UNIVERSITY OF AGDER

Religion and Governance in Microfinance Institutions: Evidence from the global microfinance industry

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This master's thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

University of Agder, 2014
School of Business and Law

Declaration

I confirm that this work has never been submitted in evidence for any degree, and it is not being submitted at the same time for any other degree than that of the master thesis studied at University of Agder. Besides, I declare that this work is the result of my own research with exceptions only where acknowledged by references and that, I have not plagiarized another's work.

Acknowledgement

First and foremost, I am most grateful to my supervisor, Professor Roy Mersland of the School of Business and Law, University of Agder (UiA) for his invaluable contribution, encouragement and assistance throughout the writing of this thesis. His timely support and directions contributed significantly towards the success of this thesis. I also wish to acknowledge Mr. Andrew Muteti Musau, a Ph.D. Student at the UiA School of Business for his constructive suggestions and comments which helped me to refine my research methods. Again, my heartfelt thanks go to Mr. Daudi Pascal, who is also a Ph.D. student at the UiA School of Business for spending time to proof-read the entire thesis and making helpful comments.

In addition, my appreciation goes to the Norwegian Government for granting me financial assistance through the Norwegian State Educational Loan Fund throughout my period of study at the University of Agder (UiA). Once again, I wish to thank the teaching staff of the School of Business and Law as well as the Non-teaching staff for the excellent and professional services they offer to students that created the enabling environment for my academic work on campus.

List of Abbreviations and Acronyms

CEO ……………................... Chief Executive Officer

CSFI ……………………….. Center for the Study of Financial Innovations

C-GAP……………………… Consultative Group for Assisting the Poor

MFOs…………………….… Microfinance Organizations

MFIs……………………..…. Microfinance Institutions

NPOs……………………..… Non Profit Organizations

NGOs……………………..… Non- Governmental Organizations

RELR……………………..… Random Effects Logistic Regression

RGLS……………………..… Random General Least Squares

OLS…………………………Ordinary Least Squares

P-value………………………Probability Value

ROSCAs…………………... Rotating Savings and Credit Associations

MEDA…………………….. Mennonite Economic Development Association

OECD……………………. Organization for Economic Cooperation and Development

B-size……………………… Board Size

B-mtyr…………………….. Board Meetings in a Year

Fem-Dirs…………………. Female Directors

F-CEO…………………… Female Chief Executive Officer

Int-Dirs………………….. International Directors

C-dty………………….. Chief Executive Officer Board Chair Duality

CB-exp………………. Chief Executive Officer Business Experience

CB-edu…………. ……. Chief Executive Officer Business Education

T-mgt………………….. Top management size

B4-audit………………. Big Four External Auditors

BK-reg………………. Bank Regulation

NGO/Coop………. …… Non- Governmental Organization or Cooperative

UiA………………. …… University of Agder

Abstract

This thesis sought to study the influence of religion on corporate governance in Microfinance Institutions. The study uses secondary data on a sample of rated Christian and secular MFIs compiled in rating reports by rating agencies to compare the governance differences and similarities between Christian and secular MFIs. The research uses the random effects General Least Squares and logistic regression models alongside other univariate statistical methods to test for the effect of religious affiliation on corporate governance. The overall findings indicate that Christian MFIs are significantly less-regulated by banking authorities in a country than secular MFIs and also Christian MFIs have a significant higher tendency to use the services of the big four external auditors (see table 4-3) than secular MFIs. Otherwise, the results revealed that Christian and secular MFIs are essentially similar in terms of board size, number of board meetings in a year, top management size, number of international directors, number of female directors, the probabilities of having a female CEO, CEO/Chairman duality, NGO or a Cooperative legal status and CEO with business experience and business education.

KEY WORDS: Religion, Corporate Governance, Microfinance Institutions

Table of Contents

Declaration i

Acknowledgement ii

List of Abbreviations and Acronyms iii

Abstract iv

CHAPTER ONE 1

1. Introduction 1

1.1 Background to the Study 1

1.2 Statement of the Problem 3

1.3 The Research Objective 4

1.4 The Research Question 4

1.5 The Relevance of the Study 4

1.6 Data and Research Methodology 5

1.7 The Organization of the Study 5

CHAPTER TWO 6

2. Literature Review 6

2.1 Introduction 6

2.2 The Microfinance Industry and the issue of Corporate Governance 6

2.3 Christian Organizations and the issue of Corporate Governance 8

2.4 Previous empirical research findings 9

CHAPTER THREE 11

3. Theories and Research Hypotheses 11

3.1 Definition of Corporate Governance 11

3.2 Basic Theories of Governance 11

3.3 The Research Hypotheses and Conceptual Framework 14

CHAPTER FOUR 22

4. Data Description and Methodology 22

4.1 Data and Sample Description 22

4.2 Operationalization and measurement of concepts 24

4.3 The Research Methods 28

4.3.1 Fixed vs. Random Effect Models 30

4.4 The Regression Model 31
4.5 An Alternative Methodological Approach to Analysis 35
4.5.1 Correlation Analysis and the test for Multicollinearity 35
4.5.2 Test for Heteroscedasticity 38
4.5.3 Test for Normality of the Error term 39
4.5.4 The operational model for the alternative approach 40
4.6 The Approach to Data Analysis 41
CHAPTER FIVE 41
5. Presentation of Findings and Analysis 41
5.1 Analysis of Study Variables 41
5.2 The Analysis of the Univariate Statistics 43
5.3 The Analysis of the Multivariate Regression Model 45
5.4 The Analysis of the Alternative Methodological Approach 49
CHAPTER SIX 52
6. Discussion of Research Findings 52
CHAPTER SEVEN 54
7. Conclusion, Implications, Limitations and Recommendations 54
7-1 Conclusion 54
7-2 Implications 54
7-3 Limitations to the study 55
7-4 Recommendations for future research 55
REFERENCES 56

List of Tables

Table 4-1 List of Countries and number of Microfinance Institutions 23
Table 4-2 Explanations of Independent and control variables used in the study.......................... 26
Table 4-3 Explanations for Dependent Variables and Hypothesis used in the study 27
Table 4-4 Correlation Matrix 36
Table 4-5 Variance Inflation Factors 38
Table 4-6 Test for Heteroscedasticity 39
Table 4-7 Variable Transformation of MFI Size (assets) 40
Table 5-1 Summary Statistics of Variables used in the study... 42
Table 5-2a The Results of the Univariate T-test 44
Table 5-2b The Results of the Univariate χ^2 -test 45
Table 5-3a Differences in Board size, No. of Board Meetings and No. of Top Management Team between Christian and Secular MFIs 46
Table 5-3b Differences in No. of International Directors and No. of Female Directors between Christian and Secular MFIs 47
Table 5-3c Differences in Probabilities for the Big Four External Auditors, CEO Chair, CEO Business Experience and CEO Business Education………………………………………… 48
Table 5-3d Differences in Probabilities for NGO or Coop. ownership form, Bank Regulation and a Female CEO between Christian and Secular MFIs... . 49
Table 5-4 The Random Effects Logistic Regression 50

List of Figures

Figure 1-1 The Research Problem 4
Figure 3-1 The Conceptual Framework 21

CHAPTER ONE

1. Introduction

The search for an efficient and effective corporate governance system has been a major concern for all organizations, for profit and non-profit alike (Hall, 2002 p.2). This paper seeks to investigate the impact of religious affiliation on corporate governance in Microfinance Institutions (MFIs) by comparing Christian to secular MFIs along a set of corporate governance mechanisms. This chapter presents the background to the study, the statement of the research problem, the research objective, research question, and the relevance of the study, a brief description of the data and methodology and the organization of the study.

1.1 Background to the Study

The complementary role played by Christian organizations in the socio-economic development of many countries cannot be underestimated and as a result, many governments around the globe do not hesitate to use people of faith as a medium to deliver public services (Forren, 2006 p.161). Mersland, D'espallier & Supphellen (2013 p.145), indicated that, religion may influence the perceptions and behaviors of several parties in the development process. They further observed that many aid and development organizations are based on religious principles and are managed by people who are inspired by religious beliefs. In the microfinance industry, "several Christian actors such as Opportunity International and Vision Fund are helping to expand the industry". (Mersland et al., 2013 pp.146-147).

Hall, (2002 p.3) noted that, "until fairly recently, religious bodies and faith-based organizations were free of many of the burdens of accountability". However, Hall (2002) remarked that, the continuous record of misdeeds involving clergy, religious bodies, and faith-based organizations over the past few decades have faded away both the impression of high purpose and the reality of political influence that had for so long protected religious entities from being held answerable. Some spectacular scandals involving Christian organizations include, the financial improprieties reported of the leadership of the Orthodox Church in America between 2005 and 2008 (Cooperman, 2006). Hall (2002) made another report about the Baptist Foundation of Arizona, which was a faith-based mutual fund set up to finance the activities of charities managed by the Church. According to the report by Hall (2002 p.10), after having sold securities worth more than $500 million within the half century prior to 1996, the foundation contributed only $1.3 million to the church. Meanwhile, it had paid its staff more than $16 million. These and many other similar incidence that continues to recur in religious organizations have caught the attention of governments, donor agencies and clients of religiously based organizations involved in economic activities to demand proper accountability. While it is undeniable that a lot of faith-based organizations are involved in the steadily growing microfinance industry, few scholarly studies have explored the impact of religious affiliation on performance and governance even in the light of heightened debate concerning mission drift in the industry.

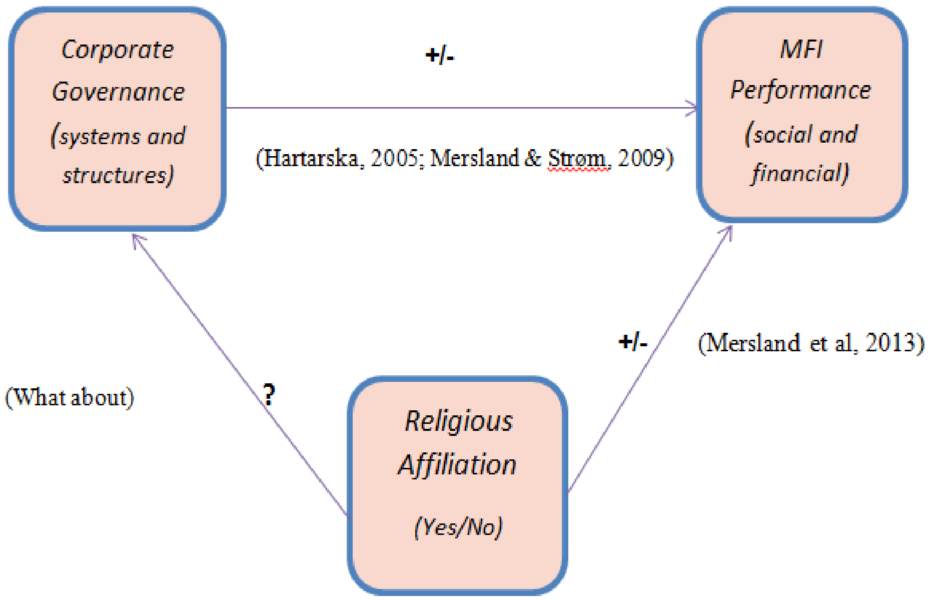
In their study of the effects of religion on development efforts, Mersland et al. (2013), explored the differences between Christian and secular microfinance institutions along the lines of *social* and *financial performance*. Their findings indicated that, Christian MFIs perform quite differently from secular MFIs along several dimensions. For instance, they found out that; Christian MFIs reach relatively fewer female clients and their average loan sizes was at par with their secular peers which were contrary to hypotheses. Christian MFIs have a lower cost of funding, and have lower bottom-line financial performance compared with secular MFIs which concurred with hypothesis. Also, contrary to hypothesis, Christian MFIs were as effective in enforcing loan repayment as their secular peers. These findings discussed above signals that religious identity, to a greater or lesser extent, has an impact on MFIs' performance which could also imply differences in governance systems and structures.

Again, while these findings suggest some significant role of Christianity in the management of economic organizations, the debate does not just end there. Other scholars such as Max Weber in his thesis "*The Protestant Ethic and the Spirit of Capitalism"* (1958), argued that, while conventional Christian doctrines such as Catholicism, seems to be ritualistic and does not encourage proaction, other Christian philosophies such as Protestantism, encourages hard work, the accumulation of wealth, and profitable investments in enterprises. This argument by Weber (1958) suggests that even among Christian actors there could be dissenting views on the ideal attitudes towards work, and this makes the current study a vital one. According to the agency theory of corporate governance, "in any contractual relationship between two parties namely a principal and an agent, whereby the latter has been engaged by the former to perform a service on his behalf, assuming that both parties are utility maximizers, it is generally impossible for the principal or the agent at zero cost to ensure that the agent will make optimal decisions from the principal's viewpoint" (Jensen & Meckling, 1976, p. 308). The proponents of this theory therefore suggest that, certain governance structures including ownership are necessary to mitigate such divergences in motivations (Jensen & Meckling, 1976; Fama & Jensen, 1983). On the contrary, proponents of the Stewardship theory argue that, some agents are intrinsically motivated to work towards the organizational objectives set by the principal. Besley and Ghatak (2005, p. 616) indicated that, "organizations that provide collective goods stick around a *mission"*. This mission comes from the primary incentives of the persons (principals and agents) who work in the mission-oriented sector. Workers are usually motivated agents, i.e., agents who pursue goals because they perceive intrinsic rewards from doing so (Besley & Ghatak, 2005). Considering these theoretical viewpoints and empirical findings, can one presume that, by virtue of their religious indoctrination, Christian MFIs will have governance systems and structures that are significantly different from secular MFIs? This leads to the problem for this study.

1.2 Statement of the Problem

According to Harper, Rao, and Sahu (2007), several religion-based actors, including Hindu, Islamic, and especially Christian organizations are involved in the rapidly growing microfinance industry. Moreover, as captured in the previous section, Mersland et al. (2013) were able to identify significant differences in social and financial performance between Christian and Secular MFIs. Meanwhile, several studies have also identified a link between corporate governance mechanisms and social and financial performance in MFIs (e.g. Hartarska, 2005; Mersland & Strøm, 2009; Hartarska, Mersland & Nadolnyak, 2014). So one would ask if religious affiliation has an impact on MFI performance and corporate governance could also impact MFI performance; could it be inferred therefore that religion can also impact an MFI's governance structure? The focus of this paper therefore is to investigate *whether religious affiliation has an impact on governance in MFIs.* The figure 1-1 below conceptualizes the research problem

Figure 1-1 The Research Problem



Author's own construct

1.3 The Research Objective

To find out if there exist any significant differences in corporate governance between Christian and secular MFIs

1.4 The Research Question

Are Christian MFIs significantly different from secular MFIs in terms of corporate governance?

1.5 The Relevance of the Study

Labie and Mersland (2011, p. 2) observed that, "the wide variety in origins and the many different stakeholders, with their often competing interests and competencies, together form one of the reasons why corporate governance in microfinance is an interesting research area". Earlier publications on key challenges confronting the microfinance industry also pointed to the fact that, corporate governance is among the most pressing (CSFI, 2008; Dichter & Harper, 2007). Moreover, according to Tsafe and Rahman (2013 p.675), "modern trends in management science research suggests a paradigm shift in the direction that embraces not only the drive for profit but also for social and religious responsibilities and hence there is a call for problem-solving approaches to be broadened to incorporate spiritual dimensions". Henceforth, this study is important because it will add to the limited literature on religious affiliation and its impact on MFIs' governance and will provide the basis for future empirical studies on religion and corporate governance.

1.6 Data and Research Methodology

The data used in the analysis contain information from 403 MFIs in 73 countries. Out of this number of MFIs, approximately 17% have a Christian origin. Univariate statistical techniques including *t*-test and χ^2-test were first used to compare the differences in means and medians respectively between Christian and secular MFIs along a selected set of corporate governance mechanisms. Next, by using the *panel data model*, I regress the different governance variables on the dummy for Christian affiliation alongside a set of control variables by means of random effects General Least Square (GLS) and Logistic regression methods in STATA to test the research hypothesis. In order to enhance the robustness of the results, the study uses an alternative methodological approach in which case the dummy for Christian affiliation is used as the dependent variable and the governance variables are used as independent variables.

1.7 The Organization of the Study

This thesis is organised under seven chapters. Chapter one gives a brief introduction to the study. The introduction covers the background to the study, the research problem, the research objective and question, relevance of the study and a brief description of the data set and the research methodology. The second chapter covers a review of literature and is made up three sections. The first section reviews literature on trends in the microfinance industry and the issue of corporate governance in microfinance institutions. The second section also presents the Christian organisation and the implications on governance and the third section captures literature on past empirical findings on the governance variables used in the study. Chapter three also captures the basic applicable theories and the research hypotheses. In Chapter four, I present and describe the data set and sample as well as the research methodology. Chapter five presents the research findings as produced by the data analysis techniques and these findings are discussed in chapter six. Finally, Chapter seven presents the conclusion, implications, limitations of the study and recommendations for further research.

CHAPTER TWO

2. Literature Review

2.1 Introduction

This chapter is composed of three sections. The first section presents a review of literature on the history and trends in the microfinance industry and why corporate governance has become an important issue in modern microfinance institutions. The second section presents literature review on the Christian organization and its implications on corporate governance and finally the last section covers literature on past studies on the governance variables used in the study.

2.2 The Microfinance Industry and the issue of Corporate Governance

The World Bank, other concerned agencies and individuals have been consistent in reporting issues of extreme poverty especially in emerging economies where access to formal productive capital is not readily-available (Tsafe & Rahman, 2013 p. 675). To address this issue, Tsafe and Rahman, (2013 p. 675) indicated that, respective nations, international agencies, non-governmental organizations (NGOs) and commercial enterprises have taken measures aimed at alleviating the widespread poverty through microfinance institutions. Labie and Mersland (2011), observed that, microfinance which is understood as the means and institutions created in order to provide financial services to people excluded from traditional banking, has a long history. Microfinance has been an excellent tool for enhancing development, and in 2005, it enjoyed the honor of a-UN international year in addition to a recognition by the Norwegian Nobel Committee, which awarded the Peace Prize to microfinance pioneer Mohammad Yunus and Grameen Bank in Bangladesh in 2006 (Dichter & Harper, 2007; Mersland et al., 2013). According to a report by the Center for the Study of Financial Innovations (CSFI, 2008 p. 1), a major feature of microfinance is that, "it is a bottom-up approach to development, very different to traditional top-down approach that dominated academic thinking for many years". This approach according to the report has special advantages because, "whatever its shortcomings, microfinance does ensure that more of the 'development dollar' gets spent at the local or village level than has historically been the case". (CSFI, 2008 p.1). Present-day microfinance in particular, which has emerged since the 1970s, owes much to the cooperative movement and to traditional 'informal' financial practices including financial self-help groups such as the Rotating Savings and Credit Associations (ROSCAs) – that have been popular for centuries across the world (Labie & Mersland, 2011; Bouman, 1995). From an international development perspective, Labie and Mersland (2011) noticed that, microfinance has gained increasing attention due to a wide variety of new institutions .

Armendariz and Labie (2011, p. 3), indicated that, "microfinance started initially by what is often referred to as a 'civil society". It was largely built upon initiatives from non-governmental organizations (NGOs), e.g. BancoSol of Bolivia and Cooperatives (COOPs)." Another example is the well-known Grameen Bank which started as a small pilot project with NGO-features in Chittagong, Bangladesh, in 1976. The Grameen Bank is currently an established financial entity under the legal status of a cooperative serving over six million clients in Bangladesh, with hundreds of replications worldwide (Armendariz and Labie, 2011). Also of great interest, Mersland et al. (2013 p.147) indicated that, many MFIs have Christian backgrounds. For example, the international network of Opportunity International currently includes 43 MFIs in 26 countries, and the Vision Fund of World Vision operates 42 MFIs in 42 countries. Other important international Christian microfinance actors include Catholic Relief Services, Mennonite Economic Development Associates (MEDA), the Norwegian Mission Alliance, World Relief, Cordaid, Oikocredit and the Strømme Foundation. They further noted that, from a historical perspective, Christian organizations are actively involved in traditional aid and development efforts and in enterprising and banking initiatives. For example, in Europe, Protestant pastors and Christian businesspeople were at the forefront in the savings bank movement that spread throughout Europe 150–200 years ago (Horne, 1947 cited Mersland et al., 2013 p.147).

Armendariz & Labie, (2011 pp. 5-6), observed that, "yearly summits, microfinance platforms, and regular practitioners' conferences worldwide have facilitated diffusion of technology and expertise across numerous microfinance initiatives". These world-wide gatherings in recent years, according to Armendariz and Labie (2011, p. 6), have led to at least five well-defined trends in the microfinance industry. These changes include, *a change in lending methodology* from for example, solidarity groups to a focus on individual lending; *a change in the supply of financial products* as captured by the terms 'microfinance' instead of 'microcredit'; and *a larger and more diverse pool of suppliers*. Other changes include *a radical transformation in supervision and regulation and a fundamental change in financial priorities* (from selfsustainability to profit maximization). Armendariz & Labie (2011 p.4) further noted that microfinance currently serves a small percentage of the unbanked poor (6%) and this failure to expand outreach has been a subject of debate among relevant stakeholders. To some, the insufficient numbers alone are apparent evidence of the failure of microfinance to include the poor. They however indicated their disagreement by suggesting that, if well-designed, microfinance has the potential to improve the living standards of millions of unbanked poor throughout the world and this leads to the issue of corporate governance.

2.3 Christian Organizations and the issue of Corporate Governance

Smith and Rayment (2007) explained that, spirituality in the workplace is about individuals and organizations perceiving an occupation as a spiritual path, as an opportunity to grow and to contribute to society in a meaningful way. Spirituality as defined by Smith and Rayment (2007 p.220) "is a state or experience that can provide individuals with direction or meaning, or provide feelings of understanding, support, inner wholeness or connectedness. Connectedness can be to themselves, other people, nature, the universe, God, or some other supernatural power".

Hall, (2002) indicated that a lot of religious entities are free-standing self-managing group of believers and essentially informal lacking even ordained clergy. However, there are many others that are formally organized with by-laws, governing boards and professionally-trained religious leaders and administrators and this makes religious organizations extraordinary in their variety and complexity. Adding to this variety and complexity, Hall (2002) noted, is the fact that various religious organizations are involved in providing a range of social services with different motives and forms of control. He noted that, "while some religious groups like the Salvation Army and a number of Catholic religious orders provide services as a form of devotional activity, others create secular corporations to which they are tied in a variety of ways". This ranges from church control through the nominal inclusion of church officials on governing boards. "Other faith-based organizations are religious in name only, having no formal relations to religious bodies" he added (Hall, 2002 p.11). These among several other differences among Christian organizations could reflect in their basic organizational principles and possibly their approach to corporate governance. (Hall, 2002, p. 2) further noted that, "there is an increase in scope, scale, and range of services provided by faith-based organizations and their dependence on government funding has also increased resulting in an intensified need for resolution of unanswered questions about their accountability." He observed that, on the one hand, the increase in government subvention has predictably brought with it higher standards of accountability and financial management. On the other hand, Hall (2002) indicated that, to the extent that religious bodies and faith-based organizations continue to rely significantly on private funds, they have become involved in the general problems of accountability that has affected corporate management and governance because in present times, questions about financial mismanagement, self-dealing, conflicts of interest, and public disclosure are as likely to be raised about religious organizations as about secular ones (Hall 2002 ; Tsafe & Rahman, 2013).

A limited number of studies have explored the impact of religious affiliation on the management and governance of economic organizations in general. However, a review of the extant literature on management and governance outcomes of faith-based organizations reveals some important findings. For example, Knox, Blankmeyer, and Stutzman (2006) in a study on the relative economic efficiency in the nursing industry in Texas, identified significant differences in economic efficiency among religious-affiliated and private secular facilities. Their findings revealed that, though quality appears to be homogeneous, private secular facilities are significantly more efficient than religious-affiliated homes.

2.4 Previous empirical research findings

In the microfinance and the general corporate governance literature, several studies have been conducted on how various corporate governance systems and structures affect firm performance. In relation to board composition, Jensen (1993) suggests that agency costs rises with board size. He argues that as board size increases beyond seven or eight, free-rider problems intensifies, and board effectiveness declines. Yermack (1996) finds out that, large board size has a significant negative impact on a company's Tobin's Q. Similarly, in a study related to MFIs in Eastern Europe, Hartarska (2005) found evidence to suggest that larger board size reduces firm's financial performance. Concerning board diversity, although Oxelheim and Randøy (2003), had earlier found that firm performance improves with the presence of international directors, Mersland & Strøm (2009) found that in MFIs, firm performance improves with local rather than international directors. Concerning, the issue of CEO duality, Mersland & Strøm (2009) found that, the number of credit clients increases with CEO/chairman duality. However, Hartarska & Mersland (2012) as well as Kyereboah-Coleman and Osei (2008) found evidence to suggest that, CEO duality is negatively correlated with MFI's outreach and financial performance. Besides, an earlier study by Hartarska (2005) suggests that, a more independent board gives better financial results. In relation to ownership structure, Mersland & Strøm (2008; 2009) could not find significant differences in financial and outreach performance across ownership types implying that in MFIs, ownership structure does not have a significant influence on performance. Mersland & Strøm (2009) as well as Hartarska & Mersland, (2012) could not find any strong impact of external bank regulations on MFI performance. Concerning the issue of women on board, O'Regan and Oster (2005) could not find strong evidence to suggest that gender essentially matters when it comes to performance. Also, Hartarska (2005) could not find any significance of female directors on board performance. However, later studies by Mersland & Strøm (2009) found that, financial performance improves with a female CEO. Again, a more recent investigation by Hartarska et al. (2014) reveals that in less-developed markets, MFIs with female CEOs have higher outreach efficiency and that promoting diversity at the management level is likely to have social and financial benefits. Moreover, the study by Mersland & Strøm (2009) revealed that, an MFI's financial performance could be improved by the presence of an internal board auditor. Nonetheless, Thomson and Conyon (2012) commented that, though auditing and accounting practices play a vital role in enhancing transparency and reducing information asymmetry, current trends in the secular business world reveals that, auditors who are paid by companies are motivated to accommodate the wishes of company managers for creative accounting owing to market competition. If this view by Thomson & Conyon (2012) is real, then the implication is that, the governance role external audit will be rendered ineffective in the secular business world. While the above empirical findings and propositions does not give a clear picture of how these governance variables will influence or be influenced by whether an MFI has a Christian affiliation or not, the study tries to combine insights from theory and empirical research findings to make predictions to that effect. This is represented in the hypotheses section thus section 3.3 below.

CHAPTER THREE

3. Theories and Research Hypotheses

3.1 Definition of Corporate Governance

All forms organizations have some systems of governance in place be it formal or informal. The revised *principles of corporate governance* issued by Organization for Economic Cooperation and Development (OECD, 2004, p. 11), defines corporate governance as 'a set of relationships between a company's management, its board, its shareholders and other stakeholders which provides the structure through which the objectives of the company are set, and the means of attaining those objectives are determined". Labie and Mersland (2011 p. 3) also defined corporate governance as "a system, or a set of mechanisms, by which an organization is directed and controlled in order to reach its mission and objectives". Labie and Mersland (2011) indicated that in relation to the microfinance industry, governance mechanisms can be defined internally by the MFI itself or externally. The internal governance factors are those related to the MFI board and include its size, representations by various stakeholders, managerial capture, auditing, CEO compensation etc. (Hartarska & Mersland, 2012; Labie and Mersland, 2011). The external factors account for the weak market-disciplining mechanisms in microfinance, such as a lack of private shareholders, the limited role of competition, and differences in regulation.

3.2 Basic Theories of Governance

Agency theory

Corporate governance problems are not new. Economists have long recognized that conflicts of interest can arise in the direction and control of companies. Smith (1776 p.700), in his book 'The Wealth of Nations', knew the central governance problem and wrote: "*The directors of such companies, however, being the managers rather of peoples' money than of their own, it cannot be well that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honor, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company*". "The basic corporate governance problem from a theoretical perspective, then, is the so-called 'agency problem' which occurs because of the separation between ownership and management" (Thomson &

Conyon, 2012, p. 6). This is also termed as the 'separation of ownership and control' by Berle and Means (1932). In their quest to find out how organizations could survive under such situation, Fama and Jensen (1983 p. 301-302) came to contend that separation of decision and risk-bearing functions survives in these organizations in part because of the benefits of specialization of management and risk bearing but also because of an effective common approach to controlling the agency problems caused by separation of decision and risk-bearing functions. Generally, they argued that, "*the contract structures of all of these organizations separate the ratification and monitoring of decisions from initiation and implementation of the decisions."* However, Fama and Jensen (1983 p. 304) indicated that, "*agency problems arise because contracts are not costlessly written and enforced."* Agency costs include the *costs of structuring, monitoring and bonding a set of contracts* among agents with conflicting interests (Jensen & Meckling, 1976 pp. 308-309). Agency costs also include the value of output lost because the costs of full enforcement of contracts exceeds the benefits (i.e. residual loss), (Jegers, 2009; Puyvelde, Caers, Du Bois & Jegers, 2012). Thomson and Conyon (2012 p.6) nonetheless observed that, in the real world of course, there are more than two actors (principal and agent), so the picture becomes much more complicated. They observed that, between owners and managers, there is a board elected by the owners purposely to monitor and control the managers on their behalf. They also noted that, the owners of a firm do not necessarily comprise a homogeneous group. There may be many or few owners. Some owners may be private individuals, institutional investors, mutual funds etc. Again, most firms have stakeholders with whom they do business and who can directly and indirectly influence their corporate governance. These include banks, suppliers, employees, customers, governments, donors among others.

Christopher (2010) also recognized that, in the real-world business environment, there exist some external and internal forces which are not normally captured in the contractual obligations between management and shareholders in an agency-oriented paradigm. These forces which arise from a range of issues such as specific legal and regulatory, social, ethical, human resource and behavioral issues tend to have an impact on governance (Christopher, 2010 p. 686). This goes to suggest that considering only contractual relationship management as suggested by the proponents of agency theory, as a solution to the basic governance problem, may not be effective in all situations. This led to the proposition of the stewardship theory to complement the agency theory in redefining the central governance problem and to make consequent adjustments to governance mechanisms and processes.

Stewardship Theory

Christopher (2010 p.689) indicated that, “ in addition to identifying the interdependencies between the multiple stakeholders in an organization and strategically managing them, there is an associated governance responsibility to operationally manage them on a daily basis through an appropriate set of skilled managers and governance processes.” This operational level management, he argued, requires a high level of professionalism from the staff at the various level of management. But how could this professional attitude towards work be obtained? Christopher (2010 p.689) was of the view that, “in addition to the staff’s own professional and ethical guidelines, other influences such as sociological, ethical, or cultural values which could be country- or organization-specific, could also assist towards determining the element of trust that can be placed with the management of organizations.” The presence of the environmental influencing forces he argued would in turn determine the type of governance monitoring and control mechanisms to be implemented. He further noted that, *in organizational contexts where such sociological, cultural and ethical values are very influential, the costs of control will be less* as there will be a need to introduce more intrinsic and empowering processes instead of extrinsic rewards and processes in order to make governance effective (Christopher 2010).

Puyvelde et al. (2012) divided stewardship theory into two branches. The first branch acknowledges the potential conflict between the goals of the principal and the agent but assumes that the agent will be motivated to act in the interest of the principal (Davis, Schoorman, & Donaldson, 1997). The second branch also assumes that the agent’s goals are perfectly aligned with those of the principal (Sundaramurthy & Lewis, 2003). This second assumption was taken from the perspectives of *organizational identification* which is defined by Mael and Ashforth (1992, p. 103) as “a perceived oneness with an organization and the experience of the organization’s successes and failures as one’s owns.” Puyvelde et al. (2012 p. 436) argue that, “while agency theory assumes that agents have a low identification with the mission of the organization and may externalize organizational problems to avoid blame, stewardship theory in contrast, assumes that agents have a high identification with the mission of the organization”.

Besley and Ghatak (2005) also referred to employees in mission-oriented sector as motivated agents who pursue goals because they perceive intrinsic benefits from doing so. The motivated agency model according to (Besley & Ghatak, 2005 p. 625) “emphasizes why those who care about a particular cause are likely to end up as employees in mission-oriented nonprofits”. This finds support in, Weisbrod (1988, p. 32) who observes that, “Non-profit organizations may act differently from private firms not only because of the constraint on distributing profit but also, perhaps, because the motivations and goals of managers and directors in the two firms differ”. Weisbrod (1988 p.32) further argued that, “if some non-profits attract managers whose goals are different from those managers in the proprietary sector, the two types of organizations will behave differently”.

3.3 The Research Hypotheses and Conceptual Framework

This section presents the hypotheses regarding the differences in corporate governance systems and structures between Christian and Secular MFIs. First, a general hypothesis is given for the expected difference in governance between Christian and secular MFIs at an aggregate level. Then specific hypotheses for the individual governance variables are also given afterward. The hypotheses will be framed based on the perceived relative strictness of the governance systems in place in the two institutions. This will be done by taking into consideration the basic objectives of the two institutions and their guiding principles. Also, the hypotheses will be informed by the basic theories of corporate governance alongside empirical research findings on corporate governance mechanisms and performance.

The General Hypotheses

As already noted, agency theory suggests that whenever there is a separation between owners and the managers of a company, there need to be some mechanisms in place to monitor and control managerial behavior (Fama and Jensen, 1983). Boards are elected by shareholders with the main aim to address corporate governance issues. Boards deal with moral hazard by monitoring managers and motivating them through incentives like ‘stock options’ and sanctions like ‘dismissal’ (Thomson and Conyon, 2012). According Thomsen and Conyon (2012 p. 147) “boards have an extra role of providing consulting and networking services to companies and these are stressed by the stewardship and resource dependence theories.” Therefore, in the context of the Christian MFI, it could be presumed that, principals who are mostly Christian

NGOs will be more likely to appoint boards who share their basic Christian principles in order to ensure utmost good care. In turn, the boards of Christian MFIs are also likely to appoint managers who share their vision to a greater extent. Cornforth (2003 p.217) found support for this argument that “boards are more effective if the board and management share a common vision on how to achieve their goals.” Considering this point by Cornforth (2003) from the perspectives of stewardship theory as explained above, one can assume that agents in Christian MFIs will have high organizational identification which could imply that Christian MFIs will need less-strict governance systems. Furthermore, if agents in Christian MFIs (Boards and Managers) were to follow the basic Christian ideologies of their Christian principals, then one can argue that, governance in Christian MFIs will be more efficient and effective all things equal. For instance, in *Colossians 3:23* the bible says that, “*Whatever you do, work at it with all your heart, as working for the Lord, not for human masters*.” Again, in *Mark 12:31 Jesus asserts that, “the second important commandment is to love one’s neighbor as him or herself*.” These bible references suggest that if Christian agents were to follow the doctrines in the bible to the letter, they would undoubtedly be better stewards than their secular counterparts because agency costs would be lower under such circumstances.

Moreover, a critical look at some biblical parables indicates that Christian agents are expected to be better stewards than their secular counterparts even though this may not be explicitly written. For instance in *Matthew 25:14-30*, the bible tells a parable about a master and his three servants to whom the master had left some talents before he embarked on a journey. In this story, the bible does not tell whether the master had given the servants any specific instructions as to how they should use the talents or not. But in the end, the story tells that upon his return, while the master praised two of the servants who were self-motivated, hardworking and fruitful, he condemned the other servant who did not put his talent into any use. This parable seems to create the picture that, Christian organizations are likely to have a-more implicitly-strict governance than secular organizations. Following this line of reasoning, I present two rival general hypotheses as follows;

$H_{A1:}$ *Christian MFIs have less strict governance than secular MFIs.*

$H_{A2:}$ *Christian MFIs have more strict governance than secular MFIs.*

These general hypotheses are tested using twelve different governance variables as dependent variables. These include a dummy for NGO or a cooperative type of ownership, dummy for bank regulations, board size, board meetings per year, number international directors, number of female directors, dummy for female CEO, dummy for CEO duality, number of top management members, dummy for the use of services of the big four external auditors (see table 4-3), dummies for CEO's formal business education and business experience. Following is the hypotheses for the effect of religious affiliation on the respective variables.

i. Christian MFIs and NGO or a Cooperative ownership structure

The theory of ownership cost suggests that Shareholder-owned firms are better at minimizing ownership cost from the practice of ownership (Mersland & Strøm, 2008). However, NGOs according to (Hansmann, 1996), are also better at mitigating ownership costs stemming from market-based contracts because they have better access to information and are less likely to encounter the problem of adverse selection. Besides just as NGOs are expected to be more socially-oriented than profit-oriented (Ebrahim, 2003; Ashta & Bush, 2009) so are Christian-affiliated organizations also expected to have more social orientation than secular organizations (Mersland et al., 2013 p.147). This implies that, to a greater extent, Christian MFIs share some of the major goals of NGOs than secular MFIs. From this line of reasoning, it could be hypothesized that,

$H_{1:}$ *The probability for having an NGO or a Cooperative ownership structure is higher in Christian MFIs than secular MFIs.*

ii. Christian MFIs and Bank Regulations

Thomsen and Conyon (2012 p.50) noted that 'legal protection of shareholder rights is very important and that the law obligates companies to many practices which protect the rights of investors. Therefore, a similar inference could be made that, the essence of bank regulations is to streamline the activities of banks and other financial institutions in order to protect the rights of investors, customers, governments and other stakeholders. Other authors have also identified that, governments have over the years provided religiously-tied service providers with direct and indirect subsidies including regulatory reliefs such as tax exemptions and deductible donations

(Hall 2002 pp. 1-2; Forren, 2006) Also, comparing Christian MFIs to the secular MFIs, one can assume that secular MFIs would have more private investors with monetary incentives than Christian MFIs. Again, looking at this from the perspective of stewardship theory, it could be assumed that, if agents in Christian MFIs are to have their goals aligned better with their financiers, there will be less need for bank regulations. Henceforth, it could be hypothesized that,

$H_{2:}$ *The probability for Christian MFIs being regulated by banking authorities in a country is less than secular MFIs.*

iii. Christian MFIs and Number of International Directors

Mersland, Randøy and Strøm (2011 p.164-165), indicated that, the microfinance industry is international in scope with heavy investments by international banking and lending institutions. Mersland et al. (2013 p.148) also noted that, several international lenders and support organizations for MFIs such one of the world's largest, Oikocredit, have a Christian origin. Besley and Ghatak (2005 p. 617) also asserts that "a person would find donating his or her income earned in the market to an organization that pursues a mission that he or she cares about to be an imperfect substitute for joining and working in it". Reconciling this view by Besley and Ghatak (2005) to the fact that many Christian MFIs are initiated and financed by international Christian organizations (Mersland et al., 2013), it could be hypothesized that,

$H_{3:}$ *Christian MFIs have a larger number of international directors than secular MFIs.*

iv. Christian MFIs and CEO Business Experience and Education

Cornforth (2003) found that, in order to enhance board effectiveness, board members must have the time, relevant skills and experience to do the job and in addition, there must be clear board roles and responsibilities. Mersland et al. (2013) observed that, although several psychological studies have identified a positive influence of religion on economic efficiency, the other side of the coin is that, religious leaders and workers may pursue goals that are not related to organizational performance. For instance, "some authors argue that Christian MFIs should have a triple bottom-line; financial results, social results, and spiritual results and that for instance, high client/staff efficiency ratios are incompatible with the achievement of spiritual results" (Bussau

& Mask, 2003 cited Mersland et al., 2013 p.148). In line with this tendency for spiritual focus, Mersland et al. (2013) argued that, Christian MFIs can employ managers who have a good spiritual background by their standards but may not necessary have the relevant educational background and business experience. From this point of argument, I present the following two hypotheses;

$H_{4:}$ *The probability for having a CEO who has business experience is lesser in Christian MFIs than secular MFIs*

$H_{5:}$ *The probability for having a CEO who has a university business education is lesser in Christian MFIs than secular MFIs*

v. Christian MFIs and Board size, Board meetings and Top Management size

Most studies on the effects of board size on firm performance points to the fact that, larger board sizes are less effective and negatively affects performance (e.g. Yermack, 1996; Eisenberg, Sundgren & Wells, 1998; Conyon & Peck, 1998). Also, when it comes to the Microfinance industry, Hartarska (2005) found that, larger boards lead to low financial sustainability. However, Oster & O'Regan (2003 cited Hartarska, 2005) hypothesized in NPOs, board size may need to be larger due to the extra duties of board members related to supervision of fundraising which was later confirmed in their subsequent studies that, indeed large board size is associated with positive performance features in the nonprofit sector (O'Regan & Oster, 2005 p. 226). Considering the fact that Christian MFIs largely depend on donor support than secular MFIs (Mersland et al., 2013), it could be inferred that, Christian MFIs would have a larger number of board members, more top management members and more board meetings per annum. Accordingly, the following hypotheses are made;

$H_{6:}$ *Christian MFIs have a larger board size than secular MFIs.*

$H_{7:}$ *Christian MFIs have more top management members than secular MFIs*

$H_{8:}$ *Christian MFIs have higher number of board meetings per year than secular MFIs*

vi. Christian MFIs and The Big Four External Auditors

Mersland et al. (2013) found evidence to suggest that, Christian MFIs have a lower cost of funding compared to secular MFIs and hinted that, a possible cause for this discrepancy could be because most Christian MFIs are heavily dependent on donor support. Mersland (2011 p. 337) also indicated that, donors in general practice slack control and are seldom active in corporate governance. Henceforth, it could be predicted that, since the purpose of external audit is to assure external stakeholders, especially private investors who continuously seek an appreciable return on their investments, of the genuineness of a company's financial information, secular MFIs are more likely to be influenced by investor demands to ensure a better quality of external audit and hence be more likely to employ the services of the big four external auditors (see Table 4-3). This notwithstanding, Kitching (2009) also examined the link between auditing and donations decisions using a sample of U.S charitable organizations. By using audit firm size as a proxy for audit quality, she finds that audit quality affects donor-giving decisions. She found that donors are willing to give more to nonprofit organizations audited by a high-quality auditor and that donors are more sensitive to changes in reported accounting information verified by a high-quality auditor (Kitching, 2009, p. 510). Therefore, by reconciling the findings by Mersland et al. (2013) to that of Kitching (2009), I formulate two rival hypotheses as follows;

H_{9a}: *Christian MFIs have a lesser tendency to use the services of the big four external auditors than Secular MFIs.*

H_{9b}: *Christian MFIs have a higher tendency to use the services of the big four external auditors than Secular MFIs.*

vii. Christian MFIs and Females on Board and Management

While conventional Christian beliefs and practices seem to make men superior over women, and generally discourages women leadership, other empirical observations on the role of women on MFI boards and management have proved that, having women as CEO of MFIs could lead to better outreach performance (Hartarska et al., 2014). Besides, Mersland et al. (2013) hypothesized that; Christian MFIs by virtue of the fact that they have a higher poverty orientation should perform better in outreach to poor clients. However, this hypothesis was not empirically supported and considering the changing trends even within the Christian religion for instance, the call for proactiveness by Protestantism (Weber, 1958) which is not gender-biased, it is not clear-cut as to the prevailing trend in terms of having more or fewer females on board and management of Christian MFIs. To this end I hypothesize that,

H_{10a} *Christian MFIs have more female directors than Secular MFIs.*
H_{10b} *Christian MFIs have less female directors than Secular MFIs.*

H_{11a} *The probability for having a female CEO is higher in Christian MFIs than Secular MFIs*
H_{11b} *The probability for having a female CEO is lesser in Christian MFIs than Secular MFIs*

viii. Christian MFIs and CEO/Chairman Duality

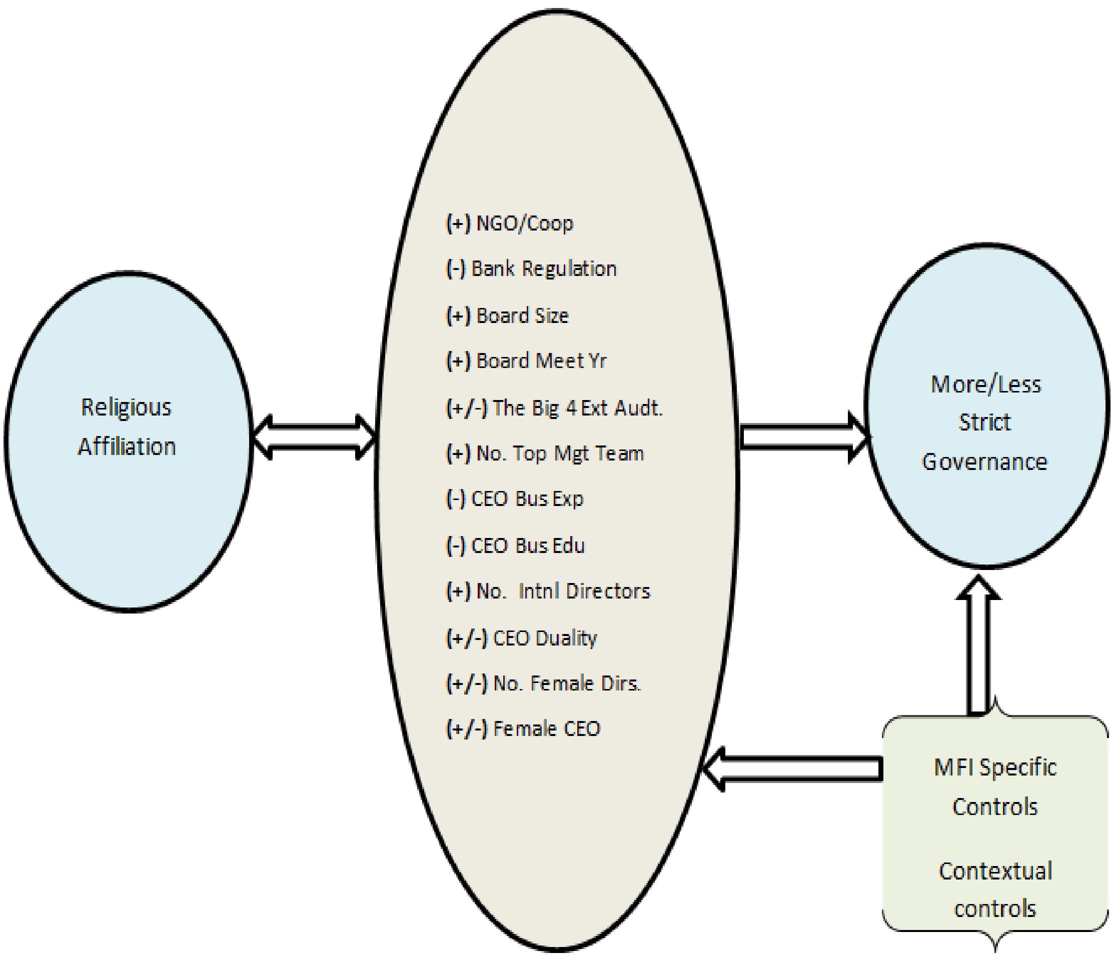
Concerning the issue of CEO duality, thus a situation, where the CEO doubles as the board chair, it has been suggested that this increases agency costs (Thomsen & Conyon, 2012 p. 143). Thomsen and Conyon (2012 p. 143) argues that "while CEO duality is very common in the US, it is very rare in United Kingdom (UK) although these countries share similar governance structures (e.g. common law, one-tier board system etc.)." They however, noted that, this difference is partly due to cultural and institutional differences and that this is because the UK's corporate governance code emphasizes board independence. Hence the separation of the positions in the UK is to enhance an effective separation of powers. Considering the case between the Christian and the secular MFIs, one can assume that, Christian MFIs from the perspectives of stewardship theory will not be too strict to have the two positions separated. Mersland and Strøm, (2009), also held a similar opinion that, "even though CEO/chairman duality may be a sign of CEO entrenchment, it may enhance effective decision making especially in a situation where there is a smaller divergence between the interest of the CEO and the owner" (Allen and Gale, 2000 cited Mersland and Strøm, 2009 pp. 663-664). However, Mersland et al. (2013) noted that, most Christian MFIs are founded by international Christian NGOs. Therefore, if the notion by Thomsen and Conyon that CEO duality is culturally-influenced holds, then the probability for a Christian MFI having a CEO/chairman duality could also be influenced by the prevailing situation in the founding NGO's country which may not necessarily reflect the organizational characteristics of the Christian MFI. To this end I formulate two rival hypotheses that,

H_{12a} *The tendency of having the positions of CEO and Board Chair occupied by the same person is higher in Christian MFIs compared to Secular MFIs*

H_{12b} *The tendency of having the positions of CEO and Board Chair separated is higher in Christian MFIs compared to Secular MFIs*

In line with the empirical arguments outlined above, and also drawing the appropriate inferences from *agency* and *stewardship theory* perspectives, the conceptual framework represented in the figure 3-1 below, is modeled after the expected impact of Christian affiliation on the corporate governance variables selected for this study.

Figure 3-1 The Conceptual Framework



Model developed by Author

CHAPTER FOUR

4. Data Description and Methodology

4.1 Data and Sample Description

This study uses data relating to 403 rated MFIs operating in 73 countries worldwide. A list of countries and the number of MFIs could be found in Table 4-1, shown in the next page. The data have been extracted from detailed risk assessment reports produced by five specialized rating agencies. The rating agencies are MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril. These five agencies were selected because they are well endowed with information and are the largest players when it comes to MFI rating. Moreover, the agencies are officially approved by the Consultative Group to Assist the Poor (C-GAP) and are supported by the C-GAP's Rating Fund. The source of information based on which the data was extracted is publicly available at www.ratingfund2.org.

The rating reports making up the database are from years 2001 to 2010, with the majority coming from 2004 to 2008. For this study, the source of information is essential because the reports contain detailed information regarding the background of the MFIs and allow one to identify whether an MFI has a religious origin. The data have a certain sample selection bias, since only rated MFIs are entered. However, of the rated MFIs, most rating categories are represented in the data. Besides, this selection has advantages since much of the background "noise" has been eliminated by only including MFIs that are able and willing to be rated. Again the fact that other writers such as (Mersland and Strøm, 2009; Mersland et al., 2013) have published articles in well reputed journals using a comprehensive data set based on rating reports makes this approach well recognized.

Table 4-1 List of Countries and number of Microfinance Institutions

Country Code	Name of Country	No. of MFIs	Country Code	Name of Country	No. of MFIs
1	Albania	3	**39**	Russian Federation	15
2	Argentina	1	**40**	Senegal	10
3	Armenia	3	**41**	South Africa	3
4	Benin	9	**42**	Sri Lanka	1
5	Bolivia	15	**43**	Tanzania	5
6	Bosnia Herzegovina	12	**44**	Togo	4
7	Brazil	13	**45**	Trinidad and Tobago	1
8	Bulgaria	2	**46**	Tunisia	1
9	Burkina Faso	4	**47**	Uganda	10
10	Cambodia	13	**48**	Montenegro	2
11	Chile	2	**49**	Cameroun	5
12	Colombia	6	**50**	Guinea	1
13	Dominican Republic	4	**51**	East Timor	1
14	Ecuador	18	**52**	Bangladesh	2
15	Egypt	5	**53**	Nepal	5
16	El Salvador	6	**54**	Vietnam	1
17	Ethiopia	10	**55**	Azerbaijan	7
18	Georgia	6	**56**	Mongolia	2
19	Guatemala	6	**57**	Nigeria	3
20	Haiti	3	**58**	Mozambique	1
21	Honduras	8	**59**	Tajikistan	7
22	India	32	**60**	Croatia	1
23	Indonesia	2	**61**	Chad	1
24	Jordan	3	**62**	Rwanda	4
25	Kazakhstan	4	**63**	Zambia	2
26	Kenya	9	**64**	China	1
27	Kyrgyzstan	4	**65**	Serbia	1
28	Madagascar	2	**66**	Ghana	4

29	Mali	3	**67**	Malawi	1
30	Mexico	18	**68**	Gambia	1
31	Moldova	2	**69**	Kosovo	4
32	Morocco	6	**70**	Rep of Congo Brazz.	1
33	Nicaragua	13	**71**	Burundi	1
34	Pakistan	1	**72**	Niger	3
35	Paraguay	2	**73**	DRC- Kinshasa	1
36	Peru	32			
37	Philippines	7			
38	Romania	1			
Total Number of Countries					**403**

Table developed by Author from panel data set.

4.2 Operationalization and measurement of concepts

Zikmund, Babin, Carr, and Griffin (2013) noted that, researchers measure concepts through a process known as operationalization. This process involves identifying scales that correspond to variance in the concept. According to (Sager 1976 cited Pascal, 2012) the operational definition or research definition is the definition of the concept which its properties or operations can be measured through observation. For non-observable operational definition, their events, presence or absence of behavior can be measured by inferring to the behavior that is observable (Pascal, 2012, p. 15). This study operationalizes the following concepts based on theories and empirical research findings.

In this study, *dependent variables* such as board size (B-size), number of board meetings per annum (B-mtyr), number of female directors (fem-dirs), a dummy for a female CEO (f-CEO), number of international directors (Int-dirs), a dummy for CEO duality (C-dty), dummies for CEO business experience and education (CB-exp/CB-edu), number of top management team (T-mgt), a dummy for use of the services of 'the big four external auditors' (B4-audit), a dummy for whether an MFI is regulated by banking authorities in a country (BK-reg) and a dummy for ownership status (NGO/Coop) are used to measure the strictness of corporate governance in a sample consisting of religious-affiliated and secular MFIs. The sole *independent variable* is the dummy for religious initiation (1 for religious initiated and, 0 for non-religious initiated).

Besides, the study includes a set of *control variables* which have also been used recently in the MFI literature (e.g. Mersland et al., 2013). The control variables used in this study include *MFI specific control variables* such as *MFI size* which is measured by using the dollar value of assets as a proxy, *MFI age* and *country-specific control variables* such as the *Human Development Index* (HDI) of the country where the MFI is situated, the *percentage of Christian population*. Moreover, *regional dummies* for Latin America, Asia, Eastern Europe and Africa are included. These control variables will help to reduce the risk of attributing explanatory power to independent variables that in fact are not responsible for the occurrence of variation in the dependent variable (Zikmund et al., 2013 p. 262). These controls could also help reduce the error variance, and hence to increase the sensitivity with which religious or non-religious affiliation impact governance (Lord, 1960, p. 307).
Table 4-2 summarizes the list of independent and control variables with their explanations while table 4-3 presents a combined schedule of the dependent variable and the expected correlations with the predictor variable.

Table 4-2 Explanations of Independent and control variables used in the study

Independent Variable	Explanation (measure)
Religious Affiliation (Dm Rel-Init)	A dummy with a value of (1) if the MFI has a Christian origin and with a value of (0) if the MFI has a secular origin
MFI Specific Controls	
MFI size	The dollar value of MFI's total assets
MFI age	Number of years elapse since the MFI started business up to the year the information was gathered
Contextual Controls	
Human Development Index (HDI)	A composite statistic of life expectancy, education and income indices used to rank countries
Regional Dummies	Dummies for Latin America, Africa, Asia and Eastern Europe
Percentage Christian Population	The number of Christian residents as a percentage of the total country population

Developed by Author

Table 4-3 Explanations for Dependent Variables and Hypothesis used in the study

Dependent Variables (Governance Mechanisms)	**Explanation (Measure)**	**Hypotheses Christian MFIs**	
Type (legal status)	A dummy for ownership with a value of 1 if the MFI is an NGO or a Cooperative (COOP)	+	A greater number of Christian MFIs have an NGO or a Cooperative ownership structure
Bank Regulation	A dummy variable with a value of 1 if the MFI is regulated by banking authorities in the country	-	A lesser number of Christian MFIs are regulated by banking authorities
Board size	States the number of board members	+	Christian MFIs have a large board size
International Director	States the number of international board members	+	Christian MFIs have a larger number of international directors
Female Director	States the number of female directors	+/-	Most Christian MFIs have either a large or small number of female directors
DM Female CEO	A dummy with a value of 1 if the MFI's Chief Executive Officer is a female	+/-	Most Christian MFIs have either a female or non-female CEO
Board Meet-year	States the number of regular board meetings per year	+	Christian MFIs have more board meetings per year
DM CEO Chair	A dummy with a value of 1 if the CEO and the board chair is the same person	+/-	Most Christian MFIs have, or do not have the same person as CEO and board chair
DM CEO Bus.	A dummy with a value of 1 if the CEO	-	The CEO of most Christian

Experience	has business experience		MFIs does not have business experience
DM CEO Bus Education.	A dummy with a value of 1 if the CEO has a university business education	-	The CEO of most Christian MFIs does not have a university business education
Top Management Team	States the number of top management members	+	Christian MFIs have a larger number of top management members
DM The Big 4 External Auditors	A dummy with a value of 1 if the MFI employs the services of The Big Four External Auditors including PricewaterhouseCoopers, KPMG, Ernest & Young and Deloitte. These are named the big 4 because they come to the top in the global ranking of accounting firms considering their range of services, profit margin, employee size and global recognition. (accountingverse.com)	+/-	Most Christian MFIs do, or do not employ the services of the big four external auditors

Developed by Author

4.3 The Research Methods

Towards the achievement of the objectives for this study, I first perform a *univariate t- and* χ^2-*tests* that analyzes the differences in mean and median respectively between the two groups (thus Christian/secular MFIs) in the different hypothesized governance variables. The t-test represents a test for hypotheses which compares the mean scores for two groups comprised of some interval- or ratio-scaled variable using a less-than interval classificatory variable (Zikmund et al., 2013 p.534). The χ^2-*test* is also appropriate for univariate tests involving two nominal or ordinal variables (Zikmund et al., 2013 p.521). In addition, by using the *panel data model*, I regress the different corporate governance variables against the predictor variable (dummy for Christian affiliation) as well as the set of control variables.

A panel data set is one that follows a given sample of individuals overtime, and thus provides multiple observations on each individual in the sample (Hsiao, 2003, p. 1). Hsiao (2003) remarked that, panel data sets for economic research possess several major advantages over traditional cross-sectional or time-series data sets. For instance ‘panel data usually give the researcher a large number of data points, increasing the degrees of freedom and reducing the collinearity among explanatory variables- hence improving the efficiency of econometric estimates’ (Hsiao, 2003 p.1). Moreover, since the panel data provides a relationship, over time to individual (e.g. MFIs), this implies that these individuals are bound to be heterogeneous (Pascal, 2012). The panel data estimation takes into consideration such heterogeneity by allowing individual-specific (MFI) variables to be tested (Studenmund, 2006 cited Pascal, 2012). Halaby (2004, p. 508) noted that, “the fundamental structure of panel data provides the analytical leverage for rigorously achieving the central aim of quantitative research: *the estimation of causal effects”*.

According to Halaby (2004), the problem of causal inference is primarily one of unobservables, and unobservables are central to the contribution of panel data in solving problems of causal inference. Two kinds of unobservables pose a challenge in the identification and estimation of causal parameters in nonrandomized studies: (*a*) *time-invariant unit-specific unobservables* that represent permanent properties of units (i.e., unit effects) and (*b*) *time-varying unit-specific unobservables* that represent transitory and idiosyncratic forces acting upon units (i.e., disturbances) (Halaby, 2004, p. 508). Panel data offer certain privileges for dealing with such abstracts, but these advantages can only be realized through statistical methods that capitalize on the structure of observations that extend across units and over time (Halaby, 2004; Park, 2011).

The following is general panel data regression model according to (Bollen and Brand, 2010 cited Pascal, 2012).

$$Y_{it} = \alpha_i + \beta^{'} X_{it} + \varepsilon_{it}$$

Where;

$\boldsymbol{Y_{it}}$ Represent the dependent variable (measure of corporate governance system/structure) for cross- section unit *i* at time *t*, where *i* = 1…..n and *t* = 1…..T

$\boldsymbol{\alpha_i}$ Represent heterogeneity or an individual effect which comprises the constant term in the model, and it contains set of observable individual or group specific variables for example MFI’s type etc. or unobserved MFI characteristics (for instance composition of governance structure within the MFI) which are generally considered time invariant (Wooldridge, 2006 cited Pascal, 2012).

$\boldsymbol{\beta}$ Represent the partial effect measure of X_{it} in time *t* for unit *i*

$\boldsymbol{X_{it}}$ Represent the jth predictor variable for unit *i* at the time *t*. In this study there are K predictor variables indexed by j=1……K which means that X_{it} is a K dimensional vector and;

$\boldsymbol{\varepsilon_{it}}$ Represent the error term

4.3.1 Fixed vs. Random Effect Models

Two main techniques are used in panel data analysis, fixed effects and random effects models. The *fixed effects model* assumes that, in exploring the relationship between the predictor and outcome variables within an entity (country, individual or an organization), time invariant characteristics within such entities (e.g. gender, race, religion, political system) may bias the predictor or outcome variables and needs to be controlled. Fixed effect models thus remove the effect of all those time-invariant characteristics from the predictor variables so we can assess the predictor's net effect (Torres-Reyna n.d.[1]).

On the contrary, the *random effects model* assumes that the variation across entities is random and uncorrelated with the predictor or independent variables included in the model. Random effects assume that the entity's error term is not correlated with the predictors which allows for the time-invariant variables to play a role as explanatory variables . Accordingly, considering the time-invariant nature of some of the covariates, I use the random effects model for this study. The random effect model assumes that the individual effect α_i is not correlated with the predictor variable X_{it} hence the error term in random effects model becomes (μ_i + ε_{it}), whereby μ_i is the specific random effects element for the group which is similar to ε_{it} except that with μ_i, for every group there is a single draw that is considered into the regression identically for each time (Gujarati and Porter, 2010; Wooldridge, 2006 cited Pascal, 2012, Torres-Reyna, n.d.).

Therefore, the *random effects model* adapted from the general model could be represented as:

$$Y_{it} = \alpha_i + \beta' X_{it} + \mu_i + \varepsilon_{it}$$

1 n.d. refers to no date found

Where;

$\boldsymbol{\mu_i}$ Represents the between-entity error and

$\boldsymbol{\varepsilon_{it}}$ Represents the within-entity error (Torres-Reyna, n.d.)

Operational models for the general equation above are presented in the regression section.

4.4 The Regression Model

In this study, I use both Ordinary Least Squares (OLS) and Logistic regression models in my regression analysis considering the fact the dependent variables for this study are composed of *continuous* and *categorical* variables. According to Park (2011, p. 7) 'if individual effects μ_i (cross-sectional or time specific effect) does not exist ($\mu_i = 0$), OLS produces efficient and consistent parameters.' OLS consists of five core assumptions (Greene, 2008 cited Park, 2011). These include;

1. *Linearity*: asserts that the dependent variable is formulated as a linear function of a set of independent variable and the error (disturbance) term.
2. *Exogeneity:* indicates that the expected value of disturbances is zero or disturbances are not correlated with any regressors.
3. Disturbances have the same variance (*homoscedasticity*) and are not related with one another (*no autocorrelation*)
4. The observations on the independent variable are *not stochastic* but fixed in repeated samples without measurement errors.
5. *Full rank* assumes that there is no exact linear relationship among independent variables (*no multicollinearity*).

However, Park (2011 p.7) indicated that, if individual effect μ_i is not zero in longitudinal data, heterogeneity (individual specific characteristics that are not captured in regressors) may influence assumptions 2 and 3. Specifically, disturbances may not have the same variance but vary across individual (*Heteroscedasticity*, violation of assumption 3.a) or are related with each other (*autocorrelation*, violation of assumption 3.b). The violation of assumption 2 renders random effect estimators biased. Therefore, the OLS[2] estimator is no longer best unbiased linear estimator. Then panel data models provide a way to deal with these problems.

Logistic regression models differ from linear regression models such as OLS in the use of a dichotomous dependent variable. Logistic analysis do not predict whether an event has occurred or not, but instead predicts the probability of the event (Hair, Black, Babin & Anderson, 2010 pp. 317-319). In logistic regression models, the independent variables *X's* can be numerical or categorical, but the dependent variables *Y's* are generally coded as 0 (for those who do not have the event) or 1 (for those who have the event) ("Logistic Reg. Analysis", 2012). The simple logistic model is based on a linear relationship between the natural logarithm (ln) of the odds of an event and a numerical independent variable. The form of this relationship is as follows:

$$Y = L = \ln(o) = \ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X + \varepsilon \,,$$

where

Y is binary and represent the event of interest (response), coded as 0/1 for failure/success respectively

p is the proportion of successes,

o is the odds of the event,

L is the ln (odds of event),

X is the independent variable,

$\boldsymbol{\beta_0}$ and $\boldsymbol{\beta_1}$ are the Y- intercept and the slope, respectively, and

$\boldsymbol{\varepsilon}$ is the random error ("Logistic Reg. Analysis", 2012)

The variables that are analysed using OLS in this thesis include; board size, board meetings per year, number of top management team, number of international directors and number of female directors. The rest are analysed by means of logistic regression. The operational regression models used in this study are presented as follows; (see next page)

2 The equation for the OLS model is equivalent to the general panel regression model presented above in p. 29.

i. Religious Affiliation and Board Size

$B - size_{it} = \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2\ Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots \qquad \ldots\ldots$ (1)

Where;

$B - size_{it}$ = Board size for MFI *i* at time *t*, where *i*=1.......n and *t*=1.......T

$DmRel - Init$ = The dummy for religious Initiation of MFI

$Controls$ = Control variables (MFI size, age, HDI, regional dummies and percentage of Christian population)

μ_i = Unobserved heterogeneity MFI specific effect

ε_{it} = The idiosyncratic errors as it vary across time *t* as well as across MFI *i*

ii. Religious Affiliation and Board Meetings per year

$B - mtyr_{it} = \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2\ Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots\ldots.$. (2)

Where;

$B - mtyr_{it}$ = No. of Board meetings per year for MFI *i* at time *t*

iii. Religious Affiliation and No. of International Directors

$Int - Dirs_{it} = \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2\ Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots\ldots.$. (3)

Where;

$Int - Dirs_{it}$ = Number of International Directors for MFI *i* at time *t*

iv. Religious Affiliation and No. of Top Management Team

$T - Mgt_{it} = \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2\ Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots\ldots.$. (4)

Where;

$T - Mgt_{it}$ = Number of Top Management Team for MFI *i* at time *t*

v. Religious Affiliation and No. of Female Directors

$Fem - Dirs_{it} = \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2\ Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots\ldots.$. (5)

Where;

$Fem - Dirs_{it}$ = Number of Female Directors for MFI *i* at time *t*

vi. **Religious Affiliation and Female CEO**

$F - CEO_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$…… …… (6)

Where;

$F - CEO_{it}$ = The probability that an MFI *i* at time *t* has a female CEO

vii. **Religious Affiliation and CEO Duality**

$C - dty_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. ..(7)

Where;

$C - dty_{it}$ = The probability that an MFI *i* at time *t* has the CEO and board chair as same person

viii. **Religious Affiliation and CEO Business Experience**

$CB - exp_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. (8)

Where;

$CB - exp_{it}$ = The probability that the CEO of an MFI *i* at time *t* has business experience

ix. **Religious Affiliation and CEO Business Education**

$CB - edu_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. (9)

Where;

$CB - edu_{it}$ = The probability that the CEO of an MFI *i* at time *t* has a university business education

x. **Religious Affiliation and the use of the Big Four Auditors**

$B4 - audit_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. (10)

Where;

$CB - edu_{it}$ = The probability that an MFI *i* at time *t* uses the services of the Big Four auditors.

xi. **Religious Affiliation and Bank Regulations**

$BK - reg_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. (11)

Where;

$BK - reg_{it}$ = The probability that an MFI *i* at time *t* regulated by the banking authorities in a country.

xii. **Religious Affiliation and NGO or cooperative ownership**

$NGO/coop_{it} \ = \ \beta_0 + \beta_1 DmRel - Init_{it} + \beta_2 \ Controls_{it} + \ \mu_i + \ \varepsilon_{it}$……….. (12)

Where;

$NGO/coop_{it}$ = The probability that an MFI *i* at time *t* is an NGO or a Cooperative

4.5 An Alternative Methodological Approach to Analysis

In order to enhance the robustness of the regression results and also to improve upon the explanatory power of the regression results, I perform further analysis taking the dummy for religious initiation as dependent variable and the governance variables as the independent variables in a random effects logistic regression model. In order to do this, I perform some econometric analysis in order to test whether the model satisfies some of the fundamental assumptions of multiple regression analysis as outlined above and to make corrections where necessary.

In the following subsections, I present and discuss how I managed to test and correct (where necessary) if any of these assumptions has been violated by the research model. I start by testing for Multicollinearity, Heteroscedasticity and then Normality of the error term.

4.5.1 Correlation Analysis and the test for Multicollinearity

According to Zikmund et al. (2013 p. 566), though simple regression and correlation are mathematically equivalent in most respects, regression is a dependence technique while correlation is an interdependence technique. A dependence technique makes a distinction between dependent and independent variables, specifying the cause and effect but an interdependence technique does not make this distinction and simply is concerned with how variables relate to one another. By means of STATA, I run correlation analysis to investigate if the independent variables are correlated. Multicollinearity is the undesirable situation where the correlations among the independent variables are very strong (chsbs.cmich.edu). Multicollinearity increases the standard errors of the coefficients (Mansfield & Helms, 1982) . Increased standard errors in turn means that coefficients for some independent variables may be found not to be significant while they should be otherwise significant (chsbs.cmich.edu). Hair et al. (2010) argue that the cut-off point is 0.9 correlation coefficient below which there is no effect of Multicollinearity. Using this 0.9 correlation coefficient as the cut-off point, it could be seen from the correlation matrix represented in the table 4-4 that there is no problem of Multicollinearity with the independent variables.

Table 4-4 Correlation Matrix

	1	2	3	4	5	6	7	8
(1) NGO/Coop	1							
(2) BankRegul.	-0.36	1						
(3) Board Size	0.19	-0.04	1					
(4) Int. Directors.	-0.26	0.21	0.05	1				
(5) Female Dirs	0.29	-0.04	0.37	-0.15	1			
(6) Female CEO	0.17	-0.01	0.10	-0.06	0.4	1		
(7) CEO Duality	0.09	-0.15	-0.22	-0.15	0.02	-0.01	1	
(8) CEO Bus Exp	-0.25	0.06	0.03	0.15	-0.17	-0.02	0.14	1
(9) Ext Auditors	-0.05	0.12	0.12	0.25	-0.04	-0.06	-0.10	0.16
(10) Ln Assets	0.00	0.08	0.22	0.17	-0.04	-0.00	-0.08	0.20
(11) Age	0.27	-0.09	0.14	-0.15	0.09	-0.05	-0.08	-0.23
(12) Int. Initiation	-0.17	0.04	0.16	0.50	0.03	-0.09	-0.14	0.23
(13) HDI	0.12	-0.48	-0.04	-0.18	0.01	0.22	0.15	-0.11
(14) Lat. America	0.29	-0.21	-0.03	-0.24	0.00	0.09	-0.11	-0.09
(15) Asia	-0.33	0.21	-0.11	0.12	-0.06	-0.11	0.03	0.15
(16) East Europe	-0.06	-0.13	-0.03	0.21	0.02	0.07	0.08	-0.01
(17) Africa	0.06	0.21	0.15	0.09	-0.01	-0.02	-0.07	-0.04
(18) Christ. Popl	0.37	-0.32	0.04	-0.22	0.19	0.15	0.08	-0.12

	9	**10**	**11**	**12**	**13**	**14**	**15**	**16**	17	18
(9) Ext Auditors	1									
(10) Ln Assets	0.37	1								
(11) Age	-0.06	0.28	1							
(12) Int. Initiation	0.23	0.18	-0.09	1						
(13) HDI	-0.09	-0.05	-0.01	-0.11	1					
(14) Lat. America	-0.17	0.00	0.30	-0.29	0.12	1				
(15) Asia	0.03	-0.05	-0.10	0.13	-0.13	-0.46	1			
(16) East Europe	0.18	0.02	-0.25	0.18	0.26	-0.49	-0.31	1		
(17) Africa	-0.02	0.03	0.01	-0.06	-0.33	-0.24	-0.15	-0.16	1	
(18) Christ. Popl	-0.14	-0.01	0.25	-0.19	0.39	0.58	-0.58	-0.01	-0.09	1

As per the correlation matrix, the highest correlation coefficient among the predictor variables was recorded between an NGO or a Cooperative ownership type and bank regulation which was -0.36 and the second highest was between board size and the number of female directors which was also 0.37. Besides, some of the control variables also recorded significant correlation coefficients. For instance, in the case between the *dummy for International initiation* and the *number of International directors*, the correlation coefficient was 0.50. Also between *the percentage of Christian population* and *the regional dummies for Latin America and Asia*, the coefficients were 0.58 and -0.58 respectively. This result was obtained after omitting some of the independent variables (governance variables) that were highly correlated in an initial matrix (unreported). The variables that were omitted include, board meetings per year, number of top management team and the dummy for CEO business education.

Multicollinearity could also be diagnosed using the *Variance Inflation Factor* (VIF). Mansfield and Helms (1982 p. 158), indicated that the VIFs reflect considerable variation in the extent of severity for the Multicollinearity. Accordingly, I use the collinearity diagnostics tool in STATA to compute the VIF values for the independent variables. As shown in the table 4-5 below, the VIF values are lower compared to the 10.0 cut-off point which also correspond to the 0.9 cut-off point for correlation coefficient suggested by Hair et al. (2010).

Table 4-5 Variance Inflation Factors

Variable	VIF	Tolerance
(1) NGO/Coop	1.65	0.61
(2) BankRegul.	1.65	0.61
(3) Board Size	1.53	0.65
(4) Int. Directors.	1.62	0.62
(5) Female Dirs	1.78	0.56
(6) Female CEO	1.42	0.70
(7) CEO Duality	1.31	0.76
(8) CEO Bus Exp	1.41	0.71
(9) Ext Auditors	1.31	0.76
(10) Ln Assets	1.49	0.67
(11) Age	1.48	0.67
(12) Int. Initiation	1.60	0.62
(13) HDI	2.01	0.50
(14) Lat. America	9.97	0.10
(15) Asia	6.96	0.14
(16) East Europe	7.62	0.13
(17) Africa	3.22	0.31
(18) Christ. Popl	2.51	0.40
Mean VIF	**2.81**	

In sum, the tests for Multicollinearity using the two well-known approaches in econometric analysis have proven, there is no serious problem of Multicollinearity with the independent variables used in this study.

4.5.2 Test for Heteroscedasticity

Heteroscedasticity is a situation which occurs when error variance is not constant across observations thereby violating the classical regression assumption of constant variance of the error term (Greene, 1993). According to Greene (1993 p.384), Heteroscedasticity occurs basically in the analysis of cross section data and sometimes arises as a result of data aggregation. He further indicated that, ‘Heteroscedasticity if not corrected could result in biased standard errors of the Ordinary Least Squares’ (OLS) (Greene, 1993 p. 391). To test for Heteroscedasticity, I use the Breusch-Pagan test, which tests the null hypothesis that there is no Heteroscedasticity across the range of independent variables. As shown in the table 4-6 below, the probability-value generated by STATA for the Heteroscedasticity test is highly significant indicating that the null hypothesis of homoscedasticity cannot be accepted. To correct for Heteroscedasticity, I run the regression with robust standard errors as suggested in most econometric literatures.

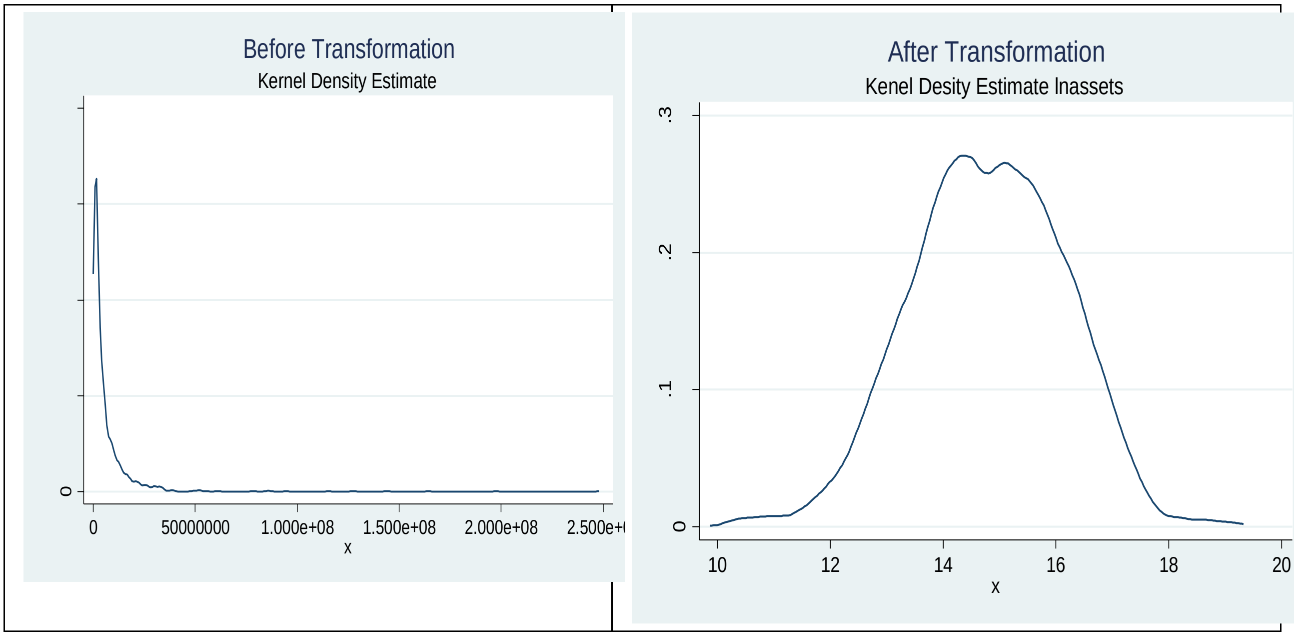
Table 4-6 Test for Heteroscedasticity

```
estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of dm_rel_init


chi2(1)      =   117.77
Prob > chi2  =   0.0000
```

4.5.3 Test for Normality of the Error term

To test the normality of the error term, this study uses normal probability plot as suggested by Hair et al. (2010 p.185).With the exception of assets, all other variables were found to be normally distributed after verifying with the normal histogram syntax in STATA. To obtain normal distribution for assets, I used STATA to generate a log transformation of the variable which is shown in table 4-7 below. As depicted in the table 4-7 below, it could be seen that the graph for the transformed value of assets is more normally distributed than it was before the transformation.

Table 4-7 Variable Transformation of MFI Size (assets)



4.5.4 The operational model for the alternative approach

As already mentioned, the alternative method seeks to regress the dummy for religious initiation against the governance variables now functioning as the independent variables. Again, I introduce another control variable thus the dummy for international initiation in the new approach to strengthen the effect of the control variables and in addition, reduce the number of the independent variables (governance variables) to improve upon efforts to reduce multicollinearity as suggested in Hair et al. (2010 p. 205).

The regression equation for the new approach is given as follows:

$$\boldsymbol{DmRel-Init_{it}} = \beta_0 + \beta_1 B-size_{it} + \beta_2 NGO-coop_{it} + \beta_3 BK-reg_{it} + \beta_4 Int-dirs_{it} + \beta_5 Fem-dirs_{it} + \beta_6 Fem-CEO_{it} + \beta_7 C-dty_{it} + \beta_8 CB-exp_{it} + \beta_9 B4-audit_{it} + \beta_{10}\, Controls_{it} + \mu_i + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

4.6 The Approach to Data Analysis

In this thesis, I use both the Statistical Package for the Social Sciences (SPSS) and the STATA software packages for my econometric analysis. My choice for these data analysis tools was motivated by the popularity these software packages have gained in the business and economics literature for providing users the affordability to make informative and efficient statistical analysis. I also used them because the availability of online user guides for these software programs also made it easier to learn and apply them in my data analysis.

CHAPTER FIVE

5. Presentation of Findings and Analysis

This chapter presents the research findings as produced by the research design and the tools for data analysis. Section 5.1 presents the summary statistics of the variables used in the study. This is represented in table 5-1. Section 5.2 also analyses the results of the univariate statistics including *t*-statistics (mean values) and χ^2 –statistics (median values). The results of the *t*- and χ^2-tests are shown in Tables 5-2a and 5-2b respectively. This is followed by the results of the OLS regressions for the continuous dependent variables as well as the results for the Logistic regressions for the categorical dependent variables in section 5.3. Finally, in section 5.4, I extend the analysis by presenting the results for the alternative methodological approach which primarily checks for the robustness of the results produced by the other methods.

5.1 Analysis of Study Variables

As shown in the table 5-1 below, the value of total assets held by the median MFI in the sample is 2.67 (million dollars). Also, the age of the median MFI is 8 years. This result lends credence to the fact that, the microfinance industry is a relatively small and new industry. Also essential for this study, approximately 17% of the MFIs have a Christian origin and 64% are organized as NGOs or Cooperatives. Also, 39% of the MFIs have an international initiation. The board size of the median MFI is 4 and the number of board meetings per annum of the median MFI is 4. Furthermore, a significant number of the MFIs have CEOs with business experience and business education (85% and 64% respectively). However, the average numbers of international and female directors are very low (0.59 and 1.78 respectively). Moreover, a relatively small proportion of the sampled MFIs (11%) have CEO duality. This could suggest that, most MFIs proportion of the sampled MFIs (11%) have CEO duality. This could suggest that, most MFIs are gradually adopting stricter and effective systems of corporate governance. However, as shown in the table, quite a smaller percentage of the MFIs (30%) employ the services of the big four external auditors. While this depicts a weaker governance structure for the MFIs, a possible reason could be due to the fact that most of the MFIs cannot afford the high audit fees that are usually charged by these renowned auditing firms. Also, considering the fact that a significant proportion of the MFIs are NGOs or Cooperatives, it could be assumed that, there will be less pressure from their financiers who are dominantly NGO donor-organizations (Mersland, 2011 p.337) to employ the expensive services of the big four external auditors.

Table 5-1 Summary Statistics of Variables used in the study

Variable	Obs (*n*)	Mean	Median	Std. Dev.	Min	Max
Dependent Variables						
Type Dm (NGO/Coop)	1618	0.64	1	0.48	0	1
Dm Bank Regulation	1584	0.28	0	0.45	0	1
Board Size	1487	7.00	6	3.32	1	23
International Directors	1193	0.59	0	1.28	0	7
Female Directors	781	1.78	1	1.96	0	16
Dm Female CEO	1444	0.29	0	0.46	0	1
Board Meet Year	1049	7.43	4	8.43	1	96
Dm CEO Chair	1498	0.11	0	0.31	0	1
Dm CEO Bus Exp	1050	0.85	1	0.36	0	1
Dm CEO Bus Edu	669	0.64	1	0.47	0	1
Top Mgt Team	1458	4.22	4	1.74	1	14
External Auditors	945	0.30	0	0.46	0	1
Independent Variable						
Dm Religious Initiated	1606	0.17	0	0.37	0	1
Control Variables						
MFI Assets (×1000)	1585	6,349	2,672	13200	19.3	248,000

MFI Age	1611	9.29	8	6.76	0	79
Dm Intern. Initiation	1602	0.39	0	0.49	0	1
HDI	1613	0.56	0.59	0.14	0.239	0.791
Percent Christian Popl.	1615	0.64	0.85	0.37	0.002	0.995
Lat. America	1611	0.41	0	0.49	0	1
Asia	1611	0.20	0	0.40	0	1
East Europe	1499	0.14	0	0.34	0	1
Africa	1611	0.29	0	0.45	0	1

Moreover, the proportion of female CEOs and the average number of top management team is relatively low (29% and 4% respectively). The results for the other contextual controls indicate that most of the MFIs are situated in pro-Christian countries (64%) with reasonable levels of economic development (average HDI, 56%). Finally, the results indicate that, 28% of the MFIs are regulated by the banking authorities in their respective countries also signaling that the MFI industry is less-regulated.

5.2 The Analysis of the Univariate Statistics

The table 5-2a below represents the results of the univariate independent *t*-test run at a 95% confidence level. The *t*-test was run to compare the means of the religious and secular MFIs with respect to the corporate governance variables. This was done with the assumption that the two samples (religious and secular MFIs are drawn from normal distributions and that the variances of the two populations are approximately the same (Zikmund et al., 2013 p.534). I also include a nonparametric χ^2-test to compare the medians of Christian and Secular groups along the governance variables. The results are presented in table 5-2b.

As indicated in the Tables 5-2a, the *t-test* shows that, there exists significant difference between Christian and secular MFIs in terms of bank regulations and in agreement with the hypothesis; Christian MFIs are less regulated than secular MFIs. Again in concurrence with hypothesis, Christian MFIs significantly have more international directors than secular MFIs. However, contrary to hypothesis 12a, CEO duality is significantly lower in Christian MFIs than secular MFIs. This supports the counter hypothesis 12b and implies that, probably national institutional factors of Christian international initiators have dominance over organizational culture in this case (Thomsen and Conyon, 2012). The results also indicate that a significantly lesser proportion of Christian MFIs have CEOs with business education than secular MFIs as hypothesized. Again, the results confirm the hypothesis 11b that Christians MFIs have a lesser probability for a female CEO than secular MFIs. Furthermore, the results revealed that a significantly higher proportion of Christian MFIs use the services of the big four external auditors which agrees with the hypothesis 9b. This situation is possibly caused by the influence of the higher proportion international directors in Christian MFIs and later on, the study will seek to confirm or reject this notion after other more rigorous methods have been used.

Table 5-2a The Results of the Univariate T-test

Governance Variables	Christian Mean	Secular Mean	T-value	P-value
DM NGO/Coop	0.67	0.64	0.836	0.404
DM Bank Regulation	0.19	0.30	-3.641***	0.000
Board Size	6.85	7.01	-0.7	0.484
International Directors	1.02	0.51	4.978***	0.000
Female Directors	1.88	1.75	0.694	0.488
DM Female CEO	0.25	0.31	-1.784*	0.075
Board Meet Year	8.1	7.3	-1.186	0.236
DM CEO Chair	0.04	0.12	-3.51***	0.000
DM CEO Business Exp	0.82	0.85	-1.147	0.252
DM CEO Business Edu	0.58	0.67	-1.963**	0.050
Top Mgt Team	4.14	4.24	-0.855	0.393
DM External Audit	0.43	0.27	4.343***	0.000

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.
Group code: Christian = 1, Secular = 0

Moreover, as shown in the table 5-2b, the comparison of the medians reveals that, Christian MFIs significantly have a larger board size, more board meetings and more female and international directors compared to Secular MFIs. However, the χ^2-test indicates that Christian and secular MFIs are essentially similar across the lines of most of the governance variables.

Table 5-2b The Results of the Univariate χ^2 -test

Governance Variables	Christian Median	Secular Median	χ^2-value	P-value
DM NGO/Coop	1	1	0.14	0.704
DM Bank Regulation	0	0	2.14	0.143
Board Size	7	6	7.0***	0.008
International Directors	0	0	6.87***	0.009
Female Directors	2	1	11.63***	0.001
DM Female CEO	0	0	4.87**	0.027
Board Meet Year	4	4	3.97**	0.046
DM CEO Chair	0	0	0.92	0.337
DM CEO Business Exp	1	1	0.66	0.417
DM CEO Business Edu	1	1	0.54	0.463
Top Mgt Team	4	4	0.11	0.741
DM External Audit	0	0	1.81	0.178

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.

Having presented the results for the univariate tests, the study now considers the outturn of the multiple regression methods in the subsequent sections.

5.3 The Analysis of the Multivariate Regression Model

The study now considers the multivariate regression analysis and begins with the results of the Random General Least Square (RGLS) regression in tables 5-3a and 5-3b. As shown in table 5-3b, there is significantly higher number of international directors in Christian MFIs than in secular MFIs which conforms to the results of the univariate t-tests and the research hypothesis. This finding supports the notion that, most Christian MFIs have an international orientation than in the case of secular MFIs. However, in table 5-3a, the RGLS regression just as the univariate t-test, could not reveal any significant relationship between Christian identity and the board size, number of board meetings in a year, number of top management team and number of female directors of the sampled MFIs. However, as shown in table 5-3a, the results revealed a significant positive relationship between MFI size and Board size but a significant negative relationship between MFI's age and board size. Again, as shown in table 5-3a, the results indicated a significant positive relationship between MFI size and the number of board meetings in a year but significant negative relationship between the number of board meetings and the MFI's age. If the assumption that large board size and more board meetings reflect a more strict but not necessarily efficient governance holds, then this results signals that, a growing firm at its peak period might want to be strict enough in order to maintain its position and this could involve large board size and more board meetings but with time as it matures and its size declines it might also cut down on its board size and board meetings to ensure efficiency. The results also revealed a significant positive relationship between the number of top management team and MFI size and age. Furthermore, the RGLS regression results indicated a significant positive relationship between the number of board meetings in a year and the country's HDI as well as the percentage of Christian population.

Table 5-3a Differences in Board size, No. of Board Meetings and No. of Top Management Team between Christian and Secular MFIs

Governance Variables	**Board Size**	**No. of Board Meetings**	**No. of Top Mgt. Team**
Christian MFIs	-0.158	0.938	-0.150
MFI Specific Controls			
MFI Size	1.64***	2.42**	1.12***
MFI Age	-0.34**	-0.097***	0.033***
Contextual Controls			
HDI	-0.77	4.605**	-0.311
% of Christian Popl.	-0.312	1.663**	-0.439
Regional Dummies	Yes	Yes	Yes
Model Stats			
N	1311	1334	943
R^2	0.08	0.032	0.003
Wald X^2	58.84***	19.87**	23.10***

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.

Table 5-3b Differences in No. of International Directors and No. of Female Directors between Christian and Secular MFIs

Governance Variables	No. of International Dirs.	No. of Female Directors
Christian MFIs	0.610***	0.028
MFI Size	1.94	-5.93
MFI Age	0.005	0.014
HDI	-0.426	0.013
% of Christian Popl.	0.141	0.54*
Regional Dummies	Yes	Yes
Model Stats		
N	1138	741
R^2	0.07	0.02
Wald X^2	28.49***	14.66*

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.

Also, the results as shown in table 5-3b indicate a significant positive relationship between the percentage of Christian population and the number of female directors in an MFI. A possible explanation could be that, a higher proportion of the Christians in the countries where the sampled MFIs are located are protestant Christians who do not discourage female leadership.

Having presented the RGLS regression results for the continuous dependent variables, I now present the results for the categorical dependent variables run by the Random-Effects Logistic Regression (RELR) model. The table 5-3c below represent the results for the governance differences between Christian and Secular MFIs along the lines of the relative use of the services of the big four external auditors, the probability for CEO duality, and the probabilities of an MFI having a CEO with business experience and a university business education. Then table 5-3d also presents the results of probabilities for NGO or Cooperative ownership form, bank regulations and a female CEO for the Christian MFI.

Table 5-3c Differences in Probabilities for the Big Four External Auditors, CEO Chair, CEO Business Experience and CEO Business Education

Governance Variables	The Big Four Ext. Auditors	CEO Chair	CEO Business Experience	CEO Business Education
Christian MFIs	5.823*	-3.74	-1.1033	-1.67
MFI Size	1.12*	6.93	1.72***	2.90**
MFI Age	-0.12	-0.11	-0.198**	-0.010
HDI	--12.11	6.26	-8.166	-25.01**
% of Christian Popl.	-5.58	3.74	1.195	0.54
Regional Dummies	Yes	Yes	Yes	Yes
Model Stats				
N	851	1346	966	631
Pseudo R^2	0.14	0.08	0.06	0.06
Wald X^2	22.41***	14.97*	14.42*	29.05***

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.

As indicated in the table 5-3c, there is a significant positive relationship between Christian affiliation and the use of services of the big four external auditors just as the t-test revealed. While this concurs with hypothesis 9b, again another possible explanation could be due to the fact that, Christian MFIs have higher international orientation than the Secular MFIs as confirmed by the results of the t-test and OLS regressions that Christian MFIs significantly have a higher number of international directors. Probably these international directors might have transferred their ideas and experiences into the governance of Christian MFIs thereby influencing the high probability in the use of the services of the big four external auditors especially when the audit firms are globally recognized. However, although, the coefficients for CEO duality, CEO business experience and business education were negative, they were not statistically significant and this means there is not much difference between Christian and secular MFIs along the lines of these governance mechanisms. The results also revealed a positive relationship between MFI size and the probability to use the services of the big four auditors and this relationship was highly expected. Moreover, the results as presented in table 5-3d indicate a highly significant negative relationship between Christian MFIs and bank regulation which is in line with hypothesis. This means that, there is less pressure on Christian MFIs to be regulated by banking authorities. This situation is probably because they relatively have less private investors compared to their secular counterparts.

Table 5-3d Differences in Probabilities for NGO or Coop. ownership form, Bank Regulation and a Female CEO between Christian and Secular MFIs

Governance Variables	**Type of Ownership (NGO or Coop.)**	**Bank Regulation**	**Female CEO**
Christian MFIs	-0.318	-1.88***	2.13
MFI Size	-1.26***	2.26***	-1.03*
MFI Age	0.186***	-0.012	-0.06
HDI	6.52***	-4.94**	4.10
% of Christian Popl.	-1.10	-1.85**	3.78
Regional Dummies	Yes	Yes	Yes
Model Stats			
N	1449	1436	1292
Pseudo R^2	0.08	0.12	0.03
Wald X^2	59.66***	256.30***	12.55

Note: *, ** and *** indicate significance levels of 10%, 5% and 1% respectively.

5.4 The Analysis of the Alternative Methodological Approach

In this section, I present the alternate methodological approach. In this new approach, I use the dummy for religious affiliation as the dependent variable and the governance variables as independent variables. After running tests for Multicollinearity, I reduce the number of independent variables by omitting three of the governance variables as indicated in chapter four. Having controlled for the effect of international orientation by introducing an extra control variable thus the dummy for international initiation, correcting for Heteroscedasticity by using robust standard errors, and transforming assets into the natural logarithm of assets to obtain normal distribution, the results of the second RELR model is represented in table 5-4 as follows;

Table 5-4 The Random Effects Logistic Regression

Random-effects logistic regression			Number of obs	= 435
Group variable: case			Number of groups	= 105
Random effects u_i ~ Gaussian			Obs per group: min	= 1
			avg	= 4.1
			max	= 7
			Wald chi2 (18)	= 29.26
Log likelihood = -46.256584			Prob > chi2	= 0.0453
95% confidence level			Pseudo R^2	= 0.2195

Christian MFI	**Coef.**	**Std. Err**	**Z**	**P>|z|**
Type	1.1247	2.3090	0.49	0.626
Dm_bank_regul	-4.7566	2.2895	-2.08	0.038**
Board_size	0.4321	0.5498	0.79	0.432
Internat_dir	0.4696	0.8279	0.57	0.571
Female_dir	-0.5601	0.7059	-0.79	0.427
Dm_female_ceo	-2.0275	2.3621	-0.86	0.391
Dm_ceo_chair	-4.9526	5.3631	-0.92	0.356
Dm_ceo_bus_exp	-2.7108	2.3631	-1.15	0.251
Extern_audit	6.3882	1.8540	3.45	0.001***
Lnassets	-0.2357	0.7735	-0.30	0.761
Age	0.2509	0.2160	1.16	0.245
Int. Initiation	0.7205	2.1603	0.33	0.739
HDI	6.0222	11.1141	0.54	0.588
Lat. America	2.1667	-6.3542	-0.34	0.733
Asia	-6.5967	6.4845	1.02	0.309
East Europe	-5.3666	6.1018	-0.88	0.379
Africa	-7.2396	6.1291	-1.18	0.238
Christian Popl	-1.4016	3.2044	-0.44	0.662
_cons	-18.1783	12.7167	-1.43	0.153
sigma_u	23.1204	3.5853		
rho	0.9939	0.0019		

The results of the new approach has revealed very remarkable findings in the sense that, after controlling for international initiation, it is found that, Christian affiliation is no longer positively related to the number of international directors. This implies that, the earlier finding was as a result of higher international orientation on the part of Christian MFIs and not as a result of influence from organizational features of the Christian MFI. This could also imply that, after controlling for international orientation, Christian MFIs are not significantly different from secular MFIs in terms of number of international directors. However, the results for bank regulation has remained consistent in all the three approaches thus the t-test, first and second regressions have all indicated that, there is a significant negative relationship between Christian affiliation and probability for bank regulation in microfinance industry.

Again, the results have consistently revealed that, there is a significant positive relationship between Christian affiliation and the tendency to use the services of the big four external auditors. This means that, apart from the influence of the international directors due to high international orientation, the intrinsic organizational features of the Christian organization have an impact on Christian MFIs' to employ the services of the big four external auditors. This also means that, as predicted by stewardship theory, in any contractual situation between an agent and a principal whereby the goals of the principal and the agent are better aligned, the agents would do whatever possible to meet both the explicit and implicit obligations towards the contract and this results have revealed that Christian MFIs significantly have a higher tendency to ensure proper accountability than secular MFIs even though from the secular business world point of view, secular MFIs have a greater motivation to employ the services of the big four external auditors than Christian MFIs.

CHAPTER SIX

6. Discussion of Research Findings

Having subjected the various hypotheses for the study to a series of univariate tests and multiple regression methods, the study reveals very thought-provoking results. Among such remarkable results include the case of the test for the effect of Christian affiliation on the number of international directors. The univariate t-test indicates that Christian MFIs significantly have more international directors than secular MFIs. Again the results of the first regression approach (see Table 5-3b) confirm that Christian MFIs significantly have more international directors. However, in the second regression approach, after having controlled for the effect of international initiation (see Table 5-4), the results could not reveal that Christian MFIs significantly have more international directors than secular MFIs although the regression coefficient is positive. This implies that, the fact that Christian MFIs have higher international orientation as revealed by the first regression results, does not necessarily mean that Christianity has a significant positive influence on the number of international directors in Christian MFIs. This also implies that, other factors such as the possible governance benefits of international directors (Oxelheim & Randøy, 2003) is likely to be more influential in an MFI's choice of international directors than organizational features.

Another interesting finding of the study is the result for the probability for Christian MFIs using the services of the big four external auditors. The study formulated two rival hypotheses for this variable which implies that, all things equal, it was not expected that the results will be significantly biased towards one of the hypothesized results, if not neutral. However, as revealed by the results for the t-test as well as the first regression, Christian MFIs were found to have a significantly higher tendency to use the services of the big four auditors than secular MFIs. A possible reason for this trend could be because, as a result of having a higher international orientation, Christian MFIs are likely to have more international directors who influence Christian MFIs to use more of the services of the big four auditors. Nonetheless, in the second regression, after controlling for the effect of international initiation, Christian MFIs no longer have a significant higher number of international directors than secular MFIs, and yet the results for the use of the big four auditors still holds that Christian MFIs significantly have a higher tendency to use the services of the big four external auditors than secular MFIs. This means that other factors relating to the organizational characteristics of the Christian MFIs are probably the cause for this trend. Theoretically, this result implies that, agents in Christian MFIs, by virtue of the fact that some fundamental doctrines of Christianity (e.g. 'the protestant ethic' by Weber, 1958) encourages excellence and trustworthiness, might want to adhere to this principle and to prove to their owners and financiers that they are better stewards. Empirically, this supports the findings by Kitching (2009) that donors in NPOs attribute audit quality to the size of the external auditor and are more willing to increase the amount donations to NPOs audited by a high-quality auditor. Since it has been found that Christian MFIs depend on donor funding to a greater extent (Mersland et al, 2013), then it could be assumed that, Christian MFIs employ the services of the big four auditors to satisfy their donors.

Moreover, the results of the t-test as well as the first and second regressions have consistently revealed that, most Christian MFIs are less-regulated by banking authorities than the case of secular MFIs. Even though, previous empirical studies (Mersland & Strøm, Hartarska & Mersland, 2012) could not find a significant governance role of bank regulations in MFIs, from the perspectives of stewardship theory, agency costs are expected to be lower in Christian MFIs because agents in Christian MFIs are expected to have a higher organizational identification. Therefore since bank regulations also play the role as an external governance mechanism aimed at ensuring transparency and accountability in order to safeguard the interest of private investors, then it could be assumed that there will less need for bank regulations in that regard. Again, coming back to the earlier finding that Christian MFIs are more dependent on donor support than shareholder funds (Mersland et al, 2013), it could be assumed that, there will be less need to impose external banking regulations on Christian MFIs than the case of secular MFIs. Another possible explanation for this result could be attributed to an earlier observation made by Hall (2002 p.9) that, governments have historically been reluctant to impose strict regulations on religious-affiliated entities in order to safeguard their political interest. The results for the tests of the other governance variables as shown in the table 5-4 were neither statistically significant at 10% nor 5% significance levels. However, a glance through the p-values for the other predictor (governance) variables indicate that they all seem to converge around an average of 0.5, which essentially implies that Christian and secular MFIs are very similar along the lines of a majority of the governance variables.

CHAPTER SEVEN

7. Conclusions, Implications, Limitations and Recommendation for Future Research

7-1 Conclusion

The purpose for this study was to assess the influence of Christian affiliation on corporate governance in MFIs. The study sought to achieve this goal by comparing Christian to Secular MFIs along a set of corporate governance variables majority of which have been used recently in the governance and microfinance literature. The study used secondary data collected on 403 MFIs in 73 countries around the world by rating agencies and reported in rating reports. The study tests the research hypotheses in three stages. First, univariate *t*- and χ^2 – tests are used to compare means and medians respectively between Christian and secular MFIs along the set of governance variables. Then by using the panel data model, the study first regresses the governance variables on the dummy for Christian affiliation alongside a set of MFI specific and contextual control variables by using the random effects OLS and logistic regression models. Then in order to enhance the robustness of the study, the study uses an alternative approach where the governance variables are used as the independent variables and the dummy for Christian affiliation used as the dependent variable. After running tests for Multicollinearity, Heteroscedasticity and normality of the error term and making appropriate adjustments, the study runs a second random effect logistics regression and presents the results to end the fifth chapter. The overall results indicated that Christianity is negatively correlated with the probability for bank regulations but positively correlated with the probability for the use of the services of the big four external auditors identified in this study. The results also show that, the tendency for Christian MFIs being regulated by banking authorities in a country is significantly lesser than secular MFIs. In addition, the study reveals that, the probability for Christian MFIs to use the services of the big four external auditors is significantly higher than the case of secular MFIs.

7-2 Implications

The fact that only two out of an initial selection of twelve governance variables proved to be significantly influenced by religious affiliation sends the signal that, the gap between Christian and secular MFIs in terms of governance systems and policy directions is very narrow and has the potential of closing in the near future. However, with the levels of significance recorded for bank regulations and especially the use of the services big four external auditors, one cannot underestimate the influence of Christianity on the governance of Christian microfinance and other Christian economic organizations along the lines of the two governance mechanisms.

7-3 Limitations to the study

The unique features as well as the wide organizational diversity of MFIs have been identified as general constraints in the study of governance in MFIs (Hartarska, 2005) and this study is not an exception. For instance, it was difficult to distinguish the expected governance features of religious MFIs from the governance of Non-profit organizations since the two organizations are expected to be similar in terms of social orientation. Secondly, scholarly papers in the microfinance and governance literature mainly focus on governance mechanisms and performance indicators. In formulating the hypotheses on the expected influence of religious affiliation on governance features, insights needed to be drawn from literature on general MFI governance, non-profit organizations in order to predict the areas of priority between Christian and secular MFIs concerning the dual mission of MFIs thus outreach and financial sustainability. However, this study did not only focus on one side of the dual objectives in trying to formulate the hypotheses. Rather in most cases, the study took a more holistic approach since the research could not obtain much evidence to suggest that, the two dimensions of performance are perfect substitutes.

7-4 Recommendations for future research

The positive relationship between Christianity and the use of the services of the big four auditors, although could be theoretically and empirically proven, still deserves further investigation. A possible problem for further inquiry is whether this result can be generalized for all forms of Christian MFIs or not. Considering the fact that major Christian groups such as Catholics and Protestants who differ significantly in their ways of acting their faith, are also greatly involved in microfinance, one would ask, will the two subgroups respond similarly or differently if they are subject to similar tests about their probability to use the services of the big four external auditors? This could be a subject for future research.

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