the public allows for a comprehensive analysis of internal control and audit committee practices through a cross-country, longitudinal approach. My study focuses on emerging economies, yielding evidence that religiosity serves as a risk factor that increases the incidence of new ICDs. Additionally, the presence of an audit committee moderates this risk for both new and repeated ICDs. Analysis of religiosity components further suggests that the salience of religiosity correlates with increased risk, reminding religiosity as a factor requiring attention.

The SDA Church is a globally structured Protestant denomination operating under a highly institutionalized governance system that includes local churches, regional conferences, union administrations, and global oversight by the General Conference. Its mission-driven orientation emphasizes education, health ministry, and community development and such activities have led to the establishment of one of the world's largest networks of faith-based schools, hospitals, and humanitarian agencies. This extensive organizational architecture requires continuous financial administration, reporting, and auditing across multiple layers of governance, making the Church an instructive setting for examining internal control practices. Notably, responsibility for oversight is distributed across elected boards and committees, including audit committees whose effectiveness varies across regions depending on local resources, norms, and regulatory environments. As a result, the SDA Church presents a unique

opportunity to study how religious institutions navigate the obligations of transparency, accountability, and risk management within diverse and often complex environments.

The SDA Church's presence in emerging economies is substantial, with the majority of its membership, institutions, and ministry-related activities now located in Africa, Latin America, South Asia, and parts of Eastern Europe. In many of these regions, the Church operates schools, universities, hospitals, clinics, development agencies, microfinance programs, and large-scale humanitarian initiatives that require sophisticated financial systems and consistent adherence to internal control standards. These activities generate significant social and economic impact such as advancing education, improving public health infrastructure, and providing employment yet they also introduce operational complexity. Emerging economies often feature weaker regulatory enforcement, resource constraints, and high levels of contextual religiosity, all of which may interact with organizational governance structures in ways that either strengthen or undermine internal control quality. Since SDA Church entities must comply simultaneously with denominational policies and country-level regulations, this context heightens the relevance of examining whether religiosity serves as a risk factor and how audit committees function as governance mechanisms capable of moderating such risks.

In examining audit committee effectiveness, I consider two perspectives: (1) the presence of a financial expert on a committee that reports and provides recommendations to the controlling board, and (2) the presence of a financial expert on a committee meeting a substantive number of times per year (namely, at least two). From the first perspective, the results indicate that religiosity remains a risk for ICDs, with this characteristic of the audit committee moderating the frequency of repeated ICDs, though it does not directly moderate the risk associated with religiosity. For the second perspective, findings are consistent overall, with one unexpected result: the risk is, in certain cases, magnified rather than diminished. This

unexpected outcome suggests a potential avenue for further investigation, particularly into whether a religious financial expert on the committee may represent a risk factor. Complementary analyses support the conclusion that effective audit committees enhance both the quality of the internal control system and the reliability of financial reporting. These findings extend prior research on internal controls and audit committees within the context of emerging economies.

My study offers valuable insights for at least three key stakeholder groups. First, controlling boards may benefit by recognizing the critical role of audit committees as a governance mechanism, urging the importance of incurring necessary agency costs to mitigate undesired outcomes. Second, auditors are provided with empirical evidence identifying religiosity as an additional risk factor, which may be incorporated into risk assessments conducted as part of their audit engagements. Third, regulators may find these findings relevant for potential revisions to regulatory frameworks, ensuring that all pertinent risk factors are appropriately addressed within the context of financial reporting compliance.

The remainder of the chapter is organized as follows: Section 3.2 discusses hypothesis development and research design. Section 3.3 describes the data sources and the sample selection process. Section 3.4 presents the main results. Additional analyses are discussed in Section 3.5. Conclusions are given in Section 3.6.

3.2. Hypotheses Development and Research Design

This section discusses religiosity and governance in emerging economies and provides a conceptual model illustrating how the existence and effectiveness of an audit committee as a governance mechanism can moderate religious risk. It also presents the study's regression models to test my hypotheses, defines the dependent variables, and describes how a single religiosity score for a country is developed.

3.2.1. Religiosity and Governance in Emerging Economies

The relationship between religiosity and governance practices is a growing area of study with the presumption for it to yield positive outcomes. Kim and Daniel (2016) entered this field of study using data from 32 countries with a particular interest in the effect of religious denominations finding that higher Protestantism is positively associated with better governance practices. This finding suggests that beyond economic and other factors religion does play a role regarding corporate governance practices and further reflects how religion as a social norm can influence behaviors. Social norm theory posits that individual behavior will conform to the normative behavior of the group to which they belong. Therefore, cultural and religious influences would impact the governance practices that are present in the firm for better or for worse. In exploring this relationship in Nigeria, Nakpodia, Shrives, and Sorour (2020) were more specific in doing so within the context of an emerging economy and in a country considered to be highly religious. They find that despite the high religiosity among Nigerians, desired outcomes from corporate governance systems were not achieved due to the presence of rational ordering over religious preferences and the influence of religious leaders on corporate decision-making.

Governance practices have been explored in other emerging economic contexts such as Bangladesh, Ghana, and Jordan. In Bangladesh, Nahar, Jubba, and Azim (2016) explored the relationship between risk governance and corporate performance by studying how different aspects of risk governance impact firm performance. They find that firms with robust risk governance frameworks, characterized by the number of risk management committees and the presence of a risk management unit, exhibited better performance when compared to accounting-based and market-based measures. This underscores the importance of effective risk governance structures in enhancing corporate performance in such economic environments. In Ghana, Puni and Anlesinya (2020) explored various corporate governance

mechanisms and find a mixed impact on financial performance. Where the presence of outside directors and frequent board meetings generally improved financial performance, the presence of audit committees generally had a mixed impact. In Jordan, Hassan, Hijazi, and Naser (2017) explored whether the audit committee acts as a substitute or complement to other corporate governance mechanisms. By studying data from Jordanian companies, they find audit committees complement other governance mechanisms such as the board of directors and external auditors together improving overall corporate governance. All three of these studies align in emphasizing the significance of governance in emerging economic contexts.

Despite the governance mechanisms that may exist in emerging economic contexts, the matter of religiosity cannot be overlooked as it provides an environment in which these governance mechanisms operate. The presumption would be for religiosity to provide a positive environment but there is reason to believe that such a presumption would be misplaced when considering the complex relationship between religiosity and ethical behaviors. Parboteeah, Hoegl, and Cullen (2008) use a multidimensional model to link religious components to the willingness of an individual to justify ethical behaviors. Their study finds that the cognitive, affective, and behavioral components of religion are negatively related, except for belief in religion which regards the cognitive dimension. This indicates that different dimensions of religiosity have varying impacts on ethical decision-making and as such religiosity should be considered a factor that could result in risk behaviors and undesirable outcomes. Notably, Ananthram and Chan (2016) emphasize the need for a nuanced understanding of how religiosity and spirituality influence ethical behavior. As part of this nuanced understanding, there is need to consider the impact of religious virtues on individual and organizational-level decision-making which could have detrimental consequences (Chan-Serafin, Brief, and George 2013).

3.2.2. The Existence and Effectiveness of Audit Committees

As part of an organization's governance mechanism, the audit committee serves a critical role on behalf of the board to ensure that financial reporting, accounting policies, and internal controls promote good financial stewardship, business risks are anticipated and addressed, and oversight is provided for internal and external audit activities.¹⁸

A comprehensive review of the literature on corporate governance, accounting, and finance by Brown, Beekes, and Verhoeven (2011) synthesized findings from various studies to highlight the critical role of governance mechanisms such as audit committees to enhance financial reporting quality and corporate performance. In their review, the authors discussed various governance structures and their impact on financial outcomes emphasizing the importance of regulatory frameworks, board independence, and audit committee effectiveness.

Another comprehensive review of literature, more specifically on audit committee effectiveness by DeZoort et al. (2002), synthesized empirical studies that highlighted independence, financial expertise, meeting frequency, and the quality of interactions with management and external auditors as key factors influencing effectiveness. The conclusion reached by the authors was that effective audit committees play a critical role in ensuring high-quality financial reporting, robust internal controls, and overall corporate governance. The effectiveness of such audit committees was attributed to independent and financially literate members of audit committees that held regular meetings and were actively involved in the audit process. In a cross-country survey of literature on internal control research, Chalmers, Hay, and Khlif (2019) sought to understand the determinants of internal control quality and the economic consequences to stakeholders when such quality is less than desirable. Specifically,

¹⁸<https://www.grantthornton.com/content/dam/grantthornton/website/assets/content-page-files/nfp/pdfs/2016/NFP-Audit-committee-guide/nfp-audit-committee-guide.pdf>

they find audit committee characteristics as significantly and positively associated with internal control quality.

Beasley et al. (2009) investigated the processes and practices of audit committees in providing oversight for financial reporting and internal controls. Based on qualitative data from interviews with audit committee members, they find effective oversight was characterized by regular and thorough reviews, clear communication with management and external auditors, and a strong commitment to ethical standards. This highlights the importance of quality processes regarding what is done and quality participation regarding how often it is done by audit committee members. The characteristics of an audit committee help to define and describe the quality associated with the activities performed and the effectiveness towards achieving beneficial outcomes for the organization. The greater the quality of an audit committee, the greater the beneficial outcomes to the organization. There are at least three areas for which this quality can be illustrated: financial reporting, risk, and internal control.

Firstly, the characteristics of an audit committee and its impact on financial reporting have been studied in the area of earnings management which is the practice of manipulating financial statements to achieve a desired outcome. Klein (2002) examined this relationship and find a significant negative correlation between the independence of audit committees and abnormal accruals. Compared to Klein (2002), who focused on the general relationship between audit committee characteristics and earnings management, Miko and Kamardin (2015) specifically examined this relationship within the context of regulatory changes due to implementing the Nigerian Corporate Governance Code. While both studies highlight the significance of audit committee effectiveness in reducing earnings management, the latter extends this by showing how regulatory improvements can enhance this effectiveness. Other characteristics such as the size and financial expertise of audit committees also result in lower levels of earnings management (e.g., NGO and LE 2021; Xie, Davidson III, and Dadalt 2003;

Safari Gerayli, Rezaei Pitenoei, and Abdollahi 2021). In another area regarding financial reporting, Consuelo Pucheta-Martínez and De Fuentes (2007) investigated the relationship between the characteristics of audit committees and the likelihood of a firm receiving a qualified audit report. The investigation revealed that audit committees larger in size and with a higher proportion of independent members were significantly associated with a lower likelihood of receiving qualified reports than their mere existence.

Secondly, the characteristics of an audit committee and its impact on risk have been examined by Contessotto and Moroney (2014) relating to auditor-assessed audit risk. They find that audit risk was negatively associated with audit committee effectiveness when effectiveness was measured using an auditor-chosen list of characteristics. However, they did not find a significant association when using a regulated list of characteristics. These findings suggest that auditors consider specific characteristics related to independence, resources, and diligence when assessing audit committee effectiveness. These findings also highlight the importance of auditors' professional judgment in evaluating audit committees and highlight the limitations of relying solely on regulated criteria as conformance to regulations does not ensure audit committee effectiveness. Tai, Lai, and Yang (2020) looked at risk from the perspective of hedging decisions made by a firm and determined that characteristics related to the number of audit committee members, meetings, and financial experts mitigate the risk-shifting behavior in highly leveraged firms.

Thirdly, the characteristics of an audit committee regarding its impact on internal control have been considered from at least two perspectives. Alzeban and Sawan (2015) considered it from the perspective of an internal audit function which is a governance mechanism put in place to assess the effectiveness of the internal control system. From this perspective, Alzeban and Sawan (2015) examined the relationship between audit committee characteristics and the implementation of internal audit recommendations and find that greater

independence, expertise, and interaction of the audit committee were associated with higher perceptions of the implementation of internal audit recommendations. Specifically, the presence of independent members on the audit committee, expertise in accounting and auditing, and frequent meetings between the audit committee and the chief internal auditor were positively correlated with the effective implementation of audit recommendations. Ashfaq and Rui (2019) considered it from the perspective of internal control disclosure practices across different regulatory environments. Focusing on the environments found in the countries of India, Pakistan, and Bangladesh, they find that companies with effective boards and audit committees were more likely to provide comprehensive internal control disclosures. For their measurement of effectiveness, factors such as independence, financial expertise, and meeting frequency were utilized.

The foregoing findings do illustrate the importance of specific audit committee characteristics that enable preferred outcomes for the organization. Based on the extant literature from studies in various emerging economies, it can be argued that audit committees are a feature of good governance practices, and their characteristics are universally important. Motivated by the positive role of audit committees documented in prior research, this study investigates their moderating effect on the religiosity-associated risk of increased new and repeated ICDs reported by organizations in emerging economies. To my knowledge, this is an unexplored research area, made possible by access to proprietary data from a large religious organization with entities operating globally. Further, this study responds to a lacuna identified by Nakpodia, Shrives, and Sorour (2020) for religiosity and governance practices to be studied in environments outside of developed countries.

Scholarly research indicates that denominational traditions influence organizational behavior in ways that may produce different outcomes than those observed in the SDA Church context. Experimental evidence from Kirchmaier, Prüfer, and Trautmann (2018), for example,

demonstrates that Catholics and Protestants differ regarding moral judgment, trust, cooperation, and charity—differences that may translate into distinct governance dynamics within religious organizations. Related studies in economics and finance also document denominational variation, such as evidence that Protestants are more risk averse than Catholics (Hilary and Hui 2009). If the denominational setting of this study were the Catholic Church rather than the SDA Church, these differences could plausibly affect both the incidence of internal control deficiencies and the moderating role played by audit committees, particularly in emerging economies where institutional capacity and oversight traditions vary widely.

3.2.3. Hypotheses

Religiosity plays a particularly salient role in impacting organizational behavior in emerging economies, where social institutions often exhibit weaker regulatory enforcement, limited governance infrastructure, and greater dependence on interpersonal trust and communal norms. Prior research suggests that in such environments, religiosity can exert both stabilizing and destabilizing influences. Shared beliefs may foster cohesion, prosocial behavior, and high levels of interpersonal trust, yet these same characteristics can inadvertently weaken the perceived need for formal oversight, giving rise to accountability structures that are informal or symbolic rather than procedural (Tracey, Phillips, and Lounsbury 2014; Weaver and Stansbury 2014). In settings where institutional capacity is constrained, such trust-based dynamics may substitute for robust monitoring systems, amplifying governance risks. This dynamic is likely to be significantly less pronounced in developed economies, where strong legal frameworks, regulatory expectations, and enforcement infrastructures reduce the extent to which informal or religious norms shape organizational controls.

These contextual differences help explain why internal control deficiencies (ICDs) tend to manifest differently across economic environments. Developed economies generally benefit from mature legal systems, sophisticated reporting frameworks, and professionalized

governance mechanisms that reduce the likelihood of ICDs or facilitate their timely detection and remediation (Doyle, Ge, and McVay 2007). By contrast, emerging economies frequently encounter obstacles such as limited financial expertise, weak internal audit functions, fragmented documentation practices, and heightened exposure to fraud risks. These structural constraints undermine preventive and detective controls, increase dependence on individual judgment, and ultimately elevate both the incidence and persistence of ICDs. When overlaid with religious norms that value trust, forgiveness, and deference to authority, these weaknesses may further erode the perceived necessity of formal internal control systems, thereby increasing vulnerability to deficiencies.

Audit committees—intended to serve as a central governance mechanism for strengthening oversight and internal control quality—also vary markedly in their effectiveness across developed and emerging economies. In developed economies, audit committees typically benefit from higher levels of independence, technical expertise, and regulatory accountability. These features are associated with improved internal control reliability and enhanced financial reporting quality (Klein 2002; Contessotto and Moroney 2014). However, in emerging economies, audit committees often operate under constraints that limit their oversight capacity. Cultural norms may inform committee members' perceptions of their monitoring role, regulatory enforcement tends to be weaker, and resource limitations may reduce the frequency and depth of committee engagement. Consequently, the moderating influence of audit committees on ICD risk may be inconsistent and highly dependent on the surrounding institutional and cultural environment.

Three theoretical frameworks—agency theory, stewardship theory, and institutional theory—offer complementary perspectives on how audit committees may moderate the risks associated with religiosity. Agency theory posits that audit committees function as essential monitoring bodies designed to mitigate managerial opportunism by ensuring that management

acts in the organization's best interests. Under this lens, audit committees are particularly critical in contexts where trust-based managerial practices, potentially amplified by religiosity, may otherwise displace rigorous control measures. Stewardship theory, by contrast, assumes that managers—especially those guided by strong ethical or religious convictions—act as stewards of organizational interests. From this viewpoint, audit committees may serve primarily symbolic purposes, reassuring stakeholders while exerting limited influence over managerial behavior. Institutional theory further emphasizes that the effectiveness of audit committees is deeply influenced by the broader environment in which they operate. Legal systems, cultural expectations, and the salience of religious norms all affect whether audit committees possess the authority, legitimacy, and capacity needed to function as effective governance mechanisms.

The foregoing theoretical perspectives highlight that audit committee effectiveness is neither uniform nor automatic; rather, it is contingent on organizational, cultural, and institutional contexts. Agency theory highlights the need for active oversight in environments prone to monitoring gaps. Stewardship theory suggests that oversight may be less necessary when managers are intrinsically motivated toward ethical behavior. Institutional theory integrates these insights by recognizing local norms—including religiosity—interact with governance structures in ways that can either enhance or undermine monitoring effectiveness.

Building on these theoretical foundations, Figure 1 presents a conceptual model illustrating how audit committees may moderate the relationship between religiosity and the risk of new and repeated ICDs.

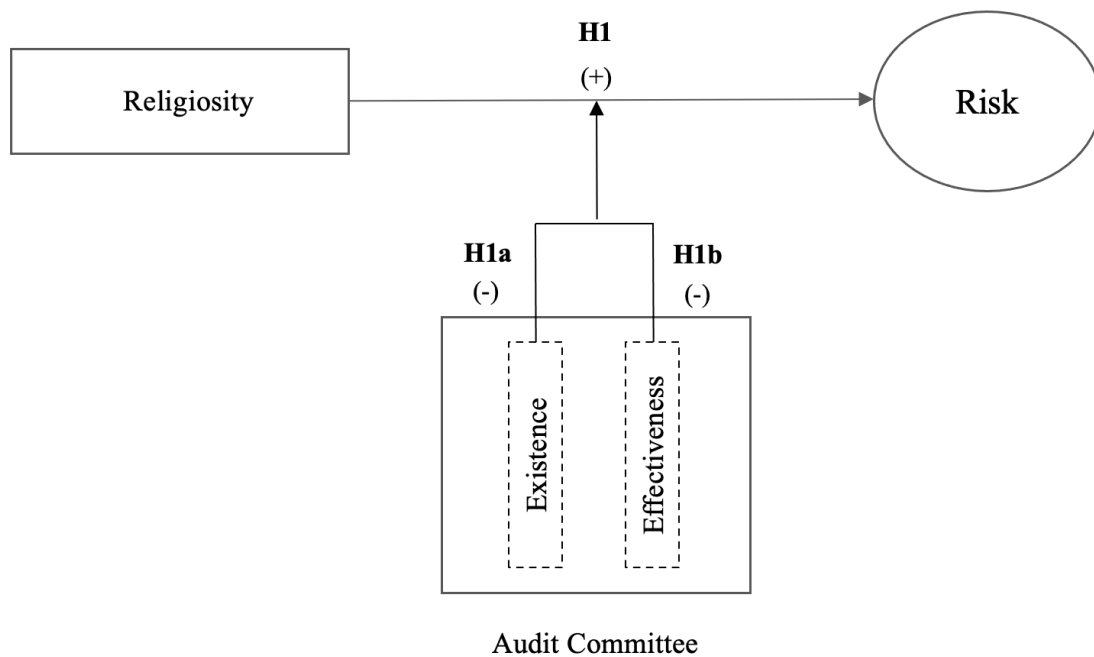


Figure 1. Religious Risk Moderation Model

This figure represents a conceptual model illustrating the moderating effects of implementing an audit committee on religiosity increasing the risk regarding new and repeated internal control deficiencies.

This conceptual model depicts religiosity as a contextual risk factor that increases the likelihood of ICDs, extending research that highlights religion’s potential to yield maladaptive outcomes (Chan-Serafin, Brief, and George 2013) or to produce incongruent behavior despite strong moral norms (Weaver and Stansbury 2014). Internal control deficiencies reflect failures to detect and correct weaknesses on a timely basis and signal vulnerabilities within the control environment. By introducing formal oversight and enforcing monitoring discipline, audit committees have the potential to counterbalance risks associated with religiosity but their moderating effect depends on their independence, expertise, and procedural robustness.

Synthesizing these literatures provides a strong theoretical foundation for expecting religiosity to operate as a risk factor for ICDs in emerging economies and highlights the importance of examining whether audit committees can mitigate this risk. In environments where institutional infrastructures are less developed and religious norms are more deeply

embedded, internal control systems are inherently more fragile. The ability of audit committees to moderate this risk is aided by their structural strength, professional capacity, and cultural legitimacy which are factors that vary substantially across emerging contexts. These insights collectively motivate the development of the following hypotheses:

H1: Religiosity is positively associated with the risk of new or repeated ICDs in emerging economies.

H1a: The existence of an audit committee moderates the effect of religiosity on the risk of new or repeated ICDs in emerging economies.

H1b: The effectiveness of an audit committee moderates the effect of religiosity on the risk of new or repeated ICDs in emerging economies.

3.2.4. Regression Models

I use the following baseline regression models to estimate whether the degree of religiosity in a country increases the number of new and repeated ICDs and to what extent the existence or effectiveness of an audit committee moderates religious risk:

$$\begin{aligned}
 &ICD_new \text{ or } ICD_repeated \\
 &= \beta_0 + \beta_1 Religiosity + Control \text{ variables} \\
 &+ \text{Fixed effects of Country, Region, Type, and Year}
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 &ICD_new \text{ or } ICD_repeated \\
 &= \beta_0 + \beta_1 Religiosity + \beta_2 Religiosity * AC_existence + AC_existence \\
 &+ Control \text{ variables} + \text{Fixed effects of Country, Region, Type, and Year}
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 &ICD_new \text{ or } ICD_repeated \\
 &= \beta_0 + \beta_1 Religiosity + \beta_2 Religiosity * AC_effectiveness \\
 &+ AC_effectiveness + Control \text{ variables} \\
 &+ \text{Fixed effects of Country, Region, Type, and Year}
 \end{aligned} \tag{3}$$

All variables are defined in Appendix 3A. The dependent variables for my regression model are the log values for the number of ICDs that are new (*ICD_new*) and

repeated (*ICD_repeated*).¹⁹ Based on the operating policies of the SDA Church, an annual financial audit is required for its denominational entities. As part of the reporting for those financial audits, ICDs are noted and differentiated as to their being any instance(s) of significant deficiency or material weakness. According to the U.S. Auditing Standards, a *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance; *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

There are four main variables of interest. First, is a measure of the degree of religiosity in a country (*Religiosity*); second, is the existence of an audit committee at the organization (*AC_existence*); third is a perspective on the effectiveness of the audit committee that exhibits the characteristic of having a financial expert and making reports and recommendations to controlling board (*AC_ExpertRptg*); and fourth, is another perspective on the effectiveness of the audit committee that exhibits the characteristic of having a financial expert on a committee that at least two times per year (*AC_ExpertMtg*s).

Consistent with prior research, I control for country-level, organizational-level, and other variables. The country-level variables help to assure *Religiosity* only captures the effect related to this social norm and includes the gross national income per capita (*Income*); education index (*Education*); the average age of the population (*AvgAge*); and using the country score listed on the World Governance Index (*WGI*) that incorporates six dimensions of

¹⁹ U.S. Auditing Standards (ASB, 2015) defines a deficiency in internal control as a function of its design and operation as follows: Deficiency - A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A deficiency in *design* exists when (a) a control necessary to meet the control objective is missing, or (b) an existing control is not properly designed so that, even if the control operates as designed, the control objective would not be met. A deficiency in *operation* exists when a properly designed control does not operate as designed or when the person performing the control does not possess the necessary authority or competence to perform the control effectively.

governance – Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. I include *WGI* as the underlying dimensions differ between countries and are factors that can have an impact on societal actions. The organizational-level variables include the *Size* and *Age* of the organization and have been referenced in research by Petrovits, Shakespeare, and Shih (2011) as being associated with ICDs. The other control variables are *Auditor_Capacity*, *Auditor_Certification*, and *AlignedRelCN*. *Auditor_Capacity* regards the staffing resource capacity in each region and addresses the reality that resource constraints could lead to increased deficiencies due to the irregularity of audits. *Auditor_Certification* regards the proportion of auditors holding professional certifications and serves as a proxy for the quality of the auditor and their expertise in being able to identify and report on deficiencies. *AlignedRelCN* regards whether the church entity is aligned with the dominant religion of the country where it is located.

I also control for the fixed effects related to the emerging countries (*Country*) in my sample; the four geographic regions for how the audit portfolios are grouped (*Region*); the time-invariant unobservable heterogeneity of organization type by adding fixed effects related to the various Seventh-day Adventist Church entities (*Type*); and year fixed effects related to audit years in my sample (*Year*) for the period 2012-2016.

3.2.5. Measuring Religiosity

To develop a measure for *Religiosity* based on the social norms of each country, I utilize the proportional responses to three questions related to religion on the World Values Survey Wave 6 (Inglehart et al., 2014). The first question addresses the *cognitive* dimension by respondents indicating their identifying as a religious person; the second question addresses the *affective* dimension by respondents indicating the importance of religion to their daily life; and the third question addresses the *behavioral* dimension by respondents indicating they attend church services at least weekly. *Religiosity* is determined by calculating the proportion of affirmative

responses to the total survey respondents in each country. In other words, I measure the degree of religiosity in each country for the three dimensions based on the proportion of affirmative responses with a higher proportion indicating a higher degree of religiosity. Thereafter, the dimension reduction technique of factor analysis with varimax rotation was used to construct a religiosity score for each country. The proportion of variance explained by the single factor used for this religiosity score was 86 percent which is well above the threshold of 60 percent for a construct to be valid (Hair, J.F., Black, W.C., Babin, B.J. and Anderson 2014). The religiosity score was standardized to reflect a mean of zero and a standard deviation of 1.

3.3. Sample and Descriptive Statistics

The sample used in this study was obtained from the SDA Church and includes information related to audit results for some of its organizations and survey results from some of its chief financial officers. Founded as a denomination in 1863, the SDA Church has grown both in membership and structural maturity and now has an established presence in 212 countries and areas of the world. With a membership of nearly 23 million persons as of December 2023 worshipping in nearly 175,000 churches, the SDA Church complements its global presence by operating more than 9,000 schools, 1800 healthcare facilities, 20 food companies, and 50 publishing houses.²⁰

The SDA Church administers a global audit program that adheres to internationally recognized auditing standards and applies the same methodological rigor across all regions in which it operates. Although nonprofit organizations often follow reporting frameworks and financial disclosure requirements that differ from those used in the for-profit sector, the underlying audit standards governing assurance work do not change. Consequently, the Church's audit processes—whether conducted in developed or emerging economies—are

²⁰ <https://documents.adventistarchives.org/Statistics/Other/SDAWorldChurchStatsSummary2023.pdf>

performed using consistent procedures, documentation expectations, quality control protocols, and ethical requirements equivalent to those applied in professional accounting practice worldwide. Auditors are trained to implement a standardized approach regardless of jurisdictional differences in regulatory environments or reporting norms, ensuring that the level of assurance, independence, and evaluative rigor remains uniform across the organization's global portfolio. This universal application reinforces the comparability and reliability of audit outcomes and supports high-quality internal control and governance practices across diverse economic contexts.

Although the professionals are themselves members of the Church, their independence is preserved as they are not employed by actual church organizations being subject to audit, and the financial arrangements regarding their services are not personally arranged. The global audit program is staffed by approximately 320 professionals located in 45 country offices with a portfolio of approximately 2,300 financial audit engagements. These engagements are conducted by professionals who hold or are pursuing globally recognized certifications. Further, the quality management system in which audit engagements are conducted is subjected to periodic evaluation by an external firm consistent with the expectations for those accounting firms in public practice.²¹

The sample was assembled in three steps. First, summarized results for financial audit engagements conducted during 2012–2016 were obtained, yielding 2,670 observations related to 534 church entities that received an audit in each of the five years. The choice of this five-year window reflects the period for which complete, consistent, and comparable audit information was available across the Church's global operations, enabling the construction of a balanced panel dataset suitable for examining internal control deficiencies and governance practices over time. Second, a survey instrument was designed and distributed to chief financial

²¹ <https://gcasconnect.org>

officers to collect organization-specific information on internal control systems, financial reporting practices, and audit committee activities. To ensure broad accessibility and minimize response bias in a multilingual environment, the survey was translated into eight languages (English, French, German, Korean, Russian, Romanian, Portuguese, and Spanish) and distributed online to 1,847 individuals, resulting in a 53.2% response rate. Third, a unique identifier was used to merge the summarized audit results with the survey responses, producing a final sample of 865 observations representing 173 entities (see Table 1 – Panel A). The 17 countries appearing in the sample—Argentina, Brazil, Chile, Colombia, Ecuador, Ghana, India, Mexico, Nigeria, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, and Trinidad and Tobago—were not selected by design but rather reflect the emerging-economy contexts in which Church entities underwent annual audits during each of the sample period years. Their presence provides natural variation in institutional environments, regulatory settings, and governance practices, thereby strengthening the empirical foundation for examining cross-country differences in internal controls and audit committee effectiveness.

Consistent with the purpose of my study, I will focus my attention on the observations related to emerging economies with the exclusion of Brazil to mitigate any concerns associated with its high representation of observations (36%) in that category. Table 1 – Panel B shows descriptive statistics for the sample used in my study, with Panel C presenting Pearson correlations. As expected, there are positive correlations with both *ICD_new* and *ICD_repeated* and my variable of interest *Religiosity*.

Table 1. Descriptive Statistics

Panel A: Sample Statistics

	Total Observations	Number of Entities
Financial Audit Engagements 2012-2016	2670	534
Merged Data with CFO Survey Data	865	173
Less: Observations from Advanced Economies	(410)	(82)
Observations from Emerging Economies*	455	91
17 Countries in Sample:		Percent
Argentina	20	4.40%
Brazil	165	36.26%
Chile	10	2.20%
Colombia	35	7.69%
Ecuador	15	3.30%
Ghana	30	6.59%
India	5	1.10%
Mexico	90	19.78%
Nigeria	10	2.20%
Peru	10	2.20%
Philippines	20	4.40%
Poland	10	2.20%
Romania	5	1.10%
Russia	5	1.10%
South Africa	10	2.20%
Thailand	5	1.10%
Trinidad and Tobago	10	2.20%
	455	100%

* Source: World Economic Outlook Database - <https://www.imf.org/en/Publications/WEO/weo-database/>

Table 1. Descriptive Statistics

Panel B: Descriptive Statistics

	mean	SD	Q1	Median	Q3
Dependent Variables:					
<i>ICD_new</i>	0.718	0.300	0.602	0.699	0.954
<i>ICD_repeats</i>	0.400	0.315	0.000	0.477	0.602
Variables of Interest:					
<i>Religiosity</i>	0.000	1.000	-0.083	-0.039	0.211
<i>Rel_person</i>	0.000	1.000	-0.256	-0.073	0.413
<i>Rel_importance</i>	0.000	1.000	0.014	0.040	0.534
<i>Rel_attendance</i>	0.000	1.000	-0.101	-0.101	0.326
<i>AC_existence</i>	0.807	0.395	1.000	1.000	1.000
<i>AC_ExpertRptg</i>	0.500	0.501	0.000	0.500	1.000
<i>AC_ExpertMtg</i>	0.121	0.326	0.000	0.000	0.000
Country-level Control Variables:					
<i>Income</i>	14,750	6,487	10,905	16,830	18,290
<i>Education</i>	0.672	0.087	0.652	0.664	0.704
<i>AvgAge</i>	26.81	4.96	24.93	26.33	28.52
<i>WGI</i>	58.68	7.00	55.10	57.37	63.34
Organizational-level Control Variables:					
<i>Size</i>	5.238	1.457	4.388	5.030	6.037
<i>Age</i>	3.286	1.178	2.000	3.000	4.000
Other Control Variables:					
<i>Auditor_Capacity</i>	0.543	0.074	0.540	0.548	0.548
<i>Auditor_Certification</i>	0.799	0.204	0.864	0.889	0.889
<i>Aligned_RelCN</i>	0.897	0.305	1.000	1.000	1.000

Table 1. Descriptive Statistics (continued)

Panel C: Pearson Correlations	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) <i>Religiosity</i>	-	0.198	0.267	-0.146	-0.006	0.104	-0.675	-0.786	-0.688	-0.125	0.142	0.607	-0.314	-0.519	0.025
(2) <i>ICD_new</i>		-	0.447	-0.316	0.182	-0.084	-0.336	-0.220	-0.237	-0.041	0.134	0.199	0.021	-0.167	-0.202
(3) <i>ICD_repeats</i>			-	-0.251	0.107	0.022	-0.198	-0.208	-0.165	-0.080	0.101	0.186	0.176	-0.044	-0.197
(4) <i>AC_existence</i>				-	0.052	0.203	0.025	-0.036	-0.004	0.058	0.099	-0.163	-0.011	0.110	0.092
(5) <i>AC_ExpertRptg</i>					-	0.159	-0.092	-0.023	-0.098	-0.070	0.188	0.009	0.178	0.077	-0.113
(6) <i>AC_ExpertMtg</i>						-	0.195	-0.065	0.555	0.061	-0.053	0.036	-0.061	0.033	0.126
(7) <i>Income</i>							-	0.751	0.811	0.079	-0.212	0.017	0.266	0.454	0.102
(8) <i>Education</i>								-	0.798	0.384	-0.128	0.016	0.320	0.469	0.244
(9) <i>AvgAge</i>									-	0.263	-0.143	0.194	0.347	0.322	-0.125
(10) <i>WGI</i>										-	0.193	0.203	-0.188	-0.195	-0.368
(11) <i>Size</i>											-	0.205	0.065	-0.116	-0.064
(12) <i>Age</i>												-	-0.157	-0.331	-0.302
(13) <i>Auditor_Capacity</i>													-	0.685	-0.116
(14) <i>Auditor_Certification</i>														-	0.322
(15) <i>AlignedRelCN</i>															-

This table presents descriptive statistics related to a sample of financial audit observations for the years 2012-2016 from Seventh-day Adventist Church entities located in emerging economies. See Appendix 1 for definition of all variables. Panel A presents sample statistics, Panel B presents descriptive statistics for the dependent variables, variables of interests, and control variables. Panels C present Pearson correlations. Coefficients are bolded when significant from at least $p < .10$ (two tailed tests).

*, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

3.4. Main Results

This section presents the results based on regression analyses for whether religiosity as determined by the religious social norms of a country increases ICDs that are new or repeated; and to what extent the existence and effectiveness of audit committees moderate these results. For brevity, the coefficients related to controlling for country-level variables, organizational-level variables, other variables, and the fixed effects of country, region, type of entity, and audit year were not tabulated.

The main effect of *Religiosity* exhibits a positive and statistically significant association with new ICDs (0.819, $SE = 0.218$), indicating that higher religiosity is associated with an increased likelihood of newly emerging control weaknesses even when Brazil is excluded from the sample. By contrast, the coefficient on *Religiosity* for repeated ICDs (0.028, $SE = 0.327$) is positive but not statistically significant, suggesting that the influence of religiosity is concentrated in the initial emergence of deficiencies rather than in their persistence. For completeness, I also estimate specifications using an aggregate measure of ICDs as the dependent variable for both the full sample of emerging economies and the sample excluding Brazil. In both cases, *Religiosity* remains positively and statistically significantly associated with ICDs (0.272, $SE=0.132$ and 0.654, $SE=0.187$) indicating that the documented relationship is not driven by a single country and is robust to alternative sample constructions. Taken together, these results provide additional support for the main hypothesis by demonstrating that religiosity is systematically related to higher internal control risk in emerging economies, particularly with respect to the onset of new deficiencies. These results were not tabulated.

3.4.1. The Effect of Audit Committee Existence on Religious Risk Regarding ICDs

In Table 2 – Panel A, I begin by analyzing the current year effect of audit committee existence to explore the notion that the mere establishment of an audit committee as a governance mechanism may serve as a preventive measure against failures within the internal control system. At this juncture, my examination centers on whether the presence of an audit committee can deter deficiencies in control structures, regardless of specific committee activities or characteristics.

Examining the main effect of *Religiosity*, the results demonstrate a statistically significant positive relationship with the number of newly reported ICDs, as indicated by an increase of 1.007 ($SE=0.228$). This finding suggests that higher levels of religiosity correlate with increased incidence of new ICDs, confirming religiosity as a risk factor for internal governance weaknesses. However, when interacting this religious risk with the existence of an audit committee, the results reveal a significant moderating effect, showing that an audit committee's presence can reduce the impact of religiosity on ICDs. Specifically, the interaction effect shows a decrease of -0.133 ($SE=0.043$) for new ICDs and -0.109 ($SE=0.373$) for repeated ICDs. This moderating role indicates that audit committees may serve as a buffer against religious risk factors that lead to both the emergence of new deficiencies and the recurrence of existing ones.

Nonetheless, the main effect of an audit committee's presence aligns with my expectation only for new ICDs, with no significant impact on repeated deficiencies. This outcome suggests that while an audit committee may effectively prevent new control issues from arising, its influence may be limited in addressing persistent or recurring deficiencies. This limitation could indicate that simply having an audit committee in place is insufficient for the long-term mitigation of existing control weaknesses.

Table 2 - Panel A. The Effect of Audit Committee Existence on Religious Risk Regarding ICD

Panel A	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)
<i>Religiosity</i>	1.007*** (0.228)	0.219 (0.343)
<i>Religiosity*AC_existence</i>	-0.133*** (0.043)	-0.109* (0.062)
<i>AC_existence</i>	-0.124*** (0.047)	(0.015) (0.067)
Control Variables:		
Country-level variables	Included	Included
Organizational-level variables	Included	Included
Other variables	Included	Included
Fixed Effects:		
Country	Included	Included
Region	Included	Included
Type	Included	Included
Year	Included	Included
Intercept	Included	Included
Observations	278	178
<i>Adjusted R²</i>	0.454	0.406

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent current year effect for the existence of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Religiosity*, is a measure for the religious social norms of a country determined by using the dimension reduction technique of factor analysis of proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence* is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

It may be that more robust, ongoing audit committee involvement, beyond mere existence, is necessary to consistently address recurring deficiencies. These findings collectively highlight the potential of audit committees to moderate religiosity-associated risks in internal control, particularly by curbing the onset of new deficiencies, though further examination of their role in addressing repeated issues remains warranted.

Given that *Religiosity* is measured as a composite score, I conduct additional analysis in Table 2 – Panel B to determine if the patterns observed with the composite score persist when its component scores—*Rel_person*, *Rel_importance*, and *Rel_attendance*—are included

separately in the regression model. This approach allows for a more granular understanding of how distinct aspects of religiosity might uniquely influence the risk regarding new or repeated ICDs.

Similar to the findings with the composite religiosity score, each of the component scores exhibits a statistically significant main effect on new ICDs, making the point that different facets of religiosity are associated with an elevated risk of control deficiencies. Specifically, *Rel_person*, which represents religious identification (2.946, *SE*=0.785), *Rel_importance*, which captures the perceived significance of religion in an individual's life (0.816, *SE*=0.179), and *Rel_attendance*, which reflects active participation in religious activities (1.227, *SE*=0.292), show positive associations with new ICDs. These results align with the theoretical expectation that greater religious identification, religious importance and active participation may lead to heightened risk, possibly due to the prioritization of trust and informal oversight within religious contexts, which could reduce vigilance over formal controls (Koerber and Neck, 2006).

Additionally, the interaction and main effects related to the presence of an audit committee are consistent with prior results when each component of *Religiosity* is considered independently. This consistency reinforces the audit committee's moderating role across different aspects of religiosity, particularly in reducing the impact of deeply held and behaviorally expressed religious beliefs on ICDs. These findings collectively suggest that, while religiosity in a general sense may pose certain governance risks, the intensity and behavioral manifestation of religiosity are critical in determining the extent of that risk, thus highlighting the importance of nuanced governance approaches tailored to specific dimensions of religiosity.

Table 2 – Panel B. The Effect of Audit Committee Existence on Religious Risk Regarding ICD

<i>X</i> =	<i>ICD_new</i> <i>Rel_person</i> (1)	<i>ICD_repeats</i> (2)	<i>ICD_new</i> <i>Rel_importance</i> (3)	<i>ICD_repeats</i> (4)	<i>ICD_new</i> <i>Rel_attendance</i> (5)	<i>ICD_repeats</i> (6)
<i>X</i>	2.946*** (0.785)	0.126 (1.196)	0.816*** (0.179)	0.251 (0.268)	1.277*** (0.292)	0.262 (0.443)
<i>X*AC_existence</i>	-0.105** (0.052)	-0.026 (0.071)	-0.136*** (0.043)	-0.136** (0.063)	-0.135*** (0.043)	-0.107* (0.060)
<i>AC_existence</i>	-0.128*** (0.048)	-0.042 (0.069)	-0.126*** (0.047)	-0.009 (0.067)	-0.126*** (0.047)	-0.020 (0.066)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	278	178	278	178	278	178
<i>Adjusted R</i> ²	0.442	0.394	0.455	0.412	0.455	0.406

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the current year effect for the existence of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *X*, represents *Rel_person*, *Rel_importance* and *Rel_attendance* as being the component scores related to the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence*, is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

In Table 3 – Panel A, I examine the effect of an audit committee’s existence on ICDs in the subsequent year, acknowledging that the benefits of audit committee oversight often materialize after a delay. This approach recognizes that an audit committee typically reviews the audit reports and internal control assessments provided by auditors over a fiscal year and that its influence on governance practices is likely to be more observable in the following period.

Table 3 - Panel A. The Effect of Audit Committee Existence on Religious Risk Regarding ICD

	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)
<i>Religiosity</i>	1.128*** (0.302)	0.451 (0.355)
<i>Religiosity*Lag_AC_existence</i>	-0.111** (0.051)	-0.189*** (0.067)
<i>Lag_AC_existence</i>	-0.098* (0.056)	0.028 (0.066)
Control Variables:		
Country-level variables	Included	Included
Organizational-level variables	Included	Included
Other variables	Included	Included
Fixed Effects:		
Country	Included	Included
Region	Included	Included
Type	Included	Included
Year	Included	Included
Intercept	Included	Included
Observations	220	178
Adjusted R ²	0.424	0.422

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent subsequent year effect for the existence of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Religiosity*, is a measure for the religious social norms of a country determined by using the dimension reduction technique of factor analysis of proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence*, is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

The main effect of *Religiosity* remains consistent with earlier findings, showing a statistically significant positive association with new ICDs in the subsequent year (1.128, *SE*=0.302). This result suggests that elevated levels of *Religiosity* continue to correlate with an increased risk of emerging deficiencies, supporting the view that heightened *Religiosity* may impact control environments, potentially by fostering a culture that relies heavily on informal trust rather than stringent oversight mechanisms. However, when examining the interaction effect between *Religiosity* and the presence of an audit committee, the results indicate a significant moderating effect on both new and repeated ICDs in the subsequent year.

Specifically, the presence of an audit committee reduces the impact of religiosity on new ICDs by -0.111 ($SE=0.051$) and on repeated ICDs by -0.189 ($SE=0.067$). These findings imply that audit committees may effectively buffer the risks associated with religiosity, particularly as their oversight activities are fully realized over time. The reduction in repeated deficiencies highlights the potential for audit committees not only to prevent new control issues but also to address ongoing or persistent risks, thereby strengthening the internal control environment.

Interestingly, the main effect of the audit committee's existence aligns with expectations only in reducing new ICDs, with no significant impact observed on repeated deficiencies. This finding suggests that while an audit committee's establishment is instrumental in curbing the incidence of new control failures, its effect on entrenched issues may require more than simply formalizing its presence. The committee's effectiveness in tackling recurring deficiencies likely depends on additional factors, such as the frequency of meetings, the expertise of its members, or the depth of its engagement with auditors and management.

In Table 3 – Panel B, the analysis focuses on the religiosity component scores, replicating and extending prior assessments to evaluate the consistency of findings. The results suggest that the religiosity component scores align closely with those observed in the effect of the audit committee during the current year, indicating robustness in the relationship between religiosity and audit committee existence. Furthermore, the associated insights from the analyses related to religiosity component scores and the current year effect of the audit committee remain applicable when examining the subsequent year effect.

Overall, these results speak to the importance of a sustained and active audit committee in moderating the religious risks associated with ICDs, particularly as its influence accumulates over time. This delayed effect highlights the need for organizations to consider not only the structural presence of an audit committee but also the strategic timing and depth of its activities to fully realize its governance benefits.

Table 3 - Panel B. The Effect of Audit Committee Existence on Religious Risk Regarding ICD

	<i>ICD_new</i>	<i>ICD_repeats</i>	<i>ICD_new</i>	<i>ICD_repeats</i>	<i>ICD_new</i>	<i>ICD_repeats</i>
<i>X</i> =	<i>Rel_person</i>		<i>Rel_importance</i>		<i>Rel_attendance</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>X</i>	3.651*** (1.057)	0.683 (1.231)	0.855*** (0.233)	0.414 (0.276)	1.494*** (0.387)	0.505 (0.452)
<i>X*Lag_AC_existence</i>	-0.105* (0.062)	-0.135* (0.077)	-0.099** (0.050)	-0.202*** (0.067)	-0.132*** (0.051)	-0.181*** (0.065)
<i>Lag_AC_existence</i>	-0.092 (0.056)	0.017 (0.067)	-0.098* (0.056)	0.033 (0.066)	-0.100* (0.055)	0.022 (0.066)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	220	178	220	178	220	178
Adjusted R^2	0.418	0.404	0.421	0.427	0.430	0.422

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the subsequent year effect for the existence of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *X*, represents *Rel_person*, *Rel_importance* and *Rel_attendance* as being the component scores related to the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence*, is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

The findings from both the current and subsequent year analyses provide partial support for my hypothesis, which posits that religiosity increases the number of ICDs in emerging economies. Specifically, the statistically significant results for new ICDs indicate that higher religiosity levels correlate with an increased occurrence of ICDs as they emerge, lending credence to the notion that heightened religiosity may, in certain environments, impact organizational oversight. However, this effect appears to be limited to new ICDs, as neither religiosity nor the existence of an audit committee (*AC_existence*) exerts a statistically significant main effect on repeated ICDs. This partial confirmation suggests that the influence

of religiosity on ICDs may be most pronounced during the initial emergence of control issues, with less impact on deficiencies that are ongoing or recurring. Interpreted economically, higher religiosity corresponds to a meaningful increase in the likelihood that organizations experience first-time control failures, consistent with the notion that trust-based norms and informal oversight can substitute for, rather than complement, formal control mechanisms. This effect is concentrated in the emergence of new deficiencies, suggesting that religiosity primarily affects the preventive dimension of internal control rather than the remediation of already identified weaknesses.

Similarly, the partial support extends to my subsidiary hypothesis, which addresses the role of audit committees in moderating the risks associated with religiosity. While *AC_existence* does not independently reduce the incidence of repeat ICDs, the interaction effect between *AC_existence* and *Religiosity* aligns with expectations. This interaction indicates that audit committees serve a crucial role in tempering the religious risk associated with both new and repeated ICDs, even when their presence alone does not mitigate recurring ICDs. This moderating effect is significant, suggesting that while the mere establishment of an audit committee may not directly prevent repeated control failures, its role in counterbalancing the risks associated with a high-religiosity environment remains pivotal.

These results imply that audit committees in emerging economies can function as an important governance tool, particularly when religious influences pose a unique risk to control environments. Although *AC_existence* does not act as a standalone solution for repeated ICDs, its interaction with religiosity reveals that the committee's presence effectively dampens religious risk for both types of ICDs. This supports the argument that audit committees can enhance the resilience of internal controls in religiously salient contexts by moderating the tendency toward increased ICDs, thus reinforcing the importance of audit committee structures in governance frameworks for emerging economies. Economically, this implies that audit

committees dampen the incremental risk introduced by religious environments, effectively lowering the sensitivity of internal control outcomes to increases in religiosity. The moderating effect is especially pronounced in the subsequent year, consistent with the timing of audit committee influence, as oversight actions typically follow audit review cycles. This lagged moderation suggests that audit committees contribute to risk mitigation through sustained engagement rather than immediate structural presence.

Analysis of the religiosity components further reinforces the economic interpretation. Religious identification, perceived importance of religion, and religious participation each exhibit economically meaningful associations with new ICDs, indicating that both attitudinal and behavioral dimensions of religiosity contribute to governance risk. The consistency of the moderating effect across these components suggests that audit committees are effective not merely against abstract religious norms but also against deeply held beliefs and actively practiced religiosity. In economic terms, this implies that audit committees can curb the incremental risk associated with higher “intensity” of religiosity, rather than only its nominal presence.

Collectively, these findings highlight that the economic significance of audit committees in emerging economies lies less in their standalone ability to eliminate control problems and more in their capacity to counterbalance contextual risks—particularly those arising from strong religious social norms. While audit committee existence alone may be insufficient to resolve entrenched deficiencies, its interaction with religiosity materially reduces the expected incidence and persistence of ICDs. This signals the importance of audit committees as risk-mitigating institutions whose economic value is realized through moderating forces that otherwise heighten governance vulnerability in religiously salient environments.

3.4.2. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICDs

In Tables 4 and 5, I present a detailed examination of audit committee effectiveness by analyzing specific characteristics from two distinct perspectives, each of which highlights a different aspect of audit committee structure and functioning.

The first perspective (*AC_ExpertRptg*) centers on the role of an audit committee that includes at least one financial expert, and that actively participates in providing reports and recommendations to the controlling board. This characteristic is critical as it reflects not only the presence of specialized financial expertise but also highlights the committee's active role in governance through regular, structured communication with board members. Such an arrangement suggests that the audit committee is well-equipped to detect and respond to financial and operational risks, as the financial expert can provide technical insights that support more informed decision-making by the board. Moreover, the process of routine reporting ensures that the board remains apprised of key control issues and recommendations, thus potentially fostering a culture of continuous improvement in the internal control environment. The benefit of this expertise and reporting function is expected to manifest in the subsequent year, as it often takes time for the audit committee's insights and recommendations to translate into tangible improvements in internal controls.

The results reported in Table 4 – Panel A indicate that *Religiosity* does not exhibit a statistically significant main effect on either new ICDs (0.461, $SE = 0.323$) or repeated ICDs (–0.298, $SE = 0.366$). The interaction between *Religiosity* and *AC_ExpertRptg* yields positive and statistically significant coefficients for both new and repeated ICDs which is an unexpected finding that suggests audit committees characterized by financial expertise and formal reporting may, under certain conditions, amplify rather than mitigate religiosity-related control risk. One possible interpretation is that, in highly religious contexts, the presence of a financially sophisticated audit committee that reports to the controlling board may foster

overreliance on expertise or trust-based assumptions, leading to reduced skepticism or more symbolic forms of oversight. In such settings, reporting and recommendations alone may be insufficient to counteract informal norms associated with religiosity and may inadvertently legitimize existing practices rather than challenge them.

At the same time, *AC_ExpertRptg* exhibits a negative and statistically significant main effect on repeated ICDs (-0.396 , $SE = 0.159$), indicating that audit committees with financial expertise and reporting responsibilities are economically meaningful in addressing persistent or recurring control weaknesses. This pattern suggests an important distinction between the **prevention** of new deficiencies and the **remediation** of existing ones. While *AC_ExpertRptg* may not effectively deter the initial emergence of control problems in religiously salient environments—and may even interact with religiosity in ways that increase risk—it appears better suited to facilitating corrective action once deficiencies have been identified, likely through sustained engagement and structured communication with the controlling board.

Results in Table 4 – Panel B provide further insight by examining the individual components of religiosity. Among these measures, *Rel_person* (2.668 , $SE = 1.033$) and *Rel_attendance* (0.819 , $SE = 0.386$) are positively associated with new ICDs, whereas *Rel_importance* does not exhibit a statistically significant effect. This pattern suggests that religiosity poses greater control risk when it is behaviorally expressed or tied to personal identity rather than merely held as an abstract belief. Consistent with the composite measure, the interaction effects between each religiosity component and *AC_ExpertRptg* are again positive and statistically significant, reinforcing the inference that financial expertise and reporting mechanisms alone may be insufficient to counteract the governance risks associated with deeply embedded or actively practiced religiosity.

Table 4 - Panel A. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICD

	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)
<i>Religiosity</i>	0.461 (0.323)	-0.298 (0.366)
<i>Religiosity*Lag_AC_ExpertRptg</i>	0.399** (0.162)	0.369* (0.188)
<i>Lag_AC_ExpertRptg</i>	-0.143 (0.123)	-0.396** (0.159)
Control Variables:		
Country-level variables	Included	Included
Organizational-level variables	Included	Included
Other variables	Included	Included
Fixed Effects:		
Country	Included	Included
Region	Included	Included
Type	Included	Included
Year	Included	Included
Intercept	Included	Included
Observations	220	178
Adjusted R ²	0.421	0.416

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent subsequent year effect for the effectiveness of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Religiosity*, is a measure for the religious social norms of a country determined by using the dimension reduction technique of factor analysis of proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_ExpertRptg*, is an indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

Table 4 - Panel B. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICD

	<i>ICD_new</i>	<i>ICD_repeats</i>	<i>ICD_new</i>	<i>ICD_repeats</i>	<i>ICD_new</i>	<i>ICD_repeats</i>
<i>X</i> =	<i>Rel_person</i>		<i>Rel_importance</i>		<i>Rel_attendance</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>X</i>	2.668** (1.033)	-0.162 (1.182)	0.126 (0.301)	-0.433 (0.341)	0.819** (0.386)	-0.188 (0.439)
<i>X*Lag_AC_ExpertRptg</i>	0.453** (0.184)	0.419* (0.214)	0.525** (0.214)	0.487* (0.248)	0.303** (0.123)	0.281* (0.143)
<i>Lag_AC_ExpertRptg</i>	-0.262 (0.161)	-0.506** (0.204)	-0.143 (0.123)	-0.396** (0.159)	-0.077 (0.107)	-0.335** (0.138)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	220	178	220	178	220	178
Adjusted R^2	0.421	0.416	0.421	0.416	0.421	0.416

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the subsequent year effect for the effectiveness of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *X*, represents *Rel_person*, *Rel_importance* and *Rel_attendance* as being the component scores related to the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_ExpertRptg*, is an indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

Importantly, across all specifications, *AC_ExpertRptg* continues to reduce repeated ICDs as a main effect, highlighting its role in strengthening remediation processes even as its interaction with religiosity yields counterintuitive results. Together, these findings suggest that audit committees with financial expertise and formal reporting structures contribute meaningfully to resolving ongoing control deficiencies, but may require additional structural, behavioral, or independence-enhancing mechanisms to effectively mitigate the initial risks posed by religiosity. These results highlight the complexity of governance in religiously salient environments and point to the need for more nuanced audit committee designs that explicitly address the interaction between expertise, oversight practices, and social norms.

The second perspective (*AC_ExpertMtg*s) evaluates audit committee effectiveness based on meeting frequency—specifically when the audit committee meets more than once per year and includes at least one financial expert. This perspective emphasizes that while the expertise of committee members is crucial, frequent meetings enhance the committee's ability to stay engaged with and responsive to ongoing governance needs. Regular meetings allow the audit committee to address emerging risks promptly, integrate auditor feedback, and continuously monitor the organization's internal control processes. By meeting frequently, particularly with financial expertise present, the committee aligns with best governance practices, fostering a proactive and adaptive approach that can more effectively meet the demands of a dynamic regulatory and operational environment.

From this perspective, results in Table 5 – Panel A show a significant main effect of *Religiosity*, with a positive association with new ICDs (0.853, *SE*=0.283), while no significant effect is observed on repeated ICDs. This finding suggests that religiosity continues to be a risk factor primarily concerning new ICDs, consistent with prior analyses. However, the interaction effect between *Religiosity* and *AC_ExpertMtg*s unexpectedly displays a positive coefficient (0.319, *SE*=0.157) for repeated ICDs, indicating an increase in religious risk rather than a

moderating effect. This result is contrary to my expectations, as I anticipated that an audit committee meeting frequently and including a financial expert would help curb, rather than exacerbate, repeated ICDs associated with religiosity. This unexpected positive interaction may imply that in highly religious contexts, frequent meetings alone may not be sufficient and that other governance strategies may be required to counteract deeply ingrained behaviors or cultural norms that affect oversight. Another possible explanation emerges when considering the finding of Mohliver and Ody-Brasier (2023) that religious affiliation makes more severe the violations regarding standards of care in nursing homes. One of the underlying causes identified offering a plausible explanation for my unexpected result is that shared identity can affect the vigilance and quality of monitoring in that the inspectors – in my case the audit committee expert – is also part of the religious community.

The main effects of *AC_ExpertMtg*s remain aligned with expectations, showing a reduction in both new ICDs (-0.123 , $SE=0.073$) and repeated ICDs (-0.371 , $SE=0.146$). These results suggest that frequent meetings, coupled with the presence of a financial expert, generally enhance the audit committee's effectiveness in addressing ICDs over time. The negative main effects speak to the value of regular committee engagement in promoting stronger oversight and addressing both emerging and ongoing control weaknesses. This finding supports the notion that, as a standalone governance practice, meeting frequency paired with financial expertise is associated with improved internal controls, likely by increasing the committee's vigilance and capacity to implement timely corrective actions.

A similar pattern appears in Table 5 – Panel B when examining the individual components of religiosity—*Rel_person*, *Rel_importance*, and *Rel_attendance*. Here, *Rel_person* (3.098, SE=1.025), *Rel_importance* (0.647, SE=0.214) and *Rel_attendance* (1.113, SE=0.369) are all positively associated with new ICDs, suggesting again that religiosity as a risk factor is most pronounced when it is deeply valued or actively practiced. This pattern reinforces the idea that the identity, behavioral and attitudinal dimensions of religiosity are critical drivers of risk and are likely to shape informal control cultures.

Table 5 - Panel A. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICD

	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)
<i>Religiosity</i>	0.853*** (0.283)	0.086 (0.323)
<i>Religiosity*Lag_AC_ExpertMtg</i> s	0.128 (0.111)	0.319** (0.157)
<i>Lag_AC_ExpertMtg</i> s	-0.123* (0.073)	-0.371** (0.146)
Control Variables:		
Country-level variables	Included	Included
Organizational-level variables	Included	Included
Other variables	Included	Included
Fixed Effects:		
Country	Included	Included
Region	Included	Included
Type	Included	Included
Year	Included	Included
Intercept	Included	Included
Observations	220	178
Adjusted R ²	0.410	0.417

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent subsequent year effect for the effectiveness of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Religiosity*, is a measure for the religious social norms of a country determined by using the dimension reduction technique of factor analysis of proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_ExpertMtg*s, is an indicator variable that equals 1 if the organization has an audit committee that meets more than once per year and has at least one financial expert as a member, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

Unexpectedly, the interactions between each religiosity component and *AC_ExpertMtgs* also show positive coefficients, suggesting that this combination could exacerbate religious risk for repeat ICDs rather than mitigate it. This pattern across individual components of religiosity mirrors the composite score, indicating a consistent tendency for frequent meetings with financial expertise to potentially reinforce, rather than reduce, repeated deficiencies in highly religious environments. This may be due to implicit biases or assumptions held by committee members regarding the reliability or trustworthiness of religiously influenced controls, leading to a reduced level of critical oversight in these contexts. In sum, while *AC_ExpertMtgs* demonstrates effectiveness in reducing new and repeated ICDs as main effects, the unexpected positive interactions with religiosity components indicate that frequent meetings alone may not sufficiently counteract the control risks associated with deeply embedded religious values or practices. These findings suggest that additional governance mechanisms may be needed to effectively manage religious risks in control environments, particularly when religiosity is a salient and behavioral influence on organizational culture. This analysis highlights the complexity of governance in religious contexts and calls for further research to understand how audit committee structure and function can be optimized to address the unique oversight challenges posed by religiosity.

Table 5 - Panel B. The Effect of Audit Committee Effectiveness on Religious Risk Regarding ICD

<i>X</i> =	<i>ICD_new</i> <i>Rel_person</i>	<i>ICD_repeats</i>	<i>ICD_new</i> <i>Rel_importance</i>	<i>ICD_repeats</i>	<i>ICD_new</i> <i>Rel_attendance</i>	<i>ICD_repeats</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>X</i>	3.098*** (1.025)	0.311 (1.173)	0.647*** (0.214)	0.065 (0.245)	1.113*** (0.369)	0.112 (0.422)
<i>X*Lag_AC_ExpertMtg</i> s	0.116 (0.088)	0.314** (0.155)	0.145 (0.136)	0.367** (0.181)	0.126 (0.119)	0.320** (0.158)
<i>Lag_AC_ExpertMtg</i> s	-0.127* (0.072)	-0.447** (0.176)	-0.127* (0.076)	-0.364** (0.144)	-0.110 (0.069)	-0.319** (0.129)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	220	178	220	178	220	178
<i>Adjusted R</i> ²	0.411	0.417	0.409	0.417	0.409	0.417

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the subsequent year effect for the effectiveness of audit committees moderates these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *X*, represents *Rel_person*, *Rel_importance* and *Rel_attendance* as being the component scores related to the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_ExpertMtg*s, is an indicator variable that equals 1 if the organization has an audit committee that meets more than once per year and has at least one financial expert as a member, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

For both perspectives, I posit that the presence of a financial expert, the provision of actionable recommendations to the controlling board, and increased meeting frequency contribute to audit committee effectiveness, particularly by yielding tangible benefits in the subsequent year. The delayed impact is anticipated due to the cumulative nature of these governance activities, where consistent reporting and regular interaction gradually fortify the organization's control environment. By examining these perspectives, the analysis offers insights into how specific audit committee attributes—expertise, reporting responsibilities, and meeting frequency—can individually and collectively enhance internal controls and mitigate risks associated with religiosity, contributing to improved governance outcomes in the context of emerging economies.

The findings from both perspectives of audit committee effectiveness lend partial support to my hypothesis, which posits that religiosity increases the incidence of ICDs in emerging economies. Specifically, *Religiosity* demonstrates a statistically significant effect on the occurrence of new ICDs, reinforcing the notion that heightened religiosity may introduce risks within the internal control environment. This partial support is a reminder regarding the complexity of religiosity as a risk factor, particularly in its impact on the emergence of new control issues rather than on recurring ICDs, highlighting the need for targeted governance approaches in religiously salient contexts.

Regarding the moderating role of audit committee effectiveness, the results reveal a nuanced picture. From the perspective of audit committee effectiveness defined by the presence of a financial expert on a committee that provides reports and recommendations to the controlling board (*AC_ExpertRptg*), the hypothesis is only supported by the main effect on new ICDs. This finding suggests that while the expertise and reporting responsibilities of audit committee members can reduce the risk associated with new ICDs, this governance arrangement does not fully address the risk of repeated ICDs. The partial support for

AC_ExpertRptg highlights that expertise and reporting may mitigate initial control issues but may be insufficient for addressing more persistent or recurring deficiencies without additional governance interventions.

In contrast, the perspective of audit committee effectiveness defined by meeting frequency and the inclusion of a financial expert (*AC_ExpertMtg*s) demonstrates stronger support for my hypothesis. This perspective is significantly associated with reduced risk for both new and repeated ICDs, indicating that frequent meetings combined with financial expertise contribute to a more comprehensive oversight function. The consistent engagement provided by regular meetings may allow the audit committee to actively monitor control processes, respond to auditor recommendations, and implement corrective actions more swiftly, ultimately reducing both the emergence of new deficiencies and the persistence of repeated issues. This more robust support for *AC_ExpertMtg*s suggests that meeting frequency enhances the committee's ability to address ongoing control risks proactively, potentially counteracting the cultural or behavioral factors associated with religious risk in emerging market settings.

Overall, these findings highlight the differential impact of audit committee characteristics on internal control risks. While *AC_ExpertRptg* appears effective in reducing initial risks, *AC_ExpertMtg*s exhibits a broader impact, effectively addressing both new and repeated ICDs. This distinction indicates that audit committees in religiously influenced environments may require both expertise and frequent engagement to manage control risks comprehensively. The results contribute to a deeper understanding of how specific audit committee characteristics influence internal control outcomes, particularly in contexts where religiosity is a prominent factor, and they suggest that optimizing audit committee structure and function may be crucial for effective governance in emerging economies. These findings refine the understanding of audit committee effectiveness by demonstrating that stronger

governance structures can both mitigate and, under certain conditions, unintentionally reinforce religiosity-related control risks—an insight with important implications for boards, auditors, and regulators operating in emerging markets.

3.5. Additional Analyses

In this section, I test the robustness of my findings by addressing endogeneity concerns and present additional analyses to confirm or complement my findings when alternative measures of religiosity, different dependent variables, and changes to the sample configuration are considered.

3.5.1. Robustness Checks

To address potential endogeneity between religiosity and internal control deficiencies, I re-estimate the primary models using a two-stage least squares (2SLS) framework that instruments for religiosity with a measure of religious diversity. Endogeneity may arise if religiosity is correlated with unobserved institutional or cultural factors that also affect internal control quality. Consistent with prior cross-country research, religious diversity provides plausibly exogenous variation in religiosity, as it is largely influenced by historical and demographic forces rather than contemporaneous organizational characteristics (Barro and McCleary 2003). In the first stage, religious diversity is strongly associated with religiosity, indicating that the instrument is relevant. The second-stage estimates are similar in sign and economic magnitude to the baseline results, and the inferences regarding the moderating role of audit committees remain unchanged. For brevity, these robustness results are not tabulated.

3.5.2. Alternative Measures for Religiosity

An alternative approach to measuring religiosity involves calculating an average based on the proportional responses of the adult population to three religion-related questions from the World Values Survey Wave 6, referred to here as *Avg_Religiosity*. This method aligns with the

approach of Chourou (2023) in developing an overall measure of religiosity for examining cross-country evidence on corporate philanthropy.

As shown in Table 6, *Avg_Religiosity* emerges as a statistically significant factor associated with an increase in new ICDs, with no effect on repeated ICDs. Examining the subsequent-year interaction with the existence of an audit committee (*AC_existence*), the results indicate a moderating effect on religious risk, reducing the number of both new and repeated ICDs. However, the main effect coefficients are unexpectedly positive, suggesting an inherent baseline risk linked to religiosity that persists despite the audit committee's presence. For both perspectives of audit committee effectiveness—*AC_ExpertRptg* (presence of a financial expert on a committee that reports to the controlling board) and *AC_ExpertMtg* (committee meeting more than once per year with at least one financial expert)—the findings are consistent with previously reported results.

Additionally, I employed the Gallup²² Survey on religious importance by country as an alternative measure of country-level religiosity which produced similar patterns (not tabulated) to those observed with *Avg_Religiosity*. This consistency across measures confirms religiosity as a risk factor for new ICDs in emerging economies.

²² Survey results from a [Gallup Poll](https://en.wikipedia.org/w/index.php?title=Importance_of_religion_by_country&oldid=1228706921) in 2009 research which asked: "Is religion important in your daily life?". https://en.wikipedia.org/w/index.php?title=Importance_of_religion_by_country&oldid=1228706921

Table 6. The Effect of Audit Committee Existence and Effectiveness on Religious Risk Regarding ICD

	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)	<i>ICD_new</i> (3)	<i>ICD_repeats</i> (4)	<i>ICD_new</i> (5)	<i>ICD_repeats</i> (6)
<i>Avg_Religiosity</i>	10.153*** (2.707)	3.681 (3.173)	7.762*** (2.574)	0.755 (2.902)	7.714*** (2.556)	0.774 (2.921)
<i>Avg_Religiosity*Lag_AC_existence</i>	-0.904** (0.397)	-1.408*** (0.516)				
<i>Avg_Religiosity*Lag_AC_ExpertRptg</i>			0.022 (0.284)	-0.361 (0.327)		
<i>Avg_Religiosity*Lag_AC_ExpertMtgs</i>					0.951 (0.811)	2.372** (1.169)
<i>Lag_AC_existence</i>	0.580* (0.301)	1.080*** (0.398)				
<i>Lag_AC_ExpertRptg</i>			-0.065 (0.218)	0.125 (0.259)		
<i>Lag_AC_ExpertMtgs</i>					-0.834 (0.643)	-2.148** (0.989)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	220	178	220	178	220	178
Adjusted R ²	0.425	0.421	0.404	0.423	0.410	0.417

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the subsequent year effects for the existence and effectiveness of audit committees moderate these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Avg_Religiosity* as being an average of the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence*, is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. The third independent variable of interest, *AC_ExpertRptg*, is an indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0. The fourth independent variable of interest, *AC_ExpertMtgs*, is an indicator variable that equals 1 if the organization has an audit committee that meets more than once per year and has at least one financial expert as a member, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

3.5.3. Other Aspects of Internal Control and Financial Reporting

ICDs are indicative of weaknesses in the design or operational failures of an internal control system. To explore whether audit committee effectiveness impacts the quality of the internal control system and its objective to produce reliable financial reports, I introduced three new dependent variables. These variables assess different aspects of control and reporting quality, focusing on *AC_ExpertRptg*, which I consider the most representative indicator of an effective audit committee due to its emphasis on financial expertise and communication with the controlling board.

The first new dependent variable, *IC_Monitored*, is an indicator variable equal to 1 if the internal control system is actively monitored, and 0 otherwise. Monitoring is considered a governance best practice, as it helps ensure that the control system operates as designed and that weaknesses are identified and resolved promptly. Regular monitoring is well considered essential for maintaining robust internal controls, especially in emerging economies, where evolving regulatory landscapes may heighten control risks.

The second variable, *IC_MgmtResponse*, is an indicator variable that equals 1 if management provides a written response to the audit committee, taking corrective action on deficiencies before the next audit engagement, and 0 otherwise. This variable captures the interaction between management and the audit committee, emphasizing that timely corrective action and responsiveness are critical for the audit committee's effectiveness. Management's engagement with the audit committee ensures deficiencies are addressed promptly, which supports the overall strength and responsiveness of the control environment.

The third variable, *Unmodified_opn*, is an indicator equal to 1 if the audit opinion rendered is unmodified (indicating a "clean" opinion on the financial statements) and 0 otherwise. An unmodified opinion is a widely accepted indicator of financial report reliability,

as it reflects the auditor's view that the financial statements present a fair and accurate picture of the organization's financial position, a key objective of an effective control system.

In Table 7, the results show that Religiosity negatively impacts the likelihood of the organization receiving an unmodified opinion within the current year, suggesting that higher religiosity levels may introduce cultural elements that deprioritize rigorous control oversight. However, no significant religious risk is observed for the subsequent period. Notably, the interaction effect of *Religiosity* and *AC_ExpertRptg*, for both the current and subsequent years, shows a positive influence on management's practice of sharing written responses with the audit committee and correcting deficiencies before the next audit engagement. This interaction suggests that the presence of an effective audit committee may encourage management accountability, helping to offset some risks introduced by religiosity. The main effects on the three new variables—*IC_Monitored*, *IC_MgmtResponse*, and *Unmodified_opn*—are positive and statistically significant, aligning with expectations and complementing the primary findings. These results further support the notion that audit committee effectiveness, represented by *AC_ExpertRptg*, positively influences both the quality of the internal control system and the reliability of financial reporting in emerging economies. This extended analysis highlights the broader impact of audit committee effectiveness, showing that a well-structured committee with financial expertise not only reduces ICDs but also enhances core governance practices critical for robust financial oversight. These findings promote the value of an active, informed audit committee in managing control risks, particularly in settings where religiosity may adversely influence organizational priorities and governance practices.

Table 7. The Effect of Audit Committee Effectiveness on Other Aspects of Internal Control and Audit Opinions

	<i>IC_Monitored</i>	<i>IC_MgmtResponse</i>	<i>Unmodified_opn</i>	<i>IC_Monitored</i>	<i>IC_MgmtResponse</i>	<i>Unmodified_opn</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Religiosity</i>	-0.197 (0.221)	-0.118 (0.344)	-0.870** (0.359)	-0.175 (0.291)	-0.128 (0.451)	-0.587 (0.461)
<i>Religiosity*AC_ExpertRptg</i>	-0.009 (0.034)	0.113** (0.053)	-0.031 (0.055)			
<i>AC_ExpertRptg</i>	0.257*** (0.041)	0.340*** (0.065)	0.218*** (0.067)			
<i>Religiosity*Lag_AC_ExpertRptg</i>				-0.007 (0.038)	0.108* (0.060)	-0.039 (0.061)
<i>Lag_AC_ExpertRptg</i>				0.260*** (0.047)	0.344*** (0.073)	0.178** (0.075)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	290	290	290	232	232	232
<i>Adjusted R²</i>	0.660	0.367	0.401	0.647	0.351	0.409

This table presents results of whether the religious social norms of a country impair certain aspects of internal control and audit opinions and to what extent current and subsequent year effects for the effectiveness of audit committees moderate these results. The first dependent variable, *IC_Monitored* is an indicator variable that equals 1 if the internal control system is being monitored, otherwise 0. The second dependent variable, *IC_MgmtResponse*, is an indicator variable that equals 1 if management shares a written response with audit committee and corrects deficiencies before next audit engagement, otherwise 0. The third dependent variable, *Unmodified_opn*, is an indicator variable that equals 1 if the audit opinion rendered is unmodified, otherwise 0. The first independent variable of interest, *Religiosity*, is a measure for the religious social norms of a country determined by using the dimension reduction technique of factor analysis of proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_ExpertRptg*, is an indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

3.5.4. Alternative Sample Configurations

The sample in this study comprises observations from emerging economies, with Brazil excluded to mitigate concerns related to its disproportionately high representation. Appendix 3B presents results from a sample that includes Brazil, revealing that the overall pattern of results remains largely consistent with previous findings. I also explored additional sample configurations for potential cross-sectional analyses; however, due to data limitations, these configurations did not yield information that would meaningfully contribute to the study.

3.6. Conclusion

This study contributes to a more nuanced understanding of religiosity as a potential risk factor, challenging the prevailing view that religiosity predominantly exerts a positive influence on individual and organizational behaviors. While existing literature frequently emphasizes religiosity's beneficial effects, this research adds to the countervailing perspective, providing evidence that religiosity is positively associated with an increase in the incidence of new ICDs. By highlighting religiosity's potential to elevate risk within organizational governance, this study underscores the importance of addressing religiosity through targeted governance mechanisms.

The implementation of an audit committee as a governance mechanism is associated with a reduction in risk concerning both new and repeated ICDs. Analysis of religiosity components indicates that higher salience—measured by the importance of religion and corresponding participation in religious activities—is linked to an elevated risk of ICDs. Examining the audit committee beyond its mere existence, findings reveal that its effectiveness is enhanced when a financial expert is involved in providing reports and recommendations, resulting in a reduced risk of repeat deficiencies. Furthermore, when an audit committee with a financial expert meets frequently, the risk is mitigated for both new and repeated deficiencies. To substantiate the audit committee's effectiveness, I also examine its foundational influence on the internal control system and the reliability of the resulting financial reports, finding a positive association that affirms its role in strengthening governance practices.

An unexpected finding emerged from the second perspective of audit committee effectiveness, where results indicated an increased risk associated with religiosity. This outcome suggests a potential avenue for future research, specifically to explore whether a religious financial expert may constitute a risk factor within the audit committee context. To rigorously examine this possibility, future investigations could employ an experimental design

wherein the financial expert is replaced by an individual who is non-religious, independent of the organization, and devoid of personal affiliations that might influence their objectivity. Such an approach could yield insights into the impact of religious affiliation on audit committee effectiveness in moderating risk.

This study offers valuable insights for at least three key stakeholder groups. First, controlling boards may benefit by recognizing the critical role of audit committees as a governance mechanism, urging the importance of incurring necessary agency costs to mitigate undesired outcomes. Second, auditors are provided with empirical evidence identifying religiosity as an additional risk factor, which may be incorporated into risk assessments conducted as part of their audit engagements. Third, regulators may find these findings relevant for potential revisions to regulatory frameworks, ensuring that all pertinent risk factors are appropriately addressed within the context of financial reporting compliance.

While the findings of this study are statistically significant, certain limitations must be acknowledged. The sample is restricted to a single religious organization, limiting the generalizability of the results, particularly as advanced economies were not represented in the sample observations. Furthermore, the survey data would have been strengthened by direct responses from audit committee members, which could offer a corroborative perspective on their activities. These limitations do not undermine the validity of the findings; rather, they highlight potential directions for future research, contributing to the expanding inquiry into the relationship between religiosity and governance practices.

Appendix 3A. Definition of Variables

Dependent Variables:

<i>ICD_new</i>	The log value for the number of new internal control deficiencies enumerated in the audit report for the organization.
<i>ICD_repeated</i>	The log value for the number of repeated internal control deficiencies enumerated in the audit report for the organization.

Variables of Interest

<i>Religiosity</i>	A standardized score for each country that is the first principal component of three religions questions on the World Values Survey.
<i>Rel_person</i>	A standardized score for the proportionate share of respondents in a country that identifies as a religious person.
<i>Rel_importance</i>	A standardized score for the proportionate share of respondents in a country that indicates religion is important.
<i>Rel_attendance</i>	A standardized score for the proportionate share of respondents in a country that attend religious services at least once per month.
<i>AC_existence</i>	An indicator variable that equals 1 if the organization has an audit committee or otherwise 0.
<i>AC_effectiveness:</i>	
<i>AC_ExpertRptg</i>	An indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0.
<i>AC_ExpertMtgs</i>	An indicator variable that equals 1 if the organization has an audit committee that at least two times per year and has at least one financial expert as a member, otherwise 0.

Country-level Control Variables:

<i>Income</i>	The log value for the gross national income per capita at purchasing power parity.
<i>Education</i>	The education index of a country is measured by the weighted combination of adult years of schooling with expected years of schooling for persons under the age of 25.
<i>AvgAge</i>	The average age of individuals in the population of a country.
<i>WGI</i>	The score for a country incorporating six dimensions of governance.

Organization-level Control Variables:

<i>Size</i>	The log value for total assets adjusted for the country's economy (Total Assets/GNI_Capita_PPP).
<i>Age</i>	The log value for the number of years the organization has been in existence (Audit Year - Formation Date).

Appendix 3A. Definition of Variables (continued)

Other Control Variables:

<i>Auditor_Capacity</i>	The percentage of engagements that are completed each year in the region territory where the organization is located.
<i>Auditor_Certification</i>	The percentage of auditors who hold a professional certification (i.e., CPA or ACCA) and perform the audits in the region territory where the organization is located.
<i>AlignedRelCN</i>	An indicator variable that equals 1 if the organization is aligned to the dominant religious preference of the country where it is located, otherwise 0.

APPENDIX 3B: The Effect of Audit Committee Existence and Effectiveness on Religious Risk Regarding ICD

	<i>ICD_new</i> (1)	<i>ICD_repeats</i> (2)	<i>ICD_new</i> (3)	<i>ICD_repeats</i> (4)	<i>ICD_new</i> (5)	<i>ICD_repeats</i> (6)
<i>Religiosity</i>	0.735*** (0.228)	0.525** (0.258)	0.554** (0.223)	0.250 (0.239)	0.533** (0.219)	0.239 (0.240)
<i>Religiosity*Lag_AC_existence</i>	-0.081* (0.042)	-0.170*** (0.052)				
<i>Religiosity*Lag_AC_ExpertRptg</i>			-0.003 (0.031)	-0.036 (0.034)		
<i>Religiosity*Lag_AC_ExpertMtg</i>					0.082 (0.096)	0.259** (0.125)
<i>Lag_AC_existence</i>	-0.132*** (0.039)	-0.003 (0.056)				
<i>Lag_AC_ExpertRptg</i>			-0.041 (0.037)	-0.142*** (0.054)		
<i>Lag_AC_ExpertMtg</i>					-0.149*** (0.052)	-0.333** (0.128)
Control Variables:						
Country-level variables	Included	Included	Included	Included	Included	Included
Organizational-level variables	Included	Included	Included	Included	Included	Included
Other variables	Included	Included	Included	Included	Included	Included
Fixed Effects:						
Country	Included	Included	Included	Included	Included	Included
Region	Included	Included	Included	Included	Included	Included
Type	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Intercept	Included	Included	Included	Included	Included	Included
Observations	347	202	347	202	347	202
Adjusted R ²	0.405	0.439	0.377	0.430	0.391	0.426

This table presents results of whether the religious social norms of a country increase internal control deficiencies that are either new or repeated and to what extent the subsequent year effects for the existence and effectiveness of audit committees moderate these results. The dependent variables, *ICD_new* and *ICD_repeats*, are the log values for the number of new and repeated internal control deficiencies enumerated in the audit report for the organization, respectively. The first independent variable of interest, *Religiosity* as being an average of the proportional responses made by the adult population to three religion questions on the World Values Survey Wave 6. The second independent variable of interest, *AC_existence*, is an indicator variable that equals 1 if the organization has an audit committee, otherwise 0. The third independent variable of interest, *AC_ExpertRptg*, is an indicator variable that equals 1 if the organization has an audit committee that has at least one financial expert as a member and makes reports with recommendations to the controlling board, otherwise 0. The fourth independent variable of interest, *AC_ExpertMtg*, is an indicator variable that equals 1 if the organization has an audit committee that meets more than once per year and has at least one financial expert as a member, otherwise 0. Demographic variables, organizational-level variables, and the fixed effects for country, region, type of entity and audit year are included in the regressions as control variables. For expositional simplicity, their coefficients are omitted from the table. See Appendix 1 for definitions of all variables. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with t-statistics shown in parentheses.

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