Durham University

Durham E-Theses

Ethics and Global Corporate Behaviour: An Analysis from the Perspective of Shareholder and Ethical Compliance

NORHIDAYAH ABU-BAKAR

How to cite:

ABU-BAKAR, NORHIDAYAH (2019) Ethics and Global Corporate Behaviour: An Analysis from the Perspective of Shareholder and Ethical Compliance. Doctoral thesis, Durham University.

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a https://etheses.durham.ac.uk/id/eprint/13324/ is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the full Durham E-Theses policy for further details.

Academic Support Office, The Palatine Centre, Durham University, Stockton Road, Durham, DH1 3LE
e-mail: e-theses.admin@durham.ac.uk Tel: +44 0191 334 6107
https://etheses.durham.ac.uk

Ethics and Global Corporate Behaviour: An Analysis from the Perspective of Shareholder and Ethical Compliance

Norhidayah Abu Bakar

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Islamic Finance

Durham University Business School
2019

Ethics and Global Corporate Behaviour: An Analysis from the Perspective of Shareholder and Ethical Compliance

Norhidayah Abu Bakar

Abstract

Ethical values in corporations are essential for firm survival as they promote a prudent and efficient working environment within the owner-manager agency setting. Despite this, the literature has been silent on how ethics at various levels affect corporate behaviour. This thesis intends to fill this void by examining the influence of ethics on firm volatility and agency costs from two perspectives.

First, the thesis examines the influence of religiosity as a source of ethics from the perspective of the controlling shareholder. Religiosity from the shareholder's view is defined as the importance of religion in the countries where the major shareholders are located (shareholder country religiosity). Second, the thesis develops a comprehensive ethical screening framework that fulfils the Maqasid al-Shariah and responds to contemporary ethical challenges. In addition to the current Shariah screening practices, the framework covers the aspect of environmental, social and governance performance as well as earnings qualities. Using the comprehensive framework, a set of non-financial companies are screened for their fulfilment of religious and ethical values. The study then conducts a comparative analysis to identify the performance and efficiency of firms screened using the framework. The analysis is performed on a global scale that covers up to 72 countries with more than 80,000 firm-year observations for ten years between 2007 and 2016.

In sum, the shareholder and the firm-level perspective of religiosity and ethics demonstrate a positive influence on corporate behaviour in terms of lower volatility and agency costs. Thus, the results lead to two main implications. Firstly, the significant influence of religious norms on individual (shareholder) behaviour which serve as an external and informal institutional mechanism for corporate control. Secondly, the efficiency of the comprehensive framework in screening for religiously-compliant companies with high ethical practices and financial performance. This finding provides a proposed enhancement to the current screening criteria.

Table of Contents

ABSTRACT ..... **I**

TABLE OF CONTENTS ..... **II**

LIST OF TABLES ..... **VI**

LIST OF FIGURES ..... **VII**

LIST OF APPENDICES ..... **VIII**

DECLARATION ..... **XI**

STATEMENT OF COPYRIGHTS ..... **XI**

ACKNOWLEDGEMENTS ..... **XII**

DEDICATION ..... **XIII**

CHAPTER 1 : INTRODUCTION **2**

1.1. BACKGROUND AND MOTIVATION FOR RESEARCH 2

1.1.1. The Significant of Corporate Behaviour Analysis *5*

1.1.2. The Importance of the Religious Norms of Controlling Shareholder *6*

1.1.3. Why Comprehensive Ethical Screening? *7*

1.2. RESEARCH OBJECTIVES 10

1.3. RESEARCH QUESTIONS 11

1.4. RESEARCH CONTRIBUTIONS 12

1.5. THESIS STRUCTURE 14

CHAPTER 2 : THEORETICAL FOUNDATION **18**

2.1. INTRODUCTION 18

2.2. THE INFLUENCE OF INSTITUTIONAL ENVIRONMENT 19

2.2.1. Social Norms Theory and Religiosity *19*

2.2.1.1. How social norms influence individual behaviour? 20

2.2.2. Religiosity and Secularization Theory *23*

2.3. UNDERSTANDING FIRM BEHAVIOUR: THE CONVENTIONAL THEORIES OF THE FIRM 26

2.3.1. Agency Theory and the Important of Controlling Shareholder *26*

2.3.2. Legitimacy Theory and Corporate Ethics *28*

2.3.3. Stakeholder Theory and Corporate Ethics *30*

2.4. THE THEORETICAL FOUNDATION UNDERLYING THE PROPOSED ETHICAL SCREENING FRAMEWORK 33

2.4.1. The Concept of Trading in Islam *33*

2.4.2. Maqasid Al-Shariah (The Objective of Islamic law) *35*

2.4.3. The Comprehensive Ethical Screening Framework *37*

2.4.3.1. Earnings Quality Screening 38

2.4.3.2. ESG and Ethical Industries Screening 40

2.5. THEORETICAL CONNECTIONS 42

2.5.1. Formal vs Informal Institutions *42*

2.5.2. Integrating the Theories in the Research Perspectives *45*

2.6. THE THEORETICAL FRAMEWORK 48

2.7. SUMMARY 53

CHAPTER 3 : LITERATURE REVIEW 55

3.1. INTRODUCTION 55
3.2. THE INFLUENCE OF SOCIAL NORMS 56
3.2.1. Social Norms and Individual Behaviour 56
3.2.2. Social Norms and Corporate Behaviour 59
3.2.3. The influence of Social Norms in a Country 65
3.3. OWNERSHIP STRUCTURE 67
3.3.1. Large Shareholders 67
3.3.2. Who owns the firm? 71
3.3.2.1. Family 72
3.3.2.2. Government 74
3.3.2.3. Institutions 75
3.3.2.4. Managerial ownership/ corporate insider 76
3.3.2.5. Foreign Ownership 78
3.4. ETHICALLY COMPLIANT FIRMS 79
3.4.1. Shariah Compliant Investment 79
3.4.2. Socially Responsible Investment 83
3.5. EARNINGS QUALITY, ETHICAL ISSUES AND CORPORATE BEHAVIOUR 86
3.6. ESG PERFORMANCE AND CORPORATE BEHAVIOUR 88
3.7. SUMMARY 92

CHAPTER 4 : THE INFLUENCE OF SHAREHOLDER COUNTRY RELIGIOSITY ON FIRM VOLATILITY 98

4.1. INTRODUCTION 98
4.2. THEORY AND HYPOTHESIS DEVELOPMENT 104
4.2.1. Large Controlling Shareholder and Corporate Behaviour 104
4.2.2. The Influence of Religion 106
4.2.3. The Theoretical Relationship and Hypothesis 110
4.3. DATA AND METHODOLOGY 115
4.3.1. Endogeneity Issue and Estimation Technique 116
4.3.2. Empirical Model 120
4.3.3. Dependent Variable: Volatility 122
4.3.3.1. Accounting measurement of volatility 122
4.3.3.2. Market measurement of volatility 123
4.3.4. Religiosity 124
4.3.5. Shareholder Country Religiosity 125
4.3.6. Main Control Variables 126
4.4. EMPIRICAL RESULTS 127
4.4.1. Descriptive Statistics 127
4.4.2. Main Results 133
4.4.2.1. Shareholder Country Religiosity and the Accounting and Market Volatility 133
4.4.2.2. The Influence of Developed Countries 137
4.4.2.3. Shareholder Country Religiosity and the Accounting and Market Volatility: Regional Analysis 140
4.4.2.4. The Influence of Cultural Distance 146
4.4.2.5. Additional Robustness Tests 149
4.5. CONCLUSION 154

CHAPTER 5 : COMPREHENSIVE ETHICAL SCREENING AND FIRM VOLATILITY 157

5.1. INTRODUCTION 157

5.2. THEORY AND HYPOTHESIS DEVELOPMENT 162
5.2.1. Theoretical connection between Ethics and Performance *162*
5.2.2. Ethical Screening and Performance *165*
5.2.3. The Hypothesis *167*
5.3. RESEARCH DESIGN 169
5.3.1. Ethical Screening Construction *169*
5.3.1.1. Stage 1: Basic Religious Screening 169
5.3.1.2. Stage 2: Earnings Qualities Screening 173
5.3.1.3. Stage 3: Ethical Industries, and Environmental, Social and Governance (ESG) Screening 174
5.3.2. Data *175*
5.3.3. Empirical Model *177*
5.3.4. Measuring Firm Volatility *179*
5.3.5. Main Control Variables *180*
5.4. EMPIRICAL RESULTS 180
5.4.1. Descriptive Statistics *180*
5.4.2. Main Results *188*
5.4.2.1. Comprehensive Ethical Screening and Accounting Volatility 188
5.4.2.2. Comprehensive Ethical Screening and Market Volatility 193
5.4.2.3. Comprehensive Ethical Screening: Matched Sample 196
5.4.3. Robustness Tests *202*
5.4.3.1. Alternative Measures of Accounting Volatility 202
5.4.3.2. Alternative Measures of Market Volatility 203
5.4.3.3. The Impact of Countries with High Religiosity 203
5.4.3.4. The Impact of Types of Controlling Shareholders 204
5.4.3.5. The Impact of Investment Characteristic of Controlling Shareholders 206
5.4.3.6. The Impact of the Financial Crisis 206
5.5. CONCLUSION 207

CHAPTER 6 : THE IMPACT OF SHAREHOLDER COUNTRY RELIGIOSITY ON AGENCY COSTS 210

6.1. INTRODUCTION 210
6.2. THE HYPOTHESIS 214
6.3. DATA AND METHODOLOGY 219
6.3.1. Sample and Data Source *219*
6.3.2. Empirical Model *219*
6.3.3. Shareholder country religiosity *222*
6.3.4. Agency Costs Measures *223*
6.4. EMPIRICAL RESULTS 225
6.4.1. Descriptive Statistics *225*
6.4.2. Main Results *229*
6.4.2.1. Religiosity and Agency Costs 229
6.4.2.2. Religiosity and Agency Costs in Developed Countries 232
6.4.2.3. Religiosity and Agency Costs: Regional Analysis 236
6.4.4.4. Religiosity and Agency Costs: The Influence of Cultural Distance 240
6.4.4.5. Additional Robustness Analysis 243
6.5. CONCLUSION 250

CHAPTER 7 : COMPREHENSIVE ETHICAL SCREENING AND AGENCY COST 253

7.1. INTRODUCTION 253
7.2. THEORY AND HYPOTHESIS DEVELOPMENT 257

7.2.1. The Social Norms Channel *258*
7.2.2. The Ethical Channel *260*
7.2.3. Comprehensive Ethical Screening and Agency Costs *262*
7.3. DATA AND METHODOLOGY 265
7.3.1. Sample and Data *265*
7.3.2. Comprehensive Ethical Screening *266*
7.3.3. Empirical Model *267*
7.3.4. Variable Measurements *269*
7.4. EMPIRICAL RESULTS 271
7.4.1. Descriptive Statistics *271*
7.4.2. Main Results *278*
7.4.2.1. Comprehensive Ethical Screening and Asset Utilisation 278
7.4.2.2. Comprehensive Ethical Screening and Operating Efficiency 283
7.4.2.3. Comprehensive Ethical Screening and Growth Prospects 287
7.4.2.4. Comprehensive Ethical Screening and Agency Costs: Matching Sample Analysis 291
7.4.3. Robustness Tests *297*
7.4.3.1. The Impact of Countries with High Religiosity 297
7.4.3.2. The Impact of Types of Controlling Shareholders 298
7.4.3.3. The Impact of Investment Characteristic of Controlling Shareholders 300
7.4.3.4. The Impact of Financial Crisis 301
7.5. CONCLUSION 301

CHAPTER 8 : CONCLUSION 305

8.1. SUMMARY OF THE MAIN FINDINGS 306
8.2. CONTRIBUTIONS AND POLICY IMPLICATIONS 309
8.3. LIMITATIONS AND SUGGESTION FOR FUTURE RESEARCH 312

APPENDICES 315

APPENDIX A: CHAPTER 4 – THE INFLUENCE OF SHAREHOLDER COUNTRY RELIGIOSITY ON FIRM VOLATILITY 315
APPENDIX B: CHAPTER 5 – COMPREHENSIVE ETHICAL SCREENING AND FIRM VOLATILITY 327
APPENDIX C: CHAPTER 6 – THE IMPACT OF SHAREHOLDER COUNTRY RELIGIOSITY ON AGENCY COSTS 358
APPENDIX D: CHAPTER 7 – COMPREHENSIVE ETHICAL SCREENING AND AGENCY COSTS 377

BIBLIOGRAPHY 408

List of Tables

TABLE 2.1: SUMMARY OF THE THEORIES APPLIED IN THIS THESIS 46
TABLE 3.1: SUMMARY OF LITERATURE REVIEW AND RESEARCH GAPS 94
TABLE 4.1: FIRM-LEVEL SUMMARY OF DESCRIPTIVE STATISTICS FOR MAIN DEPENDENT AND INDEPENDENT VARIABLES 129
TABLE 4.2: CORRELATION MATRIX 131
TABLE 4.3: PRIMARY ESTIMATION-REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND FIRM VOLATILITY 135
TABLE 4.4: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND DEVELOPED COUNTRIES 139
TABLE 4.5: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY ACCORDING TO REGIONS 144
TABLE 4.6: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY: THE INFLUENCE OF CULTURAL DISTANCE. 148
TABLE 5.1: SUMMARY OF COMPREHENSIVE ETHICAL SCREENING CRITERIA 175
TABLE 5.2: DESCRIPTIVE STATISTICS FOR THE OVERALL SAMPLE AND FOR EACH ETHICAL SCREENING STAGES. 183
TABLE 5.3: CORRELATION MATRIX 186
TABLE 5.4: ETHICAL SCREENING AND ACCOUNTING VOLATILITY 190
TABLE 5.5: ETHICAL SCREENING AND MARKET VOLATILITY 194
TABLE 5.6: ETHICAL SCREENING AND ACCOUNTING AND MARKET UNCERTAINTY USING THE MATCHED SAMPLE. 199
TABLE 6.1: DESCRIPTIVE STATISTICS 226
TABLE 6.2: CORRELATION MATRIX 228
TABLE 6.3: REGRESSION RESULTS FOR RELIGIOSITY AND AGENCY COSTS 230
TABLE 6.4: REGRESSION RESULTS FOR RELIGIOSITY AND AGENCY COSTS IN DEVELOPED COUNTRIES 235
TABLE 6.5: SUMMARY OF THE REGRESSION RESULTS FOR RELIGIOSITY AND AGENCY COSTS: A REGIONAL ANALYSIS 239
TABLE 6.6: REGRESSION RESULTS FOR RELIGIOSITY AND AGENCY COSTS: THE INFLUENCE OF CULTURAL DISTANCE 242
TABLE 7.1: SUMMARY OF COMPREHENSIVE ETHICAL SCREENING CRITERIA 266
TABLE 7.2: DESCRIPTIVE STATISTICS 274
TABLE 7.3: CORRELATION MATRIX 277
TABLE 7.4: ETHICAL SCREENING AND ASSET UTILISATION 280
TABLE 7.5: ETHICAL SCREENING AND OPERATING EFFICIENCY 285
TABLE 7.6: ETHICAL SCREENING AND GROWTH PROSPECTS 289
TABLE 7.7: COMPREHENSIVE ETHICAL SCREENING AND AGENCY COSTS: MATCHING SAMPLE 295

List of Figures

FIGURE 1.1: THE RESEARCH FRAMEWORK FOR ANALYSING THE INFLUENCE OF SHAREHOLDER COUNTRY RELIGIOSITY AND COMPREHENSIVE ETHICAL SCREENING ON CORPORATE BEHAVIOUR..... 11
FIGURE 1.2: THE STRUCTURE OF THIS THESIS IN CORRESPONDS TO THE RESEARCH PROCESS 15
FIGURE 2.1: THE CONNECTION BETWEEN SOCIAL NORMS, INDIVIDUAL BEHAVIOUR AND CORPORATIONS 22
FIGURE 2.2: THE MAQASID AL-SHARIAH (THE OBJECTIVE OF ISLAMIC LAW) IN RELATION TO THE CRITERIA IN THE CURRENT AND PROPOSED ETHICAL SCREENING..... 37
FIGURE 2.3: THE DESCRIPTION OF THE SCREENING CRITERIA IN THE COMPREHENSIVE ETHICAL SCREENING STAGES AND THE MAQASID AL-SHARIAH. 41
FIGURE 2.4: THE CONNECTION BETWEEN FORMAL AND INFORMAL INSTITUTIONS FROM THE ASPECT OF CORPORATE ETHICAL VALUES..... 45
FIGURE 2.5: THE CONNECTIONS OF THEORIES IN THE CONTEXT OF THIS STUDY. 47
FIGURE 2.6: THEORETICAL MODEL OF CORPORATE CODE OF ETHICS AND SHAREHOLDER VALUE..... 49
FIGURE 2.7: THE THEORETICAL FRAMEWORK OF THIS THESIS THAT PRESENTS THE LINK BETWEEN ETHICS AND CORPORATE BEHAVIOUR. 51
FIGURE 4.1: THE RELIGIOSITY SCORE (BAR) FOR THE TOP, MEDIAN, AND BOTTOM FIVE COUNTRIES IN THE SAMPLE... 130
FIGURE 4.2: LARGEST RELIGIOUS GROUP DISTRIBUTIONS BY COUNTRY..... 142
FIGURE 4.3: THE AVERAGE PERCENTAGE OF RELIGIOUS GROUP IN THE SAMPLE BY REGIONS. 142
FIGURE 6.1: THE AVERAGE PERCENTAGE OF RELIGIOUS GROUP IN THE SAMPLE BY REGIONS. 237
FIGURE 8.1: THE SUMMARY MATRIX OF THE THESIS' FINDINGS AND CONTRIBUTIONS..... 310

List of Appendices

APPENDIX A: CHAPTER 4 - THE INFLUENCE OF SHAREHOLDER COUNTRY RELIGIOSITY ON FIRM VOLATILITY

APPENDIX A. 1: COUNTRY DISTRIBUTION OF OBSERVATIONS 315
APPENDIX A. 2: COUNTRY RELIGIOSITY SCORE 317
APPENDIX A. 3: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND FIRM VOLATILITY (MINIMISING THE EFFECT OF EXTREME VALUES). 318
APPENDIX A. 4: REGRESSION RESULTS FOR GEOGRAPHICAL RELIGIOSITY AND THE FIRMS' ACCOUNTING AND MARKET VOLATILITY 319
APPENDIX A. 5: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND FIRM VOLATILITY USING ALTERNATIVE MEASURE OF VOLATILITY 320
APPENDIX A. 6: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND FIRM VOLATILITY USING AN ALTERNATIVE MEASURE OF RELIGIOSITY 321
APPENDIX A. 7: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND EXTERNAL MONITORING 322
APPENDIX A. 8: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND TYPES OF ULTIMATE OWNERSHIP 323
APPENDIX A. 9: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND FIRM VOLATILITY EXCLUDES CRISIS YEAR (2007-2008) 324
APPENDIX A. 10: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND SHAREHOLDER PORTFOLIO DIVERSIFICATION 325
APPENDIX A. 11: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY USING ALTERNATIVE INSTRUMENT AND ESTIMATION 326

APPENDIX B: CHAPTER 5 - COMPREHENSIVE ETHICAL SCREENING AND FIRM VOLATILITY

APPENDIX B. 1: LIST OF SHARIAH SCREENING USERS 327
APPENDIX B. 2: LIST OF PROHIBITED ACTIVITIES 328
APPENDIX B. 3: NAICS CODES FOR NON-PERMISSIBLE INDUSTRIES 329
APPENDIX B. 4: COMPARISON OF SHARIAH FINANCIAL SCREENING 331
APPENDIX B. 5: COUNTRY DISTRIBUTION OF OBSERVATIONS 333
APPENDIX B. 6: REGRESSION RESULTS FOR THE ALTERNATIVE MEASURES OF ACCOUNTING VOLATILITY 334
APPENDIX B. 8: REGRESSION RESULTS FOR THE ALTERNATIVE MEASURES OF MARKET VOLATILITY 336
APPENDIX B. 9: REGRESSION RESULTS FOR THE IMPACT OF HIGH RELIGIOUS COUNTRIES (ACCOUNTING VOLATILITY) 338
APPENDIX B. 10: REGRESSION RESULTS FOR THE IMPACT OF HIGH RELIGIOUS COUNTRIES (MARKET VOLATILITY) 340
APPENDIX B. 11: REGRESSION RESULTS FOR THE IMPACT OF TYPES OF CONTROLLING SHAREHOLDERS (ACCOUNTING VOLATILITY) 342
APPENDIX B. 12: REGRESSION RESULTS FOR THE IMPACT OF TYPES OF CONTROLLING SHAREHOLDERS (MARKET VOLATILITY) 344
APPENDIX B. 13: REGRESSION RESULTS FOR THE IMPACT OF SHAREHOLDERS' INVESTMENT CHARACTERISTIC (ACCOUNTING VOLATILITY) 346

APPENDIX B. 14: REGRESSION RESULTS FOR THE IMPACT OF SHAREHOLDERS' INVESTMENT CHARACTERISTIC (MARKET VOLATILITY)..... 348
APPENDIX B. 15: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS – CRISIS SAMPLE 2007-2009 (ACCOUNTING VOLATILITY)..... 350
APPENDIX B. 16: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS – POST-CRISIS SAMPLE 2010-2016 (ACCOUNTING VOLATILITY)..... 352
APPENDIX B. 17: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS – CRISIS SAMPLE 2007-2009 (MARKET VOLATILITY)..... 354
APPENDIX B. 18: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS – POST-CRISIS SAMPLE 2010-2016 (MARKET VOLATILITY)..... 356

APPENDIX C: CHAPTER 6 - THE IMPACT OF SHAREHOLDER COUNTRY RELIGIOSITY ON AGENCY COSTS

APPENDIX C. 1: COUNTRY DISTRIBUTIONS OF OBSERVATIONS..... 358
APPENDIX C. 2: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY IN REGIONAL ANALYSIS (FULL RESULTS FOR NORTH AMERICA, CENTRAL AMERICA AND EUROPE)..... 359
APPENDIX C. 3: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY IN REGIONAL ANALYSIS (FULL RESULTS FOR THE MIDDLE EAST & AFRICA, AND CENTRAL ASIA)..... 361
APPENDIX C. 4: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND AGENCY COSTS MINIMIZE THE INFLUENCE OF EXTREME VALUES..... 363
APPENDIX C. 5: REGRESSION RESULTS FOR GEOGRAPHICAL RELIGIOSITY AND AGENCY COSTS..... 364
APPENDIX C. 6: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND AGENCY COSTS CONTROL FOR EARNINGS QUALITY..... 365
APPENDIX C. 7: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY, AGENCY COSTS AND EXTERNAL MONITORING..... 366
APPENDIX C. 8: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY, AGENCY COSTS AND TYPES OF ULTIMATE OWNERSHIP..... 368
APPENDIX C. 9: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND AGENCY COSTS EXCLUDES CRISIS YEAR (2007-2008)..... 369
APPENDIX C. 10: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY, AGENCY COSTS AND SHAREHOLDER PORTFOLIO DIVERSIFICATION..... 370
APPENDIX C. 11: REGRESSION RESULTS FOR SHAREHOLDER COUNTRY RELIGIOSITY AND AGENCY COSTS; OTHER COUNTRY GOVERNANCE..... 371
APPENDIX C. 12: REGRESSION RESULTS FOR SHAREHOLDER RELIGIOSITY AND AGENCY COSTS; HIGHER PERCENTAGE OF OWNERSHIP..... 374
APPENDIX C. 13: REGRESSION RESULTS FOR SHAREHOLDER RELIGIOSITY VERSUS LOCAL RELIGIOSITY..... 375

APPENDIX D: CHAPTER 7 – COMPREHENSIVE ETHICAL SCREENING AND AGENCY COSTS

APPENDIX D. 1: COUNTRY DISTRIBUTION OF OBSERVATIONS..... 377
APPENDIX D. 2: ETHICAL SCREENING AND ASSET UTILISATION: MATCHING SAMPLE (FULL RESULTS)..... 378
APPENDIX D. 3: ETHICAL SCREENING AND OPERATING EFFICIENCY: MATCHING SAMPLE (FULL RESULTS)..... 380
APPENDIX D. 4: ETHICAL SCREENING AND GROWTH PROSPECTS: MATCHING SAMPLE (FULL RESULTS)..... 382

APPENDIX D. 5: REGRESSION RESULTS FOR THE IMPACT OF HIGH RELIGIOUS COUNTRIES (ASSET UTILISATION RATIO) 384
APPENDIX D. 6: REGRESSION RESULTS FOR THE IMPACT OF HIGH RELIGIOUS COUNTRIES (OPERATING EXPENSE RATIO) 386
APPENDIX D. 7: REGRESSION RESULTS FOR THE IMPACT OF HIGH RELIGIOUS COUNTRIES (GROWTH PROSPECTS) 388
APPENDIX D. 8: REGRESSION RESULTS FOR THE IMPACT OF TYPES OF CONTROLLING SHAREHOLDERS (ASSET UTILISATION RATIO) 390
APPENDIX D. 9: REGRESSION RESULTS FOR THE IMPACT OF TYPES OF CONTROLLING SHAREHOLDERS (OPERATING EXPENSE RATIO) 392
APPENDIX D. 10: REGRESSION RESULTS FOR THE IMPACT OF TYPES OF CONTROLLING SHAREHOLDERS (GROWTH PROSPECTS) 394
APPENDIX D. 11: REGRESSION RESULTS FOR THE IMPACT OF INVESTMENT CHARACTERISTIC OF CONTROLLING SHAREHOLDERS (ASSET UTILISATION RATIO) 396
APPENDIX D. 12: REGRESSION RESULTS FOR THE IMPACT OF INVESTMENT CHARACTERISTIC OF CONTROLLING SHAREHOLDERS (OPERATING EXPENSE RATIO) 398
APPENDIX D. 13: REGRESSION RESULTS FOR THE IMPACT OF INVESTMENT CHARACTERISTIC OF CONTROLLING SHAREHOLDERS (GROWTH PROSPECTS) 400
APPENDIX D. 14: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS: 2007-2008 (ASSET UTILISATION RATIO) 402
APPENDIX D. 15: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS: 2007-2008 (OPERATING EXPENSE RATIO) 404
APPENDIX D. 16: REGRESSION RESULTS FOR THE IMPACT OF FINANCIAL CRISIS: 2007-2008 (GROWTH PROSPECTS) 406

Declaration

I hereby declare that this thesis is solely based on my own research. The content of this thesis consists my original contributions with appropriate recognition of any reference. None of the materials contained in the thesis has been previously submitted for a degree in the University of Durham or any other institutions except where due reference has been made in the text.

Statement of Copyrights

The copyright of this thesis rests with the author. No quotation from it should be published without the prior written consent and information derived from it should be acknowledged.

© Norhidayah Abu Bakar, 2019

Acknowledgements

In the name of God the most gracious and the most merciful. Praise to the Creator for everything and all the blessing that I have received in my life, especially in the completion of this thesis.

First and foremost, I would like to express my appreciation to my supervisors, Professor Omneya Abdelsalam and Professor Abderrahim Taamouti, for their constant guidance and encouragement throughout my doctoral study. I started my PhD as a student with limited knowledge in research and have undergone some difficulties mainly at the beginning of my study. I would like to thank my supervisors sincerely for the support and for believing in me especially in those difficult times. Their advice and supervision not only contributes to the completion of my PhD but also facilitated tremendously in my overall academic development. I also would like to extend my recognition to all the reviewers who has provided constructive comments that has improved the quality of my research.

Above all, I would like to express my gratitude to my mother Daharah Chan and my sisters Noraini Abu Bakar, all my siblings and family for their unconditional love, blessings, and support in everything that I do. Their constant support, encouragement, and love are the things that has accompanied me in pursuing my dream. I also would thank my fellow academics friends in UniSZA for the direct and indirect support in preparation for my PhD, and all my friends for the aid throughout this challenging journey. Also, my sponsor UniSZA and the government of Malaysia for giving me the precious opportunity to pursue my PhD. Last but not least, thank you to those whom I know and I do not know who contribute and pray for my success.

Dedication

To my beloved parents

I dedicated this thesis to my mother, Daharah Chan, and my late father Abu Bakar Shafie, who have always been in my heart and support me throughout my entire journey.

CHAPTER 1

Introduction

Chapter 1 : Introduction

1.1. Background and Motivation for Research

Religion is one of the primary sources of social and individual ethical behaviour. Religion incorporates the moral value in its teaching and translate it in the form of rites and directly encourage moral practices (Ames, 1928). Weaver & Agle (2002) report that religion as a form of social norm demonstrates a direct influence on individual ethical conduct in organisations. Ethical values in corporations are essential for firm survival as they promote an efficient working environment within the owner-manager agency setting. External ethical activities such as environmental and social responsibility programs will help corporations gain legitimacy from their stakeholders which, in turn, contributes to corporate performance. Prior literature supports this argument and provides robust empirical evidence that culture and social norms are significant for firm performance (Mihet, 2013; Adhikari and Agrawal, 2016).

Despite this, the literature has been silent on how religiosity as a source of ethical value at various levels affects corporate behaviour. Do external and internal sources of ethics have a significant influence on corporate behaviour?[1] This thesis intends to fill that void by examining the influence of ethics on firm volatility and agency costs from the perspective shareholder's religiosity and firm religiosity.[2] This perspective of research integrates social and corporate theoretical views which is consistent with the notion that society, politics and economics are interrelated (Deegan, 2002). In this view, economic issues including corporate behaviour cannot be meaningfully examined without considering the institutional framework in which the corporations run their day to day business. This approach of research will help to generate

[1] The external source of ethics can come from the social norms including the religious norms surrounding the corporations, while the internal source of ethics refers to the ethical practices or policies of the corporations, i.e. the environmental, social and governance commitments.

[2] Shareholder's country religiosity represent the external source of ethics, and firm religiosity represent the internal source of ethics.

a profound understanding of how an organisation operates. This thesis examines the influence of religiosity as a source of ethics by extending the work of prior literature.

Firstly, the empirical support for the negative association between religiosity and low volatility is presented by Kumar, Page and Spalt (2011), Sipon *et al.* (2014), Blau (2015), Callen and Fang (2015), Kanagaretnam *et al.* (2015), Adhikari and Agrawal (2016), Li and Cai (2016), Chircop *et al.* (2017), and Gao, Wang and Zhao (2017). In addition, prior literature also consistently supports the link between religiosity and high ethical practices in both individuals (Kennedy and Lawton, 1998; Longenecker, Mckinney and Moore, 2004; Brammer, Williams and Zinkin, 2007; Bloodgood *et al.*, 2008; Walker, Smither and Debode, 2012; Ward and King, 2018) and corporations (Weaver and Agle, 2002; Brammer, Williams and Zinkin, 2007; Rashid and Ibrahim, 2008; Grullon, Kanatas and Weston, 2009; Hilary and Hui, 2009; Callen, Morel and Richardson, 2011; Dyreng, Mayew and Williams, 2012; Du, 2013; Baxamusa and Jalal, 2014; Du, Jian and Lai, 2015; Kanagaretnam, Lobo and Wang, 2015; Leventis, Dedoulis and Abdelsalam, 2015).

The theoretical argument is that religion able to influence individual and corporate behaviour because religion is a part of social norms, religion is one of the main sources of morality and ethics, and religion leads to fear of uncertainty. As a part of social norms, religion can strongly influence the acts of individuals through social approval or disapproval, and people tend to obey religious rules regardless of personal or economic benefits. This thesis characterises this argument from the perspective of the shareholder, where the religiosity in the country where the controlling shareholders are based will shape their individualities and decision choices and influence the shareholder's monitoring behaviour. Based on the agency relationship, this factor is expected to have a direct effect on corporate behaviour. The aim is to extend the work of Faccio, Marchica and Mura (2011) that analyse the influence of

shareholder characteristics on firm behaviour and also to expand the empirical studies on religiosity.

Secondly, the analysis on firm religiosity is related to the prior work that empirically examine the risk and performance of ethically-compliant firms as compared to the non-ethically-compliant firms (Renneboog, Ter and Zhang, 2008; Lee *et al.*, 2010; Humphrey and Lee, 2011; Abdelsalam *et al.*, 2014; Capelle-Blancard and Mojon, 2014; Charles, Darné and Pop, 2015; Nainggolan, How and Verhoeven, 2016; Nasr *et al.*, 2016; Alaoui *et al.*, 2016; Arshad, Aun and Rizvi, 2016; Ashraf and Khawaja, 2016; Erragragui and Revelli, 2016; Al-Awadhi and Dempsey, 2017; Al-Khazali *et al.*, 2017; Ashraf *et al.*, 2017). Ethically-compliant firms in these studies are defined as either Shariah compliant investment or socially responsible investment (SRI). This thesis extends their work by integrating the screening process of these two prominent ethical investments into a more comprehensive screening methodology. Erragragui & Revelli (2016) test the integration of social performance measures and Shariah compliant measures on firms' stock performance. This thesis extends this work by adding earnings quality measures into the screening framework.

The analysis of ethically-compliant firms and agency costs on the other hands, is based on the work of Jo and Harjoto (2011), Gregory, Tharyan and Whittaker (2014), Krüger (2015), Karim, Suh and Tang (2016), Lins, Servaes and Tamayo (2017) that examine the influence of ethical practices (i.e., ESG) on agency costs. This study expands their work by examining the influence of ethics in the perspective of ethical screening. The thesis also examines and offer new evidence on how the screening criteria at different levels influence firm volatility and agency costs. Furthermore, as prior literature mostly focuses on examining at a portfolio level, this study conducted the analysis at the firm level using a global sample which is not limited to a particular index i.e., MSCI or S&P.

1.1.1. The Significant of Corporate Behaviour Analysis

As evidenced in both the theoretical and empirical literature, corporate behaviour is primarily affected by the external social environment and the internal ethical policy. Analysing corporate behaviour is essential as corporations are channels for economic activities that serve as the fundamental underpinning of long-term economic growth. It is noted that the impact of sustained firm growth will, in turn, result in higher levels of economic development (Faccio, Marchica and Mura, 2011). The sound functioning of the corporation and the economy is realised when corporations maintain stable returns and efficient operations.

Corporations engage in risky ventures in pursuit of profitable business and to promote positive development. This factor is essential for corporations to maintain their continuity in business. However, a firm is unlikely to function well when managers are believed to have a self-interest that diverges from the owners (Jensen and Meckling, 1976). This moral hazard is a consequence of information asymmetry between the managers and absentee owners and is known as the agency conflict. The consequence of corporate misbehaviour can also be seen in the severe impact of the recent global financial crisis of 2008 that mainly resulted from excessive volatility (Jiraporn *et al.*, 2015). Moreover, this factor is regarded as unethical and condemned by social and religious norms (Kanagaretnam *et al.*, 2015). Excess volatility can result in a high-variance asset composition, which may cause negative repercussions to the whole economy (Paligorova, 2010).

The above justifies the fundamental reason for examining corporate behaviour concerning return volatility and agency costs. As this factor is primarily affected by corporate ethical conduct, this thesis tries to provide evidence on whether the source of ethical values is significant to positive corporate behaviour. The thesis follows the social norms perspective and uses religiosity at the shareholder and firm level as the basis of ethical influence. Shareholder-

level religiosity is defined as the degree of religiosity in the countries where the controlling shareholders are located, which is termed as 'shareholder country religiosity' through out this thesis. Firm religiosity, on the other hand, is derived by screening companies using a comprehensive ethical screening framework which is developed based on the intrinsic value of religion. The next subsection will discuss the importance of this components in the research.

1.1.2. The Importance of the Religious Norms of Controlling Shareholder

The critical function of large shareholders in a corporation is to monitor the business. Large shareholders are able to moderate agency conflicts by preventing actions that contradict with their interests (Cronqvist and Fahlenbrach, 2009; Demarzo and Urosevic, 2014). This influence is expected to be higher when companies are controlled by large shareholders. The benefit and incentive of monitoring correspond to the shareholder's ownership stake (Jensen and Meckling, 1976). Therefore, it is easier and more efficient for large shareholders to directly monitor managerial actions. Empirical evidence shows that large shareholders significantly influence firm investment and financial policies (Goergen and Renneboog, 2001; Cronqvist and Fahlenbrach, 2009) and directly contribute to higher risk (Gursoy and Kursat, 2002).

In this regard, it is vital to consider the factor that might explain the shareholder's monitoring characteristics. Prior studies reported a significant relationship between the investment preferences of large controlling shareholders and the firm's investment policy (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). These studies provide evidence that companies are likely to engage in riskier investments when controlled by shareholders with a diversified investment portfolio. Therefore, shareholder monitoring behaviour is likely to be influenced by their personal preferences.

One of the essential factors that contribute to distinguishing individual choice and characteristics is the surrounding social forces or social norms. Religiosity as an essential

component of social norms demonstrates a strong influence on individual economic and social decisions (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015; Chircop *et al.*, 2017). Religiosity is also expected to influence individual behaviour as religion is the source of moral and ethical values. Previous studies support this view and indicate higher ethical practices for corporations in highly religious countries (Grullon, Kanatas and Weston, 2009; Dyreng, Mayew and Williams, 2012; Du, 2013; Kanagaretnam, Lobo and Wang, 2015; Leventis, Dedoulis and Abdelsalam, 2015). As previous studied commonly tackle the issue from the view of the corporate location, this thesis follows a different approach by looking from the location of controlling shareholder.

Social norms shape a person's utility function and political preferences (Guiso, Sapienza and Zingales, 2006), which will influence economic outcomes. The religious norms of the local population are a central component of the environment in which the shareholder lives. Based on the social norms theory, the study predicts that shareholders will be influenced by the religious norms in a local geographical area regardless of their religious adherence. Thus, integrating the religious norms perspective to explain shareholder monitoring characteristics will help in understanding the influence of the external institutional environment on corporate behaviour.

1.1.3. Why Comprehensive Ethical Screening?

According to the Shariah, common stock is a legitimate investment instrument as it is akin to the concept of Mudarabah, or profit and loss sharing (Naughton and Naughton, 2000).[3] However, there are many other factors related to common stock investments that are contradictory to Shariah principles. One of the significant issues involves the nature of the

[3] Common stocks have been approved as a lawful instrument for investment by the Council of the Islamic Fiqh Academy (CIFA) at its seventh meeting in 1993 (Naughton & Naughton 2000).

business and the financial components of the corporations. To overcome this issue, Islamic scholars developed the Shariah screening standards to exclude non-compliant companies according to the Shariah rules. As the rules for equity screening were not explicitly described in the primary sources of Islamic law (the Quran and Hadith), Muslim scholars developed the Shariah screening methodology based on the principles of analogy (qiyas) (Ashraf and Khawaja, 2016). This method involved a complex process of ijtihad (literally meaning 'effort' or 'self-exertion') to transform the historical and verbal sources of the Shariah into a well-defined quantitative standard for stock screening (Ashraf and Khawaja, 2016). Since this process is subject to the personal interpretation of Muslim scholars, the current rulings are not uniform and have resulted in numerous different adaptations of Shariah screening standards.

Currently, there are about 34 prominent Shariah screening users in the world (Ho, 2015). Inconsistency in the Shariah screening process has created challenges to fund managers and index providers in deciding on which Shariah guidelines to use and the frequency of portfolio rebalancing (Ashraf and Khawaja, 2016). Ho (2015) noted that this factor could prevent the Islamic finance industry from achieving its real potential. Despite these challenges, the inconsistencies of the screening methodologies do not represent a weakness but rather reflect the sense of flexibility in Shariah law (Abdul Rahman, Yahya and Mohd Nasir, 2010). This factor has allowed for precise adjustments to be made, comparable to the different economic, political, and social systems practised in the countries. Ashraf and Khawaja (2016) also noted that the deviations of Shariah screening standards are not significant, except for the calculation of financial components and the tolerance benchmark.

In general, the current Shariah screening comprises two main steps: First is excluding companies that are involved in a line of business that is prohibited according to the Shariah. The non-permissible business activities are tobacco, poultry, meat and food-related production,

alcohol, arms, film, music, broadcasting, conventional financial services, real estate, leasing companies, media and advertising-related business, entertainment, amusement and recreation, gambling, hotels and motels, and restaurants and bars. The second step is to screen the companies based on their financial ratios to exclude firms that are associated with Riba (interest) and excessive Gharar (uncertainty). This quantitative screening is divided into four main criteria: debt screen, liquidity screen, interest screen, and non-permissible income screen.

It is clear that the provision of conventional financial services, gambling services, pork products or alcohol and involvement in Riba are expressly forbidden. However, there are a number of other business activities that contradict with the general principles of Shariah but are not included as a screening criterion. For instance, the issue relating to environmental degradation, health and safety, and human rights. Naughton and Naughton (2000), discussed this concern and noted that these controversial issues are not included in the current screening criteria because they are considered as discouraged but not forbidden. Based on this stand, even though there is merit in avoiding such activities, it is entirely an individual choice on whether to engage or restrain from such discouraged activities (Naughton and Naughton, 2000). This current practice is contradictory to the investors' views and apparently violates the intrinsic Shariah values of equity, justice and fairness (Naughton and Naughton, 2000; Abdelsalam *et al.*, 2014).

Moreover, firms that are listed in the religious index exhibit a positive relationship with the unethical behaviour of earnings manipulation, which is in contrast to firms with a high degree of environmental, social, and governance (ESG) (Alsaadi, Ebrahim and Jaafar, 2016). In sum, the current screening process is inconsistent among the users, excludes the social welfare perspective, and is less transparent (Derigs and Marzban, 2008; Ho, 2015; Alsaadi, Ebrahim and Jaafar, 2016). As such, prior literature consistently points out the need for the

harmonisation of Shariah screening standards and the incorporation of ethical and social responsibility elements in the current screening criteria (Naughton and Naughton, 2000; Abdelsalam et al., 2014; Alsaadi, Ebrahim and Jaafar, 2016; Ashraf and Khawaja, 2016). This issue manifests the needs for thorough research.

1.2. Research Objectives

Accordingly, as motivated by the above factors, the study tries to fulfil three main objectives which are described as follows:

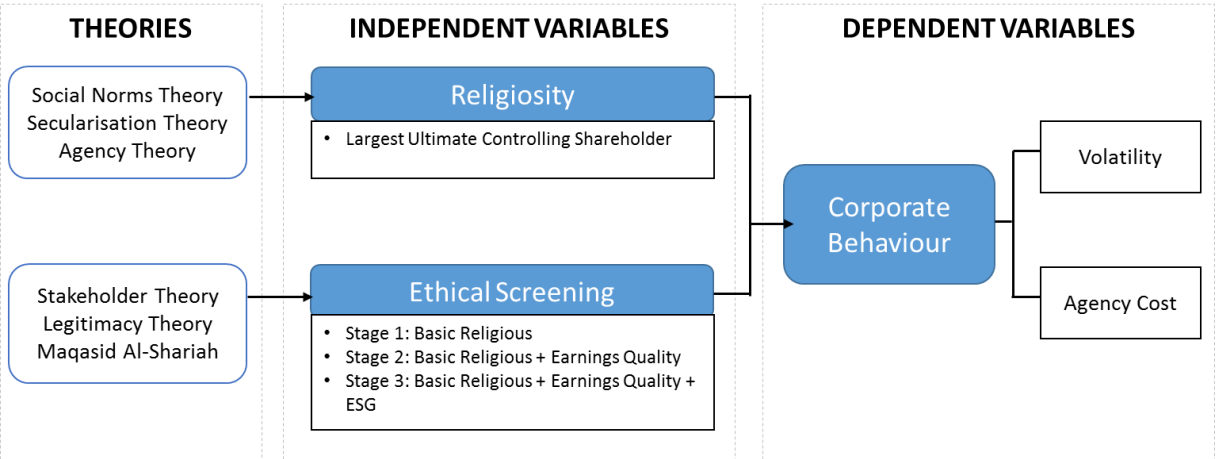
1. To explore the influence of religiosity in the country where controlling shareholders are based on corporate behaviour measured by the volatility of firm returns and agency costs.

2. To develop a comprehensive ethical framework to be used in screening global samples of firms for their Shariah compliance which considers the basic industry and financial screening, earnings qualities, as well as environmental, social and governance.

3. To examine and compare the volatility and agency costs of ethically-compliant firms identified by the various stages in the comprehensive ethical framework.

Figure 1.1 presents the main independent and dependent variables in this research and the governing theories behind the relationships. The relationship between the religiosity in the country of the largest ultimate controlling shareholder and corporate behaviour is explained by the social norms, secularisation and agency theory. Comprehensive ethical screening, on the other hand, is developed based on the Maqasid al-Shariah, and the stakeholder and legitimacy theory support the relationship between corporate ethical practices and their performance. A detailed discussion on this theoretical relationship will be in Chapter 2: the theoretical foundations.

Figure 1.1: The research framework for analysing the influence of shareholder country religiosity and comprehensive ethical screening on corporate behaviour



Source: Author

1.3. Research Questions

In reflection on the above objectives, this research seeks to answer the following questions:

1. Do the religious norms in the country of the ultimate controlling shareholders have a significant influence on firm volatility and agency costs?

2. What are the additional factors to be added to current Shariah compliance screening frameworks to fulfil the Maqasid Al-Shariah?

3. Are ethically-compliant firms identified by the comprehensive framework subject to lower or higher volatility and agency costs?

4. Is the comprehensive framework more efficient and transparent than the current basic religious/Shariah screening?

1.4. Research Contributions

The study uncovers the influence of religiosity as a source of ethics on corporate behaviour from two different approaches: the shareholder and ethical compliance. Thus, this extends the previous literature from the following aspects:

Firstly, it extends the *Islamic finance literature*. This study will develop a comprehensive Shariah screening framework in light of the Maqasid al-Shariah. This framework is termed as a 'comprehensive ethical screening framework' throughout this thesis. In addition to the basic Shariah screening, the framework will include additional phases of screening which is by excluding companies with low earnings qualities and low performance in ESG scores. The application of this framework will help to create a unique, Shariah-compliant firm that has sound financial features, is friendly to the environment, contributes to social well-being, and has a high ethical standard. This framework represents the intrinsic value of Shariah, which implies a considerable contribution and policy implication to the Islamic finance literature.

Secondly, the study analyses the influence of religiosity from the viewpoint of controlling shareholder. The study examines the impact of the controlling shareholder from religious countries on firm behaviour. Prior literature provides conclusive evidence that geographical religiosity leads to higher ethical practices and lower volatility in corporations. This study tackles the issue from a different perspective by taking into account the influence of religiosity of foreign controlling shareholders. The level of religiosity where the shareholder is located is expected to have a significant impact on the shareholder's monitoring characteristics and thus affect corporate behaviour. The empirical test supports this assumption and finds robust evidence that shareholder country religiosity leads to lower volatility in firm returns and also high ethical practices with lower agency costs.

Third, the thesis *tests the efficiency of the comprehensive ethical screening framework.* This comprehensive framework implies the second perspective of religiosity as the framework integrates the element of religious law (Shariah law) and the ethical components in the framework are derived based on the Maqasid al-Shariah. Therefore, this perspective of religiosity is categorised as firm-level religiosity. Specifically, the analysis examines the volatility and the agency costs of ethically-compliant firms in comparison to non-ethically compliant firms at each screening stage. The findings provide evidence that the comprehensive framework is more efficient and transparent than the current screening standards. Firms categorised as ethically-compliant based on the comprehensive framework are subject to lower volatility and lower agency costs.

Fourth, the study *contributes to the theory in corporate governance* by providing evidence of the influence of external institutional environments on shareholder monitoring behaviour. This influence demonstrates a positive impact on corporate performance. The thesis also contributes to secularisation theory by analysing the impact of religiosity in developed countries and across regions. For the social norms theory, the findings indicate the significance of incorporating the intrinsic value of religion in making investment decisions. Overall, the thesis incorporates different theoretical perspectives and demonstrates broader social views that explain corporate behaviour.

Finally, *the sample coverage* is also significant. The sample covers publically listed companies, utilising mass samples from different global regions that are not limited to a particular market or country. Specifically, based on the distribution of firms, the samples cover various regions such as North America, Central America, Europe, Central Asia, and MENA. This extensive and diverse sample will allow for the assessment of cultural differences and, importantly, the generalisation of findings and significant policy implications for the global

market. In particular, the sample covers up to 72 countries with more than 80,000 firm-year observations for ten years between 2007 and 2016. The findings provide evidence that the impact of religiosity varies across regions.

1.5. Thesis Structure

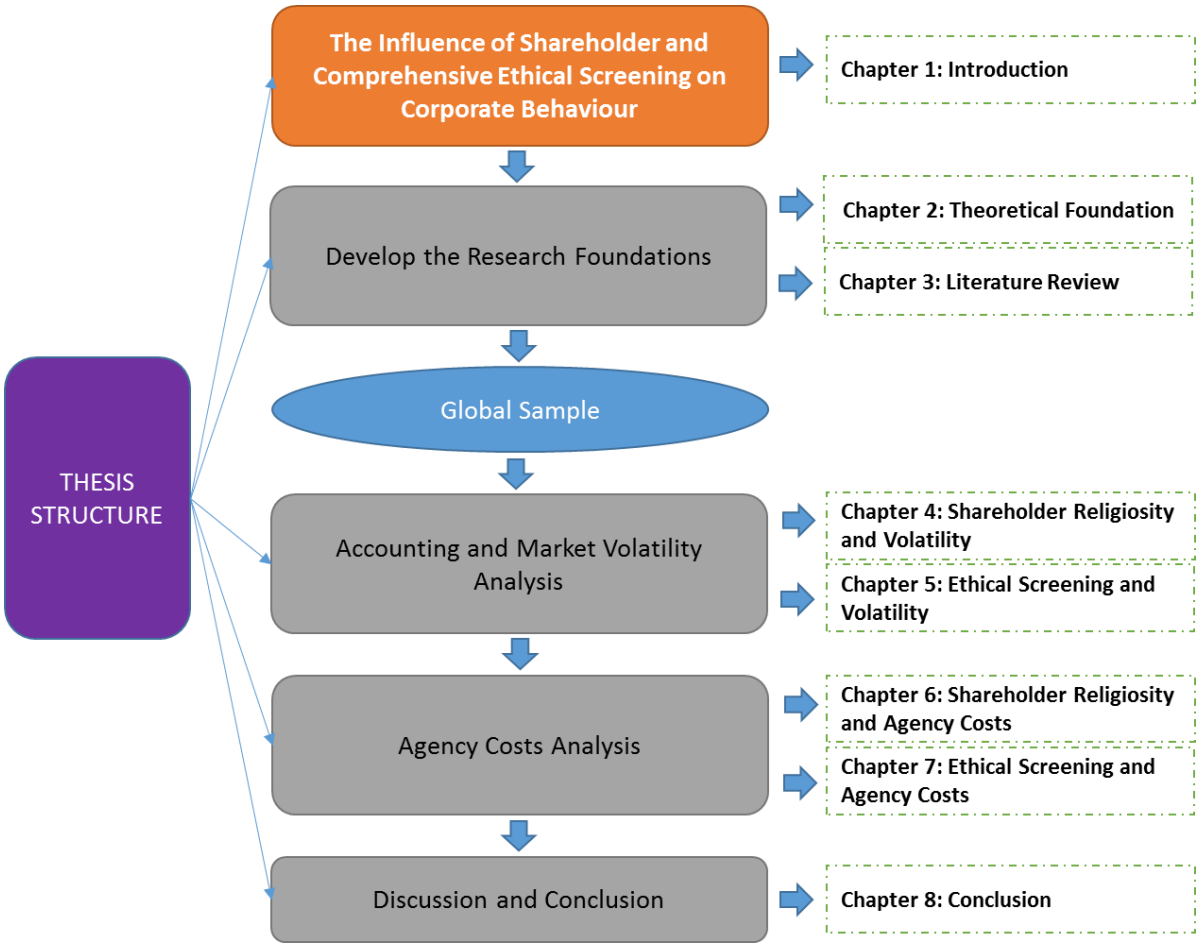
Figure 1.2 displays the structure of the thesis constructed based on the flow of the research process. The thesis begins by identifying the gap in the literature and the issue that motivates the research. The research is founded based on theoretical and empirical literature. Utilising a global sample of publically-listed firms, the thesis analyses firm behaviour using first, the accounting and market volatility analysis and second, the agency costs analysis. Both of these research scopes are examined from the perspective of shareholders and firm ethical compliance. The thesis finally concludes the discussion with robust findings and significant policy implications. Specifically, the thesis is comprised of eight chapters with four empirical chapters. The rest of the thesis is constructed as follows:

Chapter 2 provides the theoretical foundations of the research. This chapter discusses the main theories used in this study which includes, firstly, the theories that support the influence of the institutional environment which is the social norms theory and secularisation theory. Secondly, discussion on the theories that explain corporate behaviour including agency theory, stakeholder theory, and legitimacy theory. Finally, it also discusses theories behind the proposed comprehensive ethical screening framework: the concept of trade in Islam and the Maqasid al-Shariah. This chapter also explains the connections and integration of those theories in the research to derive the theoretical framework of the analysis.

Chapter 3 discusses the empirical literature within the scope of this research which provides evidence for the significant factors that affect corporate behaviour and identifies the major gap in the literature that this thesis intends to cover.

Chapter 4 is the first empirical chapter that examines the influence of shareholder country religiosity on firm volatility. This chapter tests whether the social norms of the environment surrounding the controlling shareholders will influence their monitoring behaviour and hence significantly affect corporate behaviour.

Figure 1.2: The structure of this thesis in corresponds to the research process



Source: Author

Chapter 5 is about the construction of the comprehensive ethical screening framework and how the framework reveals firm volatility. This chapter tests the volatility of ethically-compliant firms identified using the comprehensive framework and also compares the performance of different screening stages.

Chapter 6 examines corporate behaviour regarding firm agency costs measured by efficiency ratios. This chapter seeks to answer whether the religiosity in the country of controlling shareholders influences firm ethical behaviour and moderate agency costs.

Chapter 7 is the final empirical chapter that analyses the agency costs of ethically-compliant firms identified by the different screening stages in the comprehensive framework. This chapter also intends to provide evidence on the transparency of the comprehensive ethical screening framework compared with the current screening criteria.

Finally, the conclusion of the thesis is in chapter 8. This chapter presents the summary of the main findings and the policy implications of this research. The limitations and suggestions for future research are also discussed in this final chapter.

CHAPTER 2

Theoretical Foundation

Chapter 2 : Theoretical Foundation

2.1. Introduction

This chapter will provide an overview of the theories employed in this thesis and how these theories are connected to the research framework. Theoretical grounds are fundamental for research as it provides a systematic approach to understanding a particular situation or behaviour. In the context of this thesis, the applied theories will help to explain the influence of shareholder and firm ethical compliance on corporate behaviour. This theoretical context serves as a foundation for the research design, particularly in developing the hypothesis and the methodological aspect of the research.

The theories can be categorised into three main sections: the influence of institutional environments, the theory of the firm, and the theory in Islamic finance. The social norms and secularisation theories are part of the informal institutional system. These theories rationalise the influence and the significance of informal institutions, particularly culture, on corporate behaviour. The theory of the firm explains the firm's internal actions such as managerial conflicts (agency theory) and firm ethical performance (stakeholder and legitimacy theory). These theories are vital to the shareholder, ethics and firm behaviour relationship. Islamic financial theories will form the base of developing the comprehensive ethical screening framework, which is part of the main objective of this thesis.

The final section of this chapter presents the theoretical framework applied in this thesis. The framework outlines the main variables corresponding to the focus of the study and conceptualises the systematic impact of these variables on firm stability and agency costs. This section will discuss the framework as a foundation for the study and how the above theories contribute to explain the expected outcomes of the research.

2.2. The Influence of Institutional Environment

2.2.1. Social Norms Theory and Religiosity

Social norms are a shared value that acts as a social force, or "push" factor which contributes to distinguishing behaviour regardless of economic forces (Elster, 1989). This perspective of '*non-outcome-oriented injunctions to act*' define social norms as an external rule shared within a group which is sustained by sanctions and the emotions of guilt and shame (Festré, 2010). This external rule will prompt its followers to sacrifice individual benefits for the advantage of the group. These norms have more specific forms such as consumption norms, reciprocity norms, retribution norms, work norms, cooperation norms, and distribution norms (Festré, 2010).[4] Social norms have a significant influence on economic activities as this social forces act as a motivational mechanism or central driving force of individual behaviour.

As part of social norms, culture is formed when those elements of customary beliefs and values are transmitted continuously from generation to generation by ethnic, religious, and social groups (Guiso, Sapienza and Zingales, 2006). Culture can affect the economic outcome by affecting a person's utility function and political preferences. Thus, integrating cultural elements in economic research is useful to capture the nuances of the real world (Guiso, Sapienza and Zingales, 2006). Following this conjecture, religion can be perceived as a form of social norms with specific guidelines and rules that strongly influence the decision or the act of an individual or group regardless of economic benefits. By adhering to religious norms, emotions of guilt and shame are translated into a sense of 'accountability' in individuals and organisations towards adhering to religious rules for the benefit of the overall society.

[4] For example, consumption norms is about etiquette, manners of dress or tipping norms, reciprocity norms concern with gift giving, retribution norms related to the social act of revenge, work norms is the effort in relation to competences and codes of honour norms, cooperation norms is the right to vote or to pay taxes, and distribution norms connected to the fairness and equality norms (Festré, 2010).

2.2.1.1. How social norms influence individual behaviour?

The social norms theory supports the notion of the significant influence of norms on the behaviour of individuals and groups, including corporations. Social norms influence social interaction through social approval or disapproval. 'Open criticism' and 'withdrawal of social support' are forms of control mechanisms used by society on ones who violate such norms. Conversely, those who comply with the norms may receive "higher levels of social recognition and respect" (Kanagaretnam, Lobo and Wang, 2015). Individuals in a society obey the norms mainly to avoid disapproval, which can arise in the form of social ostracism and physical violence (Elster, 1991). As evidenced by experiments and real life, people are willing to contribute their material resources not only to help others but also to sanction those who violate the norms (Festré, 2010). From the perspective of corporations, this factor is vital for corporate performance and to maintain their continuity in business.

In addition to material self-interest, the decisions of a substantial fraction of the people are shaped by social preferences. Social preferences are when a person not only cares about the material resources allocated to him or her but also cares about the material resources allocated to relevant agents (Fehr and Fischbacher, 2002). Fehr and Fischbacher (2002) argue that economists will fail to comprehend the fundamental issues in a business transaction if they only focus on the self-interest hypothesis and rule out heterogeneity in social preferences. This argument is supported by evidence that refutes the self-interest hypothesis and suggests that people largely exhibit social preferences. Fehr and Fischbacher (2002) also present strong evidence that the deviations from self-interest indicate a fundamental impact on core issues in economics. These arguments suggest that individuals are affected by the norms because they care about the norms and exhibit reciprocal behaviour or low self-interest.

Festré (2010) suggests that an individual is motivated to receive social approval in order to, first, conform by fulfilling intrinsic utility and gain social status; and, second, because of the presence of positive externalities. In other words, there are intrinsic and extrinsic motivations that transmit social norms on individual behaviour.[5] The intrinsic motivations include the desire for prestige, esteem, popularity and acceptance for conformity with the norms and the avoidance of the feeling of shame and guilt for violating the norms. Extrinsic motivation on the other hand emphasises the influence of social rewards such as social recognition on individual decisions. By accomplishing social approval, individuals will fulfil their self-interest (intrinsic motivations) in the form of rewards by society (extrinsic motivation) for their actions. This factor is expected to influence formal institutions (i.e. the corporations) as these institutions are run and controlled by individuals. In short, the influence of social norms on individual behaviour and corporations can be summarised in Figure 2.1 below.

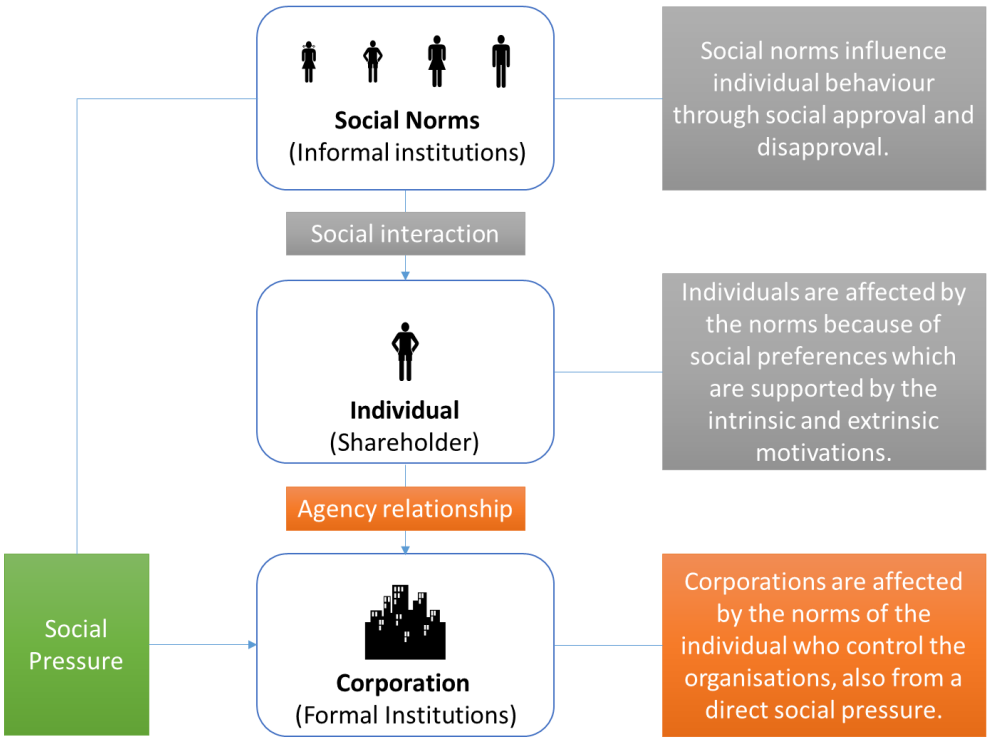
Stulz and Williamson (2003) summarise three channels that trigger the influence of social norms in finance and the economy. The first of these are values. For example, charging interest is seen as a sin in some religions (e.g. Islam); this factor will likely affect the country's financial system. Secondly, culture affects institutions such as the legal system. For instance, some dual banking system countries[6] apply specific regulations for Islamic financial institutions. Thirdly, culture affects how resources are allocated in an economy. Religions that encourage spending on religious institutions will deviate resources from investment in production. In relation to this, the greater decision making freedom given to managers and

[5] This perspective is also similar to legitimacy theory for corporations which will be discussed in section 2.3.2 below.

[6] There are twenty-two countries in the world that operate a dual banking system. This includes Bahrain, Bangladesh, the Cayman Islands, Egypt, Gambia, Indonesia, Jordan, Kuwait, Lebanon, Malaysia, Mauritania, Pakistan, Qatar, Saudi Arabia, Singapore, Sudan, Syria, Tunisia, Turkey, the United Arab Emirates, the United Kingdom, and Yemen.

boards in common law countries is perceived to have a cultural basis (Stulz and Williamson, 2003).

Figure 2.1: The connection between social norms, individual behaviour and corporations



Source: Author

Consequently, religiosity as a form of social norm is expected to provide similar implications to society, particularly to corporations. Religion is directly connected to moral values and is also a source of ethical behaviour. Religion embodies moral attitudes in the form of rites. Thus, observance to religious rules is a means to promote the fulfilment of moral law (Ames, 1928). The social value of religion will form a social force or push factor to the individual within the organisation towards adhering to ethical values. Elster (1991) noted the rational and the positive implications of complying with social norms, and this factor also explains why the norms exist in the first place. In this regard, religiosity and specific religious

values (such as protecting the environment) are expected to demonstrate a significant economic influence on the corporations.

Concerning the above, the social norms theory is the primary perspective of this research. This theory justifies the significance of religiosity as a form of social norms and its influence on shareholder and corporate behaviour. Social norms are also connected to the theoretical foundation of comprehensive ethical screening as the additional criteria in this framework inspired by intrinsic religious values. Therefore, this theory clarifies the impact of ethical performance on corporate behaviour.

2.2.2. Religiosity and Secularization Theory

Religiosity can be expressed by religious norms, beliefs and behaviours (Bar-El *et al.*, 2013). It is a component of culture or social norms as the value of religion in determining what is right or wrong is shared among society. As explained in the above, this shared value will act as a social force that influences an individual's decisions or behaviour irrespective of personal or economic benefits. In contrast to this, 'secularisation' can generally be defined as the process of the decline of religious observance in a society (Graham, 1992). The decline of religion is closely connected to the social aspects of religion (Salisbury, 1958). It is the process by which the original religious symbols, forms and rituals lose their influence and appeal in society (Shiner, 1967). This process has deviated the attention of religious society from the spiritual aspect to become more attached to the world (Shiner, 1967). Therefore, secularisation is the social transformation from close affiliation with religious moralities towards worldly or materialistic institutions.

The term secularisation can be subject to a broader meaning and have extremely varied definitions (Shiner, 1967; Sommerville, 1998). The meaning of secularisation depends on which factors it refers to, either that of a society, a population, an institution, an activity, or a

mentality (Sommerville, 1998). The aspect of secularisation can be divided into two categories: first, a process which includes decline, differentiation, disengagement and rationalisation; or second, that which is related to the aspect of life (i.e. structural, cultural, organisational and individual) (Sommerville, 1998). In this view, a general definition of secularisation as a 'decline of religion' is ambiguous and difficult to measure (Shiner, 1967; Sommerville, 1998). However, the analysis in this study concentrates on the concept of secularisation within the secularisation theory or hypothesis. This notion is an aspect of modernisation theory that has made secularisation a uniform, linear and measurable process within the economic and social development (Sommerville, 1998).

Secularisation theory was first introduced by Max Weber (1930). Max Weber's concept of secularisation is based on two main factors: 'rationalisation' and the 'disenchantment' of religious values. This process of the modernity of economic and social development is denoted as 'the spirit of capitalism' in the original text. The process of the rationalisation of action is a specific form of social change that promotes 'the modern world'. The rationalisation is when the actions of society are established on the belief of finding explanations within this worldly experience using the application of human reason (Swatos and Christiano, 1999). For instance, the encouragement of capital accumulation is rational, important, and provides a consistent influence in the development of middle-class economic life (Weber, 1930). This factor serves as a foundation of modernity.

Disenchantment, on the other hand, is the devaluation of religious morals in society. It is when religious principles have been overpowered by ingenuity and technological advancement (Swatos and Christiano, 1999). Weber (1930) contends that religion needs to contribute to the industry and economy, and these have produced 'riches'. As riches increase, other negative elements such as pride, greed, anger, and love of the world are developed.

Consequently, the form of religion might remain, but the spirit rapidly vanishes, resulting in a continual decay of pure religion. In a developed economy, the pursuit of wealth will deprive religious and ethical meaning leading to a purely mundane passion.

The process of secularisation in society has resulted in religious 'differentiation'. This is the separation of religious denomination (i.e. activities, groups, or ideas) from other social aspects such as law, politics, economy, and education (Sommerville, 1998). Religious differentiation has created phrases such as 'secular rulers', 'secular judges', 'secular lords', 'secular historians', and 'secular countries' to stress that these individuals, groups, or countries have no official connection with religious institutions (Sommerville, 1998). Secularisation will transform the character and the meaning of institutions, activities or mentalities into something not thought of as religious. The process of rationalisation and disenchantment are simultaneous and has led to the overall 'decline' of religious values in society. Swatos & Christiano (1999) note that secularisation is both the process and the result of the process. Hence, the secularisation thesis believes that as society evolves through modernisation, religion loses its influence in the aspect of social life, governance and economic activities.

In sum, secularisation theory suggests that economic advancement is the main cause of social transformation which has made individuals in society become less religious. As such, the higher the economic advancement, the lower the religious values maintained in the society. In the context of our research, the theory expects that the influence of shareholder country religiosity is lower in developed countries. Moreover, the theory also suggests a potential of reverse causality in the analysis as the measures of volatility and agency costs are closely linked to economic development. These arguments are supported by the previous empirical research of Barro and Mccleary (2003), Blau (2015) and Mccleary and Barro (2006).

2.3. Understanding Firm Behaviour: The Conventional Theories of the Firm

2.3.1. Agency Theory and the Important of Controlling Shareholder

An agency relationship is a *"contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent"* (Jensen and Meckling 1976, p.308). The separation of ownership and control raises conflicts when the agent is believed to not consistently act in the best interests of the principles. Agents are assumed to have a self-interest that causes a divergence between their interests and the goals of their principles (Jensen and Meckling, 1976; Combs *et al.*, 2007; McIntyre, Murphy and Mitchell, 2007; Wang and Hsu, 2013). This results in moral hazard problems among the agents (managers) that could deteriorate the value of the principles (shareholders).

According to Jensen and Meckling (1976), it is impossible for the principal to ensure that the agent is making optimal decisions at zero cost. Consequently, to limit divergences, the principal needs to establish appropriate incentives by incurring monitoring and bonding costs. These costs can be non-pecuniary as well as pecuniary. The costs include auditing, budget restrictions, formal control systems, and the establishment of incentive compensation systems. However, there will still be a divergence in the decisions of agents and those decisions which would maximise the welfare of the principal which is "residual loss". The residual loss is equal to the dollar equivalent of the reduction in welfare as experienced by the principal. In short, agency costs refer to the sum of the monitoring cost, bonding cost, and residual loss.

The focal issue in this theory is the existence of information asymmetry between absentee owners and managers who are in charge of the day-to-day running of the firm (Fama and Jensen, 1983; Conheady *et al.*, 2014). For instance, as a result of asymmetry between risk and rewards, managers might perceive that owners will receive greater incentives by taking the

additional risk (Gadhoum and Ayadi, 2003). Therefore, the owners need to put in place mechanisms for reducing or eliminating information asymmetry. Agency theory asserts that agency conflicts and information asymmetry will be moderated by an active role played by the shareholders. Large shareholders hold the power to monitor managerial actions and ensure that the managers act in line with the shareholder's interest. The mechanism of shareholder control is either through direct action, negotiation with management, and proxy fights (Demarzo and Urosevic, 2014). The large shareholder has a larger voting power to replace underperforming managers. Therefore, research from the perspective of the shareholder is vital for corporate governance literature.

Moreover, the agency conflict can be controlled by the appointment of a board of directors who perform the monitoring role by deliberating financial benefit to managers and acting as information intermediaries between the owner and managers. The board incentive is the primary antecedent of the monitoring function (Hillman and Dalziel, 2003). However, heterogeneous boards may vary in their incentives to monitor; therefore, the incentives need to be aligned with shareholder interests to ensure effective monitoring (Jensen and Meckling, 1976; Fama, Eugene, 1980).

The separation of ownership and control creates agency conflicts; hence, when the ownership is concentrated with a single owner or a few large owners, this gives rise to another type of agency problem, namely the conflict of interest between the majority and minority shareholders or agency theory type II. The large shareholders may exercise control rights to pursue private benefits at the expense of minority shareholders (Laeven and Levine, 2008). Consequently, minority shareholders are vulnerable to expropriation from large shareholders. Among the forms of expropriation are: profit reallocation; asset misuse; transfer pricing; the sale of departments or parts of the firm at below market prices to other firms owned by large

shareholders; or the acquisition of other firms, owned by large shareholders, at a premium (Acero Fraile and Alcalde Fradejas, 2014).

In a nutshell, as a result of the corporate setting, the theory of agency implies two main consequences: owner-manager conflict and majority-minority shareholder conflict. Therefore, to ensure the effective and efficient continuity of the business, corporate governance mechanisms should be put into action. The corporate governance system includes the role played by the owners, the board of directors and auditors. This study analyses corporate governance from the perspective of the large controlling shareholder. Specifically, the empirical sections examine the influence of large controlling shareholders on agency costs and firms stability. Therefore, agency theory forms the basis of this relationship and also contributes to the significance of this research.

2.3.2. Legitimacy Theory and Corporate Ethics

Legitimacy theory is a system-oriented theory that views the structured relationship between organisations and society (Deegan, 2002). The relationship within this perspective is bidirectional, the organisation and the society can both have an influence on and be influenced by each other. In this theory, organisations are part of a broader system and only exist to the extent that society considers the business operations to be legitimate. The assumption is that there is a 'social contract' between the corporations and the individual members of the society (Deegan, 2002). Society provides corporations with the right to own and use natural resources and to hire employees. The corporations, in turn, are required to protect the environment and safeguard their employees' benefits.

'Legitimacy' is a condition or status that exists when the value system of an organisation is concurrent with the value system of the larger social system where the organisation operates (Deegan, 2002). Legitimacy is a perception that the actions of an

organisation are considered desirable, proper, or appropriate according to the socially constructed system of norms, values, beliefs, and definitions (Suchman, 1995). This perception depends on the reaction of observers (the society) to the organisation. The assessment is socially constructed as it reflects a correspondence between the behaviours of the organisations and the shared beliefs of some social groups (namely their social norms). Therefore, in addition to the goal of maximising shareholder wealth asserted in agency theory, legitimacy theory suggests that organisations need to fulfil the expectations of society at large.

Complying with the social contract is vital for corporate survival. The purpose of organisations pursuing legitimacy is mainly to safeguard the continuity of its business, gain credibility for their corporate image, and ensure continuous support from society. Legitimacy leads to stability, persistence, and a desirable image because audiences are more likely to supply resources to legitimate organisations and view them as more worthy, meaningful, predictable, and trustworthy (Suchman, 1995). If the business operations are considered as illegitimate, society can revoke the organisational contract and prevent them from continuing their operations. For instance, consumers can reduce the demand for a product, or urge the government to increase taxes, and enforce fines or laws to restrict any business operations that are contradictory to the expectations of the community.

Legitimacy is considered to be a resource for organisations to maintain their operations (Dowling and Pfeffer, 1975). This notion of legitimacy theory is also connected to the institutional environment as the organisations are expected to conform to the 'norms' of the society. These norms, however, are not fixed. They change over time which requires corporations to be responsive to the surrounding ethical environment (Deegan and Unerman, 2011). In addition, a particular event might occur that could impact the reputation and the legitimacy of the corporation. For instance, an accident in a workplace might cause changes in

employment regulations. The disparity between corporate social performance and social expectations creates a 'legitimacy gap' which requires a strategic policy.[7]

The act of corporations gaining legitimacy from the society is directly connected to corporate ethical practices in two ways. First, in the form of accounting disclosure (Deegan and Unerman, 2011), the corporations can communicate legitimate activities by disclosing positive ethical behaviour such as with corporate responsibility programs. Second, is the legitimacy of individuals or organisations (Suchman, 1995). This perspective of legitimacy links ethical practices as part of the organisation's operational structure which is essential for the organisation to achieve their goals. For instance, a corporation may regularly monitor emission reductions as part of their production procedures.

In short, legitimacy theory explains the reason for corporate social and ethical behaviour and how it is connected to corporate performance. However, legitimacy theory does not identify the method to formulate the corporate action and the particular group within the society where the congruency can be reached (Chen and Roberts, 2010). Stakeholder theory which will be discussed in the next subsection will provide more insight into the types of groups that are more relevant to a particular management decision, and which groups require extra attention.

2.3.3. Stakeholder Theory and Corporate Ethics

Stakeholder theory addresses the ethical and moral obligation of corporations to respond to the rights of individuals and groups that are affected by the actions of the corporation. The notion that corporations have stakeholders comes from Freeman's seminal work in 1984 (Donaldson and Preston, 1995) and derives from a generalisation of stockholders who have special claims

[7] See Dowling & Pfeffer (1975, p.127) for the outline of effective mechanism for corporations to overcome the legitimacy threat.

on the firm (Freeman, 2001). According to Freeman (2001), stakeholders are the groups and individuals who have a direct connection with corporate actions either in terms of benefits, harms or rights. In general, stakeholders are a specific group or individuals in society who can affect or are affected by corporate performance.

As in legitimacy theory, these groups are vital to the survival and success of the corporation. The groups include not only the stockholders and the management as agents but are also comprised of customers, suppliers, employees, and the local community as well as the competitors and government in the narrow sense. The theory upholds the significance of each of these groups and their rights to be treated fairly as not just a means to some end (Freeman, 2001). This group has the privilege to participate in determining the future direction of the firm in which they have a stake. The responsibility of a corporation towards its stakeholders is based on the concept of the 'fiduciary relationship' or 'trust'. This relationship is similar to the concept of the social contract in legitimacy theory. For instance, the employees usually have their livelihood at stake; therefore, in return for their loyalty, the corporation is expected to safeguard employee benefits and carry them through difficult times. This perspective indicates the moral or ethical branch of shareholder theory and stresses on a fair rights for all stakeholders (Deegan and Unerman, 2011).

Stakeholder theory also explains the effect of the environment on corporate performance (Chen and Roberts, 2010). However, as opposed to legitimacy theory that considers the 'environment' as a whole, stakeholder theory focuses on the organisational relationship with the various key stakeholders who constitute the environment. Taking into account the constituent is intrinsic as each of the stakeholder groups has a different impact on the corporation, and the expectations of each of these groups are diverse and sometimes conflicting (Chen and Roberts, 2010). Particular stakeholder groups such as the financial

stakeholders and the government regulators can provide a higher impact for companies to engage in social responsibility disclosure as compared to the environmentalists (Deegan, 2002). Therefore, managers need to understand the needs of these various stakeholders in order to gain support which is crucial for firm survival (Freeman, 1984). From this perspective, legitimacy is subject to the unequal judgement of various stakeholders. Hence, a corporate action regarded as legitimate will vary depending upon the value systems of the stakeholders rather than the value system of the whole society (Chen and Roberts, 2010).

Donaldson and Preston (1995) argue that stakeholder theory is managerial; it recommends attitudes, structures, and practices that, taken together, constitute the stakeholder management policies of corporations. The corporate policies will be translated to distinctive organisational behaviours and the achievement of traditional corporate objectives (i.e. profitability and growth). This managerial branch of stakeholder theory is more 'organisation-centred', which should be managed in correspondence with corporate interests. In this perspective, the organisation will receive economic benefit by responding to their stakeholders' rights. Within the context of corporate ethical practice, particularly with respect to environmental, social, and governance performance, this notion is perceived as the good management hypothesis by Waddock and Graves (1997) and Carroll (1979).

Legitimacy and stakeholder theory are directly or indirectly related to each other as both theories explain why organisations embrace a particular ethical strategy such as voluntary corporate social responsibility. The main difference is that in legitimacy theory, society is considered as a whole without considering individuals or groups separately and the actions of organisations are viewed as legitimate from the perspective of social norms. Stakeholder theory explicitly recognises the different constituents in society who have diverse expectations

towards corporations. Taken together, both of these theories form the basis for the expected different behaviour of ethically compliant firms.

2.4. The Theoretical Foundation Underlying the Proposed Ethical Screening Framework

2.4.1. The Concept of Trading in Islam

Islam encourages trading as the main source of economic activity, provided that the business and the transactions involved are in accordance with Shariah principles. For instance, businesses involving alcohol, pork, and pornography are clearly condemned and should be totally avoided. In addition to this, the transactions within the business need to avoid the elements of riba, gharar and maysir.

"Allah hath permitted trade and forbidden riba…" (Al-Quran, 2:275). This Quranic verse undoubtedly condemns riba and provides trade as an alternative to earn a profit. In a transaction involving riba, the profit is positive, fixed and guaranteed regardless of the outcome or the proposed of the transaction (Iqbal and Mirakhor, 2011). Unlike riba, profits generated from trade are not risk-free but are a form of economic activity that involves risk-taking and risk-sharing. The concept of risk-taking and risk-sharing are a manifestation of Islamic ethical principles such as 'adl (justice), taqwa (fear and abstinence), ta'awun (cooperation) and ukuwah (brotherhood) (Rosly, 2005). Thus, Islam recognises trade as legitimate because it assumes risk-taking as opposed to riba that rejects the idea of risk-taking. Therefore, it is clear that trading is encouraged in Islam and that in Islam combining risk with capital is a condition of earning profit which is different from the concept of usury/interest.

The risk and return relationship are fundamental to the concept of trading in Islam (Obaidullah and Wilson, 2005). The Islamic legal maxims (Qawaid Fiqiah) explicitly state that *"Benefits (return) comes with liabilities (risk)"* (Al-kharaj bi al-daman) (Obaidullah and

Wilson, 2005); *"Loss is burdened on those who have acquire profit"* (al-ghurmu bil ghunmi) (Rosly, 2005). The maxims indicate that one cannot expect to earn a profit without assuming loss or risk in their undertakings (Rosly, 2005). A logical deliberation of these maxims are observed in the prohibition of positive returns on zero-risk assets or riba (Obaidullah and Wilson, 2005). Islam condemns all forms of exploitation, particularly the injustices continued in the form of a guaranteed positive return without assuming a share of risk (Iqbal and Mirakhor, 2011).

The Shariah (Islamic law) recognises the risk in dealing with the outcomes of investment and business decisions, but, at the same time, prohibits the element of excessive uncertainty (al-gharar) in contractual obligations (Rosly, 2005). Gharar in business terms refers to an action to undertake a venture blindly without sufficient knowledge or to undertake an excessively risky transaction (Lewis and Algaoud, 2001). Furthermore, an element of maysir (gambling or speculation) arises as a consequence of the presence of gharar (Lewis and Algaoud, 2001). Maysir is an ethical dealing resulting from unjustified enrichment through games of pure chance (Lewis and Algaoud, 2001) in which one party will fully bear the burden of any loss. Islamic law explicitly forbids any transaction that contains elements of maysir (Al-Quran 5: 90-91). However, risk can never be totally avoided in any business activities; as such, only conditions of excessive risk have to be avoided (Visser, 2009). The prohibition of gharar and maysir stand for transparency and fairness. The ban on gharar is to prevent people from taking advantage of their counterparties due to asymmetric information (Visser, 2009).

The above principles of trading in Shariah provide the grounds for the current basic screening criteria. Basic Shariah screening generally involves two main steps: firstly, excluding companies with business activities that are contradictory to the Shariah; and secondly, screening the company's financial aspect based on the identified financial ratios. The second

step of the screening corresponds to the prohibition of riba, gharar, and the trading of money (maysir) as explained above. In addition to the main principles of Shariah, business activities should also take into account public interest (masalih) and the protection of wealth as one of the objectives of the Shariah (Maqasid al-Shariah) (Smolo and Mirakhor, 2010). The maqasid al-Shariah justifies the need for a screening framework that fulfils the intrinsic value of Islam, which will be discussed in the next subsection.

2.4.2. Maqasid Al-Shariah (The Objective of Islamic law)

The fundamental part of Islamic finance is to provide alternative financial products and instruments that sustain religious principles and incorporate ethical and moral values (Nasr *et al.*, 2016). These principles are explicit in the maqasid of the Shariah. In essence, the maqasid al-Shariah aims to protect the benefits of individuals and the community and facilitate the improvement and perfection of human life (Kamali, 1999).

Kamali (2008) explains that the maqasid are embedded in the primary source of the Shariah which view the general philosophy and objective of the textual injunction in the Quran and the Sunnah. The Quran describes the maqasid in chapter 10, verse 57:

> *"O mankind, a direction has come to you from your Lord; it is a healing for the (spiritual) ailments in your hearts and it is guidance and mercy for the believers."*

The message in this verse is that there should be no barriers for mercy and beneficence that God has intended for all human beings. Therefore, the objective of the Shariah is exclusively about justice, mercy and wisdom which aim at safeguarding the interests of the people in this world.

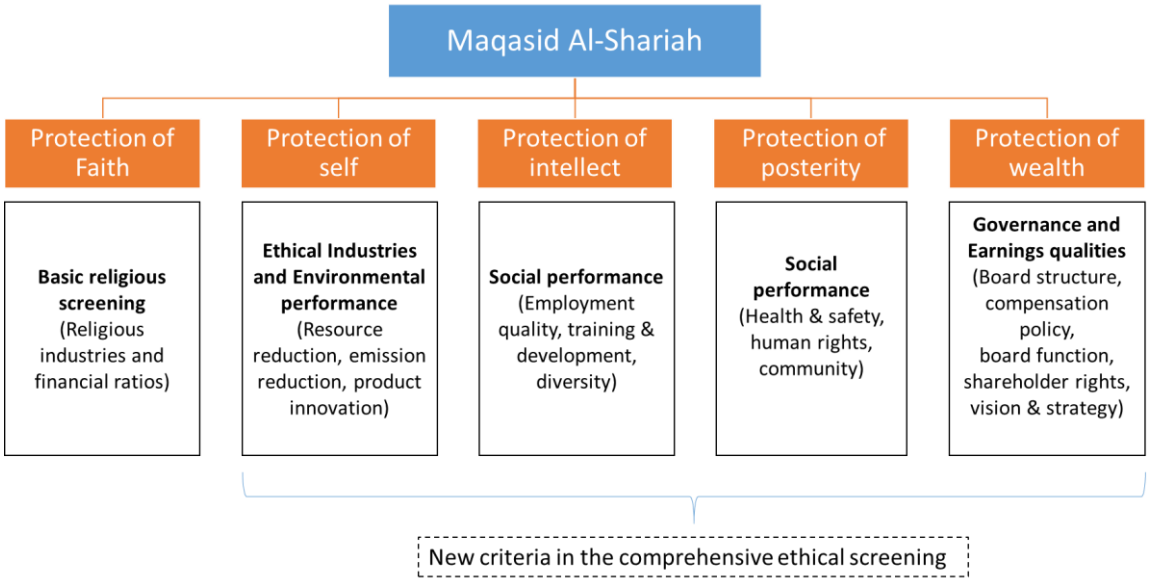
One important component to achieve justice is 'considerations of public interest' (maslahah). Within this component, Al-Ghazali classifies the maqasid into five main pillars: safeguarding the faith, self, intellect, posterity, and wealth. Kamali (2008, p.34) provides examples for this classification of maqasid. (1) Protection of faith covers direct compliance with the main religious law such as the propagation of heresy. (2) Protection of the self includes safeguarding the means to facilitate an honourable life such as the freedom of work, speech and travel. (3) Protection of the intellect requires the encouragement of learning and taking precautions against events that could threaten individual and societal development. (4) Preserving the purity of lineage necessitates the protection of the family and creating a positive social environment for the next generation. (5) Finally, the protection of wealth involves promoting the right of ownership, assisting the development of fair trade and lawful business transactions in the community.

Understanding the maqasid is a prerequisite for ijtihad[8] as the maqasid provides a meaningful understanding of the general outlines of the objectives of the Shariah (Kamali, 2008). The objective of Islamic commercial law is to protect and enhance the maqasid (Ahmed, 2011). The elements of the Maqasid al-Shariah are also parallel to conventional ethical, moral and social values. Following this view, incorporating the Maqasid al-Shariah in conceptualising the design of a new ethical screening is essential in developing a comprehensive screening framework from a religious as well as social and moral perspective.

[8] Ijtihad means striving or exertion by the one who carry out ijtihad (mujtahid) in deriving the rules of the Shariah on a particular issue from the sources (Kamali 2008, p.25).

The current screening criteria that fulfil the essentials of commercial law (as discussed in 2.4.1 above) seems to represent only the first pillar of the Maqasid: the protection of faith. This current practice appears to violate the intrinsic Shariah values of equity, justice and fairness (Naughton & Naughton 2000; Abdelsalam et al. 2014). As depicted in Figure 2.2, this study intends to incorporate additional criteria into the basic screening in view of the maqasid al-Shariah and the gap in current screening practices.

Figure 2.2: The Maqasid al-Shariah (The objective of Islamic Law) in relation to the criteria in the current and proposed ethical screening.



Source: Author

2.4.3. The Comprehensive Ethical Screening Framework

The comprehensive ethical screening framework aims to create unique ethically-compliant firms that do not only comply with the religious law but also have sound financial features, are friendly to the environment, contribute to the social well-being of society and have high ethical and reporting standards. The comprehensive framework will help to develop a global screening standard relevant to ethical investing and further stimulate the investment in ethical funds. Accordingly, in light of the Maqasid of the Shariah and social values, the study identifies three

additional critical ethical elements that need to be incorporated into the current religious screening: earnings quality, ESG and ethical industries.

2.4.3.1. Earnings Quality Screening

The first additional criterion in the comprehensive screening is to exclude firms that are involved in earnings manipulation or earnings management. Earnings management refers to the use of managerial discretion over accounting choices, earning reporting options, and real economic decisions to influence how underlying economic events are reflected in the measures of earnings (Walker 2013). The objective is to achieve contractual terms or targets related to reported earnings or to influence the information set used by external investors or third parties (i.e. competitors, customers, suppliers) (Walker, 2013). These practices are subject to moral hazards and ethical issues that entail managers opportunistically taking advantage of information asymmetries or having a self-serving bias (Cho, Roberts and Patten, 2010; Merkl-Davies, Brennan and McLeay, 2011).

Some might argue that reporting discretion does not always reflect managers' opportunistic behaviour and unethical practices. Chen *et al.* (2018) discuss that some researcher defines earnings management as ''managers intervening in the reporting of financial performance". This definition is general and can refer to a wide range of practices which are neither illegal nor violations of accounting rules or fraud. Financial reporting that violates the accounting standard is clearly unethical. In spite of this, an action does not necessarily need to be illegal or violate the accounting rules to be deemed opportunistic reporting behaviour (Chen *et al.*, 2018). Therefore, the primary distinction between unethical opportunistic earnings management and other instances of accounting discretion is on the intent of the manager (Chen *et al.*, 2018). Even though managerial intent cannot be scrutinised, unethical opportunistic

reporting will prone to take place through the most judgmental portion of earnings, for example, the discretionary accruals (Jones, 1991).

There are a number of proxies for earnings management, and earnings management is assumed to erode earnings quality (Dechow, Ge and Schrand, 2010). One of the most prominent measures of earnings management is by analysing the properties of earnings measured through earnings persistence and accruals.[9] Thus, following extant research on earnings management and earnings quality, this study uses the cash flows and the accruals measurement of earnings quality as the additional ethical screening criteria. This measures of earnings quality reveal the reliability and the persistency of past earnings. High-quality earnings manifest a company's current and past operating performance, are an effective indicator of future performance and value despites the level of earnings. Even though poor earnings quality are not necessarily associated with the unethical managerial practice of earnings manipulation; low earnings quality indicate a higher likelihood of deteriorating fundamentals relative to the past. Companies with persistent earnings demonstrate a strong fundamental and are prone to outperform their benchmarks in the future. Further, as explained in the above, these measures of earnings quality are the most judgmental portion of earnings that insinuate the existence of unethical opportunistic reporting.

Dechow, Ge and Schrand (2010) content that more persistent earnings will yield a higher equity market return and a stronger stock price response. Buchner, Mohamed and Saadouni (2017) report that companies that provide earnings forecasts at the time of listing convey useful information to investors on the quality of their asset in the market. These companies are likely to have higher earnings quality and outperform their counterparts in the

[9] Earning properties also includes earnings smoothness, asymmetric timeliness and timely loss recognition, and target beating (e.g., small profits). See Dechow et al. (2010) for details. This paper reviews over 300 studies of characteristics or attributes of earnings.

long run. Other positive consequences of earnings quality include lower risk of litigation propensity; firms with high earnings quality are unlikely to receive audit opinions; improves investment efficiency by reducing information asymmetry between managers and outside suppliers of capital; lower cost of capital; lower cost of debts; and increase in forecast accuracy (Dechow, Ge and Schrand, 2010). Hence, the information about company's earnings quality is crucial to the investors, and ethically-compliant firms are expected to be free from any elements of earnings exploitation.[10]

2.4.3.2. ESG and Ethical Industries Screening

Second is excluding firms with low environmental, social and governance (ESG) performance. The ESG performance indicates the level of a company's response towards ethical and moral issues. The companies' response to these issues plays a vital role for investors to identify opportunities and risks (Halbritter and Dorfleitner, 2015). In particular, environmental criteria examine how a company acts in response to the natural environment such as with their efficiency in utilising resources and their emission reductions. The social aspect looks at how the company deals with its stakeholders through protecting employees, human rights, the community and their product responsibilities. Governance deals with company management, shareholders, and CSR strategies. Therefore, it is apparent that components of ESG protects public interest (masalih) and matches the elements of Maqasid al-Shariah: safeguarding the self, intellect, posterity, and wealth.

[10] Section 3.5 in the next chapter discuss the ethical issues and the significant of earnings quality in corporations.

Finally, the comprehensive ethical screening additionally excludes firms that are involved in unethical businesses. Unethical business is comprised of business activities that can negatively affect social development and the environment. For instance, a business that is involved in nuclear and fossil production. In sum, the comprehensive ethical screening comprises three main elements: (1) religious screening, (2) earnings quality screenings, and (3) ethical industries and ESG performance. The description of the screening stages and their connection to the maqasid al-Shariah is summarised in Figure 2.3.

Figure 2.3: The description of the screening criteria in the comprehensive ethical screening stages and the Maqasid al-Shariah.

Stages	Screening Criteria	Description	Maqasid al-Shariah
Stage 1: Religious	Religious industries Financial ratios: debt, liquidity, interest, and non-permissible income	• The preliminary stage of screening; exclude companies with non-permissible business activities based on the industry core code. • Compute the financial ratios and exclude companies with selected benchmark i.e.: 33%.	Protection of Faith
Stage 2: Earnings Quality	Cash flows Accruals	• Excludes companies with low earnings quality (cash flow and accruals qualities are less than 50%)	Protection of Wealth
Stage 3: ESG	Ethical industries Environmental Social Governance	• Excludes companies that involve in unethical business i.e., nuclear and fossil. • Excludes companies with low ESG performance (less than 50%)	Protection of Self, Intellect, Posterity, and Wealth

Source: Author

2.5. Theoretical Connections

2.5.1. Formal vs Informal Institutions

This thesis incorporates the influence of formal and informal institutions in the analysis of corporate behaviour. Formal institutions are explicit rules set of by relevant authorities such as in legal, political and economic systems. Informal institutions, on the contrary, are unwritten societal rules, norms, and traditions such as culture, religion, and language. According to Meyer and Rowan (1977), a formal structure is a blueprint for activities or the table of organisations that include a listing of offices, departments, positions, and programs. The elements in this blueprint are linked to the explicit goals and policies that rationalise the means and the ends of activities within an institution. As such, a corporation itself is a form of formal institution.

In conventional theories, formal structure is assumed to be the most effective way to coordinate and control the complex arrangements involved in modern work activity (Meyer and Rowan, 1977). In this context, the corporate governance system is expected to function as an effective mechanism to direct and control corporations that work in an agency setting. However, the execution of the formal system depends on the rationalised and impersonal character of the corporate structure (the blueprint) and of the goals that link them (Meyer and Rowan, 1977). The formal system efficiency closely relies on the behaviour of participants within a structure. In an agency relationship, the standard corporate governance mechanisms are unlikely to work effectively if managers take advantage of information asymmetry and private information in an unethical manner (Du, 2013). The flaws in the formal arrangement

have shifted researchers' attention to the influence of informal systems such as culture and religion as an alternative mechanism for corporate control.[11]

The influence of informal institutional environments such as religion on a corporation is essential as organisations are built around the societal landscape. The societal landscape forms the building blocks for what organisations consider as proper, adequate, rational, and necessary (Meyer and Rowan, 1977). Therefore, it is essential for corporations to incorporate this societal view to avoid illegitimacy. Meyer and Rowan (1977) further clarify that the relationship between formal and informal institutions exists as a result of an isomorphic process between the organisations and the environment. This process is a result of normative pressures on corporations to respond and adapt to environmental structures (Zucker, 1987). This pressure mainly derives from the coercive isomorphism that stems from political influence and the problem of legitimacy (DiMaggio and Powell, 1983). The pressure can come informally from the society or formally from other organisations to comply with the norms within which the organisations function.

Meyer and Rowan (1977) specify that the corporate adaptation process comes in two dimensions. First, corporations will adapt to the structures and relations of the environment by offering goods and services based on current social needs. Second, corporations build their goals and procedures directly into society as institutional rules by influencing public opinion, legal standards and judicial rules. Therefore, as corporations adapt to their institutional contexts, they also play an active role in shaping those contexts (Meyer and Rowan, 1977). Corporations are part of the norms and contribute to a significant influence on the society, especially in a competitive environment. DiMaggio and Powell (1983) note that corporations will 'mimic' other corporations to reduce uncertainty regarding technologies or goals setting.

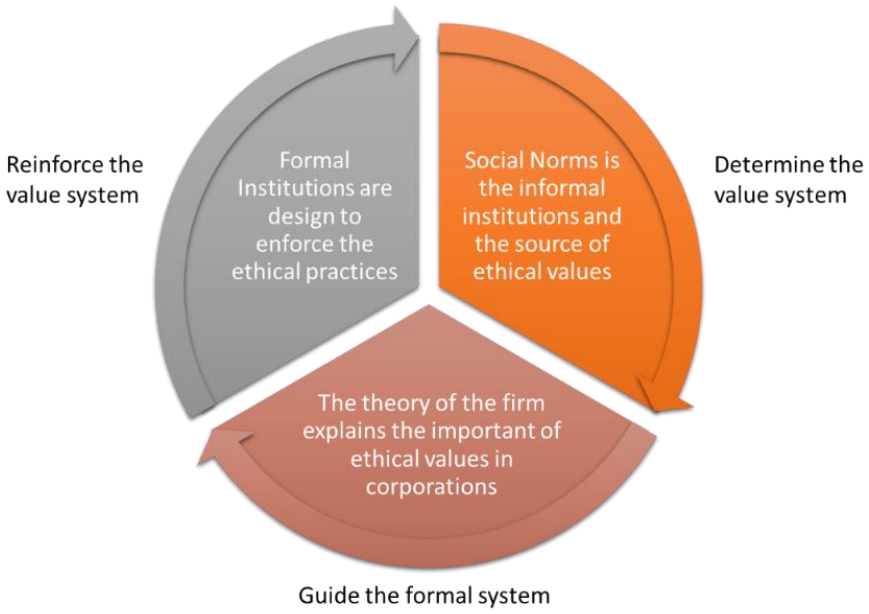
[11] See for example Du (2013), Ashraf et al. (2016), and Kanagaretnam *et al.* (2015).

This process forms another pressure for isomorphism. Incorporating externally legitimated formal structures in corporations will increase the collaboration between internal participants and external constituents.

However, the structures of legitimacy might reduce firm efficiency and their competitive position since the adapted elements are based on external rules rather than internal technical processes. To moderate this negative effect, organisations will decouple their technical core from socially legitimate structures (Meyer and Rowan, 1977). The results of depending on externally fixed institutions will help firms to reduce turbulence and maintain stability. Thus, conformity to established institutional norms is an approach to gain legitimacy, receive support, attract resources and, importantly, to enhance corporate survival prospects (Meyer and Rowan, 1977; Chen and Roberts, 2010).

This thesis incorporates the influence of the formal systems of the controlling shareholder and the screening processes with the informal institutions, in this thesis, the level of religious adherence and also religious values are used to analyse corporate behaviour. The connection between formal and informal systems in this thesis can be depicted in Figure 2.4. Social norms are a form of informal institution and a source of moral and ethical value, especially in the context of religiosity. This social environment determines the general value system in which the organisation operates. The importance of the value system is supported and explained in corporate theories including agency, legitimacy and stakeholder theory. These theories guide the establishment of formal rules based on the identified value system (i.e. the corporate governance rules). The formal institutions such as the financial regulators resolve the legal implementation which will reinforce the value system in the society. The link between formal and informal institution explains the influence of religious norms on shareholder monitoring and ultimately corporate behaviour.

Figure 2.4: The connection between formal and informal institutions from the aspect of corporate ethical values.



Source: Author

2.5.2. Integrating the Theories in the Research Perspectives

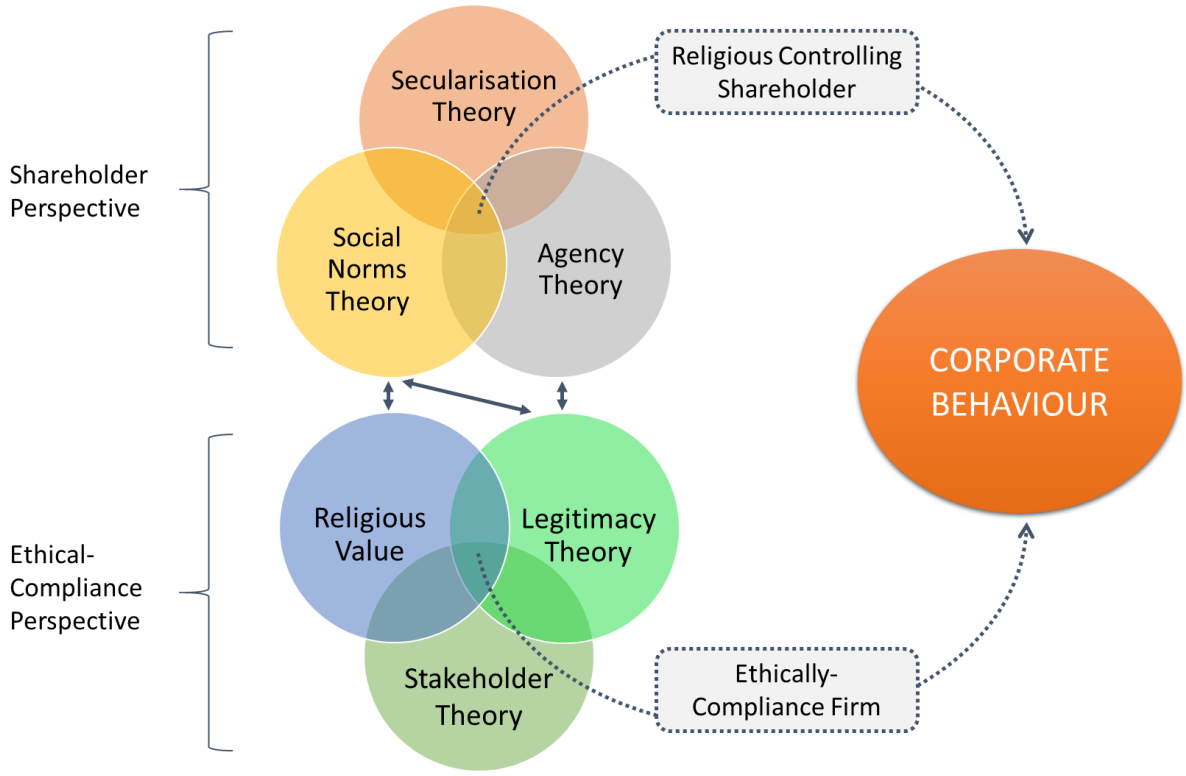
This study integrates five different theories to conceptualise the influence of corporate behaviour from the perspective of shareholder and ethically-compliant firms. A brief description of the theory and how it is applied to the study are summarised in Table 2.1. The interaction of the above theory in the context of this study is illustrated in Figure 2.5 below. Religiosity from the shareholder point of view is primarily an integration between the agency and social norms theory. Agency theory emphasises on the shareholder role as a mechanism to reduce conflicts that derive from the agency relationship. Based on the social norms theory, individual preferences, decisions and actions are largely affected by surrounding social forces. Religiosity as a part of social norms will form a social force or push factor that contributes to shaping individual behaviour. Built on this integration, the study expects that the monitoring behaviour of the shareholder will be influenced by the level of religiosity where the shareholder is based. This factor is estimated to have a significant relationship with corporate behaviour.

Secularisation theory, on the other hand, anticipates that the influence of religious norms in society is likely to be lower as a result of economic development. Therefore, secularisation (decline in religious observance) in society is prone to attenuating the impact of shareholder country religiosity on corporate behaviour.

Table 2.1: Summary of the theories applied in this thesis

Theory	**Description**	**Application to the Study**
Social Norms theory	Social norms are a shared value that act as a social force or "push" factor which contributes to distinguishing behaviour regardless of economic forces (Elster, 1989).	Explains the influence of informal institutions (religion) on individuals (shareholder) and corporate behaviour. The influence of religious rules and values in the ethical screening is connected to this theory.
Secularisation theory	Decline in religious observance as a result of modernity.	Explains the causality between religion and economic development, and why the influence of religion is lower in some countries.
Agency theory	The separation of ownership and control raises conflicts when the agents (managers) are assumed to have self-interest and do not consistently act in the best interests of the principles (shareholder).	Explains the important role of large controlling shareholders to moderate agency conflicts. The study also uses agency costs as one of the measures of corporate behaviour.
Legitimacy theory	The actions of an organisation are considered as desirable, proper, or appropriate in correspondence to social values.	Explains why corporations are involved in ethical activities from the perspective of society as a whole. This theory is connected to the social norms theory.
Stakeholder theory	The ethical and moral obligation of corporations to respond to the rights of individuals or groups that are affected by the actions of the corporation.	Explains why corporations are involved in ethical activities from the perspective of specific groups who are affected by the corporate decisions (the stakeholders).

Figure 2.5: The connections of theories in the context of this study.



Source: Author

The perspective of ethically-compliant firms is founded on religious values, legitimacy theory and stakeholder theory. This perspective is not isolated from the shareholder view. The religious values and legitimacy theory are both connected to the social norms theory, and legitimacy theory is also connected to agency theory. The connection between legitimacy theory and agency theory is based on the argument that the only responsibility of corporations is to maximise shareholder wealth. Thus, ESG performance can be seen as an indication of agency cost. ESG activities may imply the managers' self-serving behaviour to gain legitimacy from society for their own benefit at the cost of shareholders (Attig *et al.*, 2014).

Religious values comprise of Shariah rules in the basic religious screening and the Maqasid al-Shariah as a foundation for the additional screening criteria (discussed in section 2.4 above). The connection of these values with the social norms theory is clear as religion is

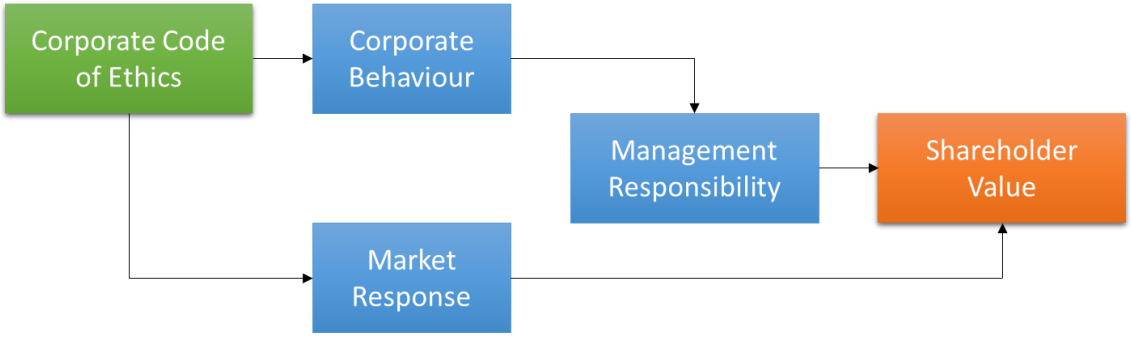
a form of social norm. The legitimacy and the stakeholder theory explain corporate engagement in ethical activities from the outlook of society (the social norms) and the stakeholders respectively. Hence, the ethically-compliant firms are a manifestation of these theoretical integrations as the screening stages involve three main criteria: religious, earnings quality, and ESG performance. All of these theories, as discussed in the above, assume a significant influence on positive corporate behaviour.

This theoretical interaction portrays the theoretical position of this study that serves as a foundation for the significance of the study and the hypothesis development in the empirical chapters (Chapter 4, 5, 6, and 7). Figure 2.5 also illustrates the theoretical contributions of this thesis which is essentially about 'the perspective' and theoretical integrations. Chen and Roberts (2010) discusses that the incorporation of several theories will result in a more coherent and complete understanding of the relationship between the corporations and society. This process will reveal the significance of investigating a particular social impact from a diverse theoretical standpoint.

2.6. The Theoretical Framework

Donker, Poff and Zahir (2008) developed a theoretical model that explains the relationship between the corporate code of ethics and shareholder value. Figure 2.6 depicts this theoretical link and describes the mechanism that conveys ethics into shareholder value creation. In this model, a corporate code of ethics affects internal **corporate behaviour** and external **market response**. Ethics influence corporate behaviour by embedding ethical values in the management, thus creating **responsible management**. These internal and external factors will have a significant impact on **shareholder value**.

Figure 2.6: Theoretical model of corporate code of ethics and shareholder value.



Source: Donker, Poff and Zahir (2008)

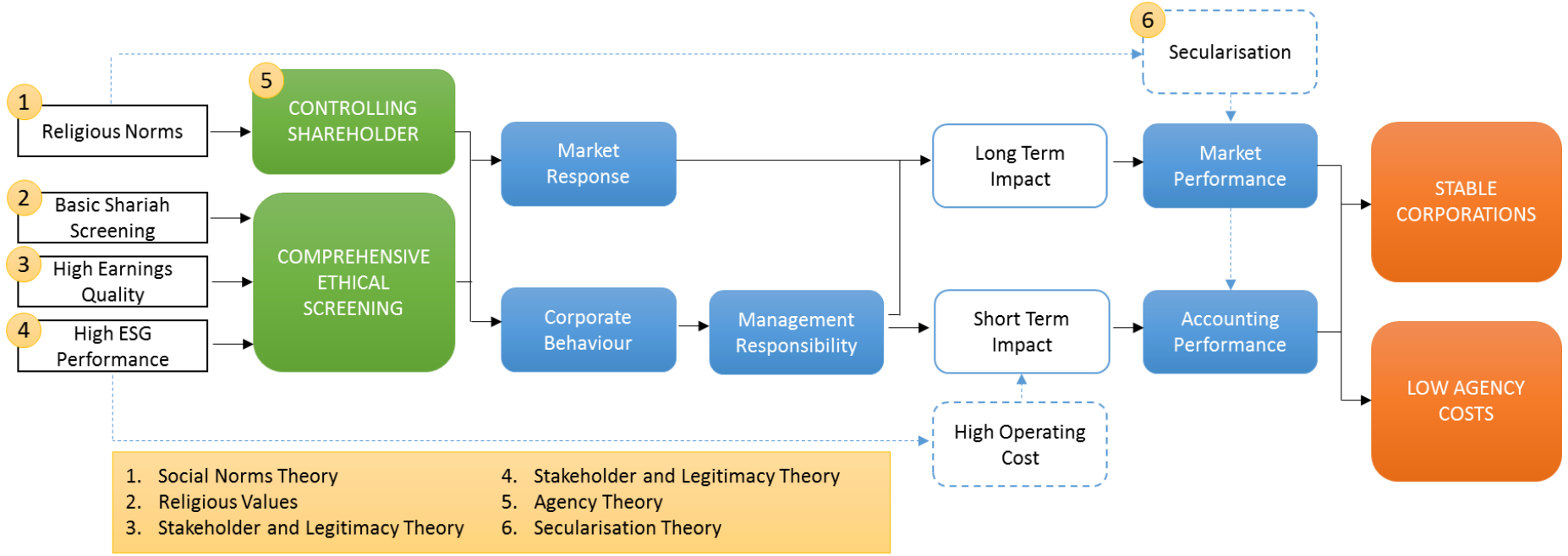
The central component of this relationship is the information about corporate **'commitments'** towards stakeholders. This commitment will have an impact on individual behaviour and the organisation as a whole in spreading the corporate moral norms and values. As explained in legitimacy and stakeholder theory, corporations with high ethical reputations among stakeholders will experience an important impact on corporate economic performance (Donker, Poff and Zahir, 2008). For instance, improving the well-being of employees and implementing appropriate after-sales services for customers will benefit the firm with motivated employees and loyal customers. These factors will then translate into positive corporate performance.

This study develops a theoretical framework that extends and modifies the theoretical model of Donker, Poff and Zahir (2008). The framework as presented in Figure 2.7 is designed from the perspective of shareholder country religiosity and ethically-compliant firms as a source of corporate ethical measures or 'commitments' towards stakeholders. The design of this framework integrates agency, legitimacy, stakeholder, social norms (including maqasid al-Shariah as religious values), and also secularisation theory. This framework specifies the key variables in this study and how religious shareholders and ethically-compliant firms as a measure of ethics affect firm stability and lower agency cost.

Religious norms and comprehensive ethical screening are the sources of corporate ethical practices. Similar to the codes of ethics, these ethical mechanisms convey valuable information about corporate ethical commitments. Religious norms as one of the important foundations for moral and ethical values will have a significant influence on shareholder preferences and their controlling behaviour. Based on the agency theory, controlling shareholders hold the power to shape managerial behaviour and the future direction of the firm. Therefore, the study predicts that controlling shareholders based in a religious country will shape corporate ethical policies which are likely to translate into shareholder value creations and positive corporate performance.

Ethical screening is a systematic process that identifies ethically performing firms according to the classified benchmark. The comprehensive ethical screening framework is developed with respect to religious and moral values. This screening framework articulates the corporate ethical norms and moral responsibilities of the management toward its stakeholders. A firm that conforms to the screening criteria will be categorised as ethically-compliant, and the information is publicly available in the market for the purpose of investment and index selection. Ethical screening that formulates corporate values and norms offers investors with a guideline to identify ethically high performing firms. In this fashion, the prior literature suggests that ethical screening can be an instrument for achieving positive market responses and higher economic performance. Moreover, the positive market response is also as a result of firm gaining legitimacy by conforming to the social rules.

Figure 2.7: The theoretical framework of this thesis that presents the link between ethics and corporate behaviour.



Source: Author, extended from Donker, Poff and Zahir (2008)

The theoretical framework describes the mechanism that transmits ethics to corporate behaviour. Controlling shareholders from the religious country and comprehensive ethical screening as a source of ethics affects internal **corporate behaviour** and external **market responses**. As in the theoretical model of Donker, Poff and Zahir (2008), ethics influence corporate behaviour by establishing **responsible management**. It is important to note that accounting and market measurement capture different dimensions of firm performance. Accounting information represents the past and the short-term performance of the firm while the market measurement is more towards the future and the firms' long-term growth (Richard *et al.*, 2009). Based on these justifications, the market response will lead to a long-term impact on firm market performance which are identified using the market variables. The management's responsibility on the other hands is directed to a short-term impact, and these are identified using accounting variables. [12] These factors translate into a stable corporation and low agency costs.

However, the influence of shareholder country religiosity will be disturbed by the secularisation process in society that both market and accounting performance. Accounting performance as a short-term measure is more sensitive towards firm's operating costs. Therefore, it is likely that ESG components in the comprehensive ethical screening will attenuate the influence of the accounting measures of corporate behaviour. The framework labels the applied theory to show the foundation of the expected relationship.

[12] The market variable employed in this study is idiosyncratic volatility as a measure of firm's market volatility. The accounting variables are standard deviation of return on assets as a measure of accounting volatility and the efficiency ratios that measure agency costs. Finally, the interaction between the dummy of Tobin-q and company free cash flows as a measure of agency costs integrates both market and accounting components. The construction of these variables will be discussed in detail in the empirical chapters (Chapter 4-7).

2.7. Summary

Theories are designed to explain, predict, and understand a particular event and also to expand the existing body of knowledge within the critical bounding assumptions. This thesis aims to explore the influence of ethics on corporate behaviour from the perspective of a religious country of the controlling shareholders and ethically-compliant firms. The thesis also intends to develop a comprehensive ethical framework that defines ethics in a broader sense and incorporates the intrinsic values of religion. Within this scope, the agency, legitimacy, stakeholder, social norms, and secularisation theory form the central ground of this research. These theories are interrelated with each other and support the significance of investigating the influence of ethics on corporations. Moreover, the above theories create a foundation for the research design and establish a relationship between ethical practices and corporate behaviour.

On this basis, the study develops a theoretical framework to demonstrate a clear picture of this relationship. The framework articulates the theoretical assumption of this study and describes the theoretical process through which ethical practices are linked to corporate behaviour. This framework connects to the existing body of knowledge and provides the base for hypothesis development and the choice of research method. The theoretical framework specifies the structure that holds and supports the theories employed in this research. Hence, the framework and the theoretical discussions in this Chapter are applied in the empirical estimations discussed in Chapter 4 until 7. The empirical chapters will test and present evidence on the validity of the above theories from the aspect of firm stability and agency costs.

CHAPTER 3

Literature Review

Chapter 3 : Literature Review

3.1. Introduction

This chapter presents a detailed discussion of prior literature on topics related to the research interest of this thesis. This review of the literature provides an organised evaluation of the available studies in corporate behaviour. In particular, this chapter presents surveys of literature in the areas of social norms, large controlling shareholders, and ethical investments and how these factors are significant to corporate behaviour. The discussion of the literature will synthesise the information in the respective studies into a summary. Each subsection provides a critical analysis of the information gathered by first providing an overview of the current empirical studies and, second, identifying gaps and showing the limitation of theoretical views in the existing studies.

The review begins with a discussion on the empirical research of social norms and the influence of social norms on individual and corporate behaviour and economic growth. The second section is about ownership structure and focuses on the significance of large shareholders and shareholder types in corporations. The discussion is followed by reviewing the research on ethical screening which is comprised of Shariah compliant investments and socially responsible investments. Moreover, the chapter covers the impact of ESG performance on corporate behaviour. These four main sections are the focus of this study that postulates the major direction of the research.

The final part of this chapter summarises the review of literature in the previous subsections. This section demonstrates the coverage of existing empirical studies to show the gaps in the current literature and the contributions of this thesis. This information serves as the empirical foundation to formulate the research questions and research design.

3.2. The Influence of Social Norms

3.2.1. Social Norms and Individual Behaviour

Social norms are vital social forces that guide societal behaviour irrespective of economic benefits. The impact of social norms on individual behaviour has stimulated a number of academic research, mainly in investigating the connection between a particular norm and individual ethical behaviour. Ethnic groups and religious denominations are among the vital components of social norms that are expected to have a meaningful influence on individual ethical judgements. Ward and King (2018) propose that religiosity is likely to influence individual moral behaviour in the context of moral self-regulation, which is a self-schema associated with moral traits, such as honesty, trustworthiness, and compassion. The tendency to seek religious guidance in everyday life and social desirability positively influenced individual moral choices (Szekely, Opre and Miu, 2015). These findings highlight the motivational dimensions of religiosity that influence the individual choice, as explained in 2.2.1.1 above.

Rashid and Ibrahim (2008) examined the effect of culture and religiosity on the perceptions towards business ethics in a multi-racial environment. The analysis reveals that there were significant differences among various ethnics on seven scenarios of business conduct.[13] A business scenario, which is regarded as ethical by one culture (ethnic group and religious adherence), may be perceived as unethical by another. The results signify that the influence of culture and religiosity on the perception of business ethics are unique and subject to norms. This research clarifies the significant impact of culture and religiosity on individual business ethics. However, the research only represents one country (Malaysia), and the sample

[13] The ethnic groups are Malay, Chinese and Indian, and the seven unethical business scenarios are (1) selling hazardous products, (2) providing misleading instructions, (3) selling defective products, (4) padding expense accounts, (5) taking a sick leave to take a day off, (6) remaining silence about defective products, and (7) supplier's taking good care of clients' attitudes.

is comprised of students in higher learning institutions with limited knowledge of what to consider right or wrong in a business environment. Bloodgood *et al.* (2008) found that students with low religious characteristics demonstrate a lower tendency to cheat if they had taken a class in business ethics. This finding indicates the importance of taking into account the types and the awareness of respondents on ethical issues before making an inference on the religiosity-ethical relationship.

The distinctive effect of culture towards ethics is also supported in a multi-country analysis. Using a mass sample of 17,000 individual from 20 countries, Brammer, Williams and Zinkin (2007) demonstrated that individual religious denominations[14] lead to considerable variations in attitudes to aspects of corporate social responsibility (CSR). Despite this, religion generally plays a significant role in shaping individual perceptions of CSR. Religious individuals tend to hold broader understandings of business ethical responsibilities compared to non-religious individuals. This study shows a wider view about the influence of religion in the international environment, but the definition of religiosity is narrowed to the identification of religious groups. Defining religiosity using religious denominations might be insufficient to explain the influence of religion on ethical judgement.

Respondents represented by business managers and professionals who indicated that religion was important to them demonstrated a higher level of ethical judgment compared to respondents identified using broad categories of religion (Longenecker, Mckinney and Moore, 2004). Consistent with the above, a sample of working adults in the U.S. who were more intrinsically motivated in their religion were less likely to accept ethically questionable scenarios (Walker, Smither and Debode, 2012). Likewise, respondents who indicated that they were extrinsic regarding their religious orientation were more likely to accept ethically

[14] The religious groups are Muslim, Buddhist, Hindu, Jewish, Christian, other, agnostic, and none.

questionable events. Moreover, the findings were also consistent in the analysis among university students. Students with high intrinsic religiousness show a negative relationship with unethical behaviour (Kennedy and Lawton, 1998). Students that engage more in religious activities were found to have a lesser probability of cheating compared to those with lower engagement in religious programmes. However, taking a course in business ethics showed an insignificant relationship with the behaviour of religious students (Bloodgood *et al.*, 2008). Therefore, an individual with high intrinsic religiosity is less likely to accept unethical decisions, which indicates the importance of measuring the inherent effect of religion.

Religiosity was also found to lead to risk-averse behaviour and a fear of uncertainty. Highly religious people, as measured by church membership or attendance, are more risk-averse concerning financial risks (Noussair and Trautmann, 2013). As in Rashid and Ibrahim (2008) and Brammer, Williams and Zinkin (2007), the influence of religion is different between religious groups. Noussair and Trautmann (2013) report evidence that Protestants are more risk-averse than Catholics. The relationship between risk aversion and religion is motivated by the social aspects of religion rather than by the religious beliefs themselves. A majority of senior local government managers living in cultures of revitalisation are responsible risk-takers and are associated with higher productivity and low litigation (Berman and West, 1998). Religion also plays a vital role in preventing a person from taking excessive debt. Firms founded by religious entrepreneurs show lower leverage and invest less in fixed and intangible assets compared to firms founded by non-religious entrepreneurs (Jiang *et al.*, 2015). Individuals living in highly religious norms are likely to have lower financial debt and experience lower debt stress (Sipon *et al.*, 2014). As such, culture affects a person's ethical judgement and attitude toward financial risk.

In summary, the prior literature demonstrates compelling evidence that social norms, mainly religiosity, affects individual ethical judgments. The findings are consistent for students, workers, business managers, and professionals, and it is also comparable in both a one country analysis and multi-country analysis. However, the influence of social norms, particularly religiosity, on individual ethical behaviour was measured using limited approaches such as surveys, interviews and descriptive analysis. Whether this factor leads to a significant impact on corporate behaviour using more advanced analysis remains questionable, and this will be discussed in the following subsection.

3.2.2. Social Norms and Corporate Behaviour

Doidge, Andrew Karolyi and Stulz (2007) demonstrate that country characteristics such as investors' legal protections and the level of economic and financial advancement influence firms' costs and benefits to implement measures for governance and transparency. Specifically, country characteristics contribute to higher variance in governance ratings, which range from 39% to 73%, compared to observable firm characteristics that only range from 4% to 22%, and the impact is more pronounced in less-developed countries. Pirinsky and Wang (2006) demonstrate a strong comovement of stock returns among firms headquartered in the same geographical area. Notably, as the company moved to a new location, the stock comovement changed in correspondence to the firm's headquarters. The findings are robust and are not affected by economic variables, thus suggesting that firm value and the behaviour of investors is linked to the geographic components of local residents or social norms. These discoveries suggest that it is vital to include geographical characteristics, particularly social norms, in analysing a firm's behaviour.

Culture influences the development of formal institutions, which in turn influences managerial decision-making and corporate behaviour.[15] Comparable to this assumption and the above findings, individualism indicates a positive association with corporate risk-taking while uncertainty avoidance and harmony indicate a negative relationship (Li *et al.,* 2013). This influence is higher for firms with greater earnings discretion but is attenuated by larger firm size. In the analysis of 31 countries, Callen, Morel and Richardson (2011) found that Hofstede's cultural variable of individualism and uncertainty avoidance moderate the influence of the legal environment in mitigating earnings management. Mihet (2013) strengthens the findings in a large data analysis involving 50,000 firms in 400 industries in 51 countries. The study documents that culture demonstrates a direct impact on corporate risk-taking and the effects are even more emphasized in societies with sounder formal institutions. In this research, corporate risk-taking is higher in societies with low uncertainty avoidance, low tolerance for hierarchical relationships and high individualism. Moreover, the influence of individualism and uncertainty avoidance on firm risk-taking is stronger in industries that signal unclear information such as in finance, IT, and mining. These findings suggest that managerial discretions play an essential role in transmitting the influence of social norms on a corporation, which confirms the influence of social norms on individual behaviour and that the impact is significant for corporations.

Religion as a form of culture demonstrates a significant influence on corporate ethical behaviour. In China, companies located near the religious institutions indicate lower earnings management practices (Du, Jian and Lai, 2015) and lower agency costs (Du, 2013). The impact of religion on the companies' ethical practices are moderated for firms with a close distance to regulatory centres and firms with strong external monitoring mechanisms (Du, 2013; Du, Jian

[15] Section 2.5.1 in Chapter 2 explains the connection between formal and informal institutions.

and Lai, 2015). The findings suggest that religion can function as an alternative mechanism for corporate control and strengthens the theoretical connection between formal and informal institutions. However, the research is concentrated in China, and the measure of religiosity, which is based on the distance between the firm and Buddhist or Taoist temples, is questionable. This measure of religiosity does not imply the intrinsic value of religion in individuals.

In the U.S., Dyreng, Mayew and Williams (2012) measured religiosity by the per capita number of religious adherents (Christianity) in the county where the firm's headquarters is located. The study reported that firms operating in religious counties have a lower probability of engaging in a financial restatement, and there is less risk that financial statements are misrepresented. Firms in religious areas are inclined to have better earnings quality with smaller deviations of accruals and improved cash flows. In addition, these firms embraced the religious value of honesty, depicted by a lower likelihood of using tax shelters and a lower rate of concealing bad news. Grullon, Kanatas and Weston (2009) supported the view that religiosity discourages undesirable corporate behaviour. Companies headquartered in counties that are more religious are less prone to backdate options, practice aggressive earnings management, and be involved in class-action securities lawsuits. They are also negatively correlated with manager compensations. Moreover, a regulatory change designed to prevent option backdating shows a more considerable effect in less religious counties, suggesting the substitute impact of religion.

Dyreng, Mayew and Williams (2012) and Grullon, Kanatas and Weston (2009) both measure religiosity by the number of religious adherents, which does not represent the true feeling of religion on the individual. According to Mcguire, Omer and Sharp (2012), the level

of religiosity can be determined in three ways: cognitive, affective and behavioural.[16] As discussed in Longenecker, Mckinney and Moore (2004), the effective and behavioural measures represent the intrinsic quality of religion, and this measure of religiosity demonstrates a more meaningful impact of individual ethical judgement. Using this approach, firms headquartered in highly religious areas were found to have lower occurrences of financial reporting irregularities, and managers in religious areas preferred real earnings management over accruals manipulation (Mcguire, Omer and Sharp, 2012). The results are not influenced by the economic development of the location, which supports the role of religious norms in reducing agency conflicts.

As evidenced in the above (section 3.2.1), religiosity stimulates individual risk-averse behaviour and fear of uncertainty. In relation to this, researches from a corporate perspective reveal comparable results. Firms located in religious counties display lower levels of risk exposure, as measured by volatility in equity returns (Hilary and Hui, 2009). These companies experience a positive market reaction after announcing new investment despite having a lower investment rate and less growth. Religiosity, measured by religious adherence and religious belief, negatively affects the level of stock volatility and is associated with a reduction in stock volatility (Blau, 2017). Consistent with the assumption in secularisation theory[17], the stock volatility in Communist countries is approximately 12% higher than non-Communist countries. Similarly, Callen and Fang (2015) report robust evidence of the lower risk of future stock price crashes for firms located in counties with high religiosity. The findings are more pronounced for riskier firms and firms with weaker governance structures, and this supports the significant function of religion as an informal control mechanism. The influence of

[16] (1) Cognitive: are you affiliated with a particular religion? (2) Affective: is religion important in your daily life? (3) Behavioural: do you attend religious services weekly?
[17] See section 2.2.3 of Chapter 2 for the discussion on secularisation theory.

religiosity on reducing stock price crash risk is also found to be significant in China (Li and Cai, 2016). The study report that religion affects stock price crash risk by reducing earnings management and the management perk problem. The findings imply that religion plays an important role in Chinese corporate governance, despite being a Communist country with lower religiosity compared to other countries.

Moreover, the influence of religion on stock prices is stronger for companies that are involved in unethical businesses such as tobacco and alcoholic products (the sin stock) (Salaber, 2013). The stock price of these companies decreases when they are situated in predominantly Protestant environments as compared to Catholic environments. Consistent with this conjecture, Kumar, Page and Spalt (2011) report that religion influences investor preferences which affect corporate decisions and stock price. Notably, in regions with higher Catholics over Protestants, investors exhibit a stronger propensity for holding lottery-type stocks, are inclined to have broad-based employee stock option plans, indicate higher returns following the day after an initial public offering, and signify a higher magnitude of the negative lottery-stock premium.

The influence of religion on corporate risk is also significant in hedge funds. Gao, Wang and Zhao (2017) find robust evidence that local religiosity is significantly negatively associated with total and idiosyncratic volatilities of hedge funds. Hedge funds located in more religious counties are likely to hold less risky stocks and a more diversified portfolio. They further report that the impact of local religiosity on risk is only pronounced among funds which are economically more important for local managers and investors. These findings are consistent with the local preference channel. The significant connection between religiosity and the firm value indicates that researchers need to reflect on factors beyond financial characteristics to acquire a complete picture of firm performance characteristics.

Religiosity appears to influence many aspects of corporate behaviour. Baxamusa & Jalal (2014) found that religiosity affects a firm's capital structure. The study reports that in the U.S an increase in a county's Protestant religiosity leads to lower leverage and debt issuances. This behaviour is also similar for firms located in Catholic and Protestant countries outside the U.S. Firms in more religious counties also benefited from cheaper equity financing costs (Ghoul *et al.*, 2012) and enjoy lower audit fees (Leventis, Dedoulis and Abdelsalam, 2015). Religiosity also found to increase firm's commitment to workforce diversity (Cui *et al.*, 2015), implying the motivational aspect of religion that able to influence managers choice. Consistent with Du, Jian and Lai (2015), Du (2013) and Callen, Morel and Richardson (2011), Ghoul *et al.*, (2012) supports the alternative role of religiosity as a control mechanism and finds that the influence of religiosity is stronger for firms during the period of low external monitoring.

The influence of culture and religiosity are also significant in financial firms. Ashraf, Zheng and Arshad (2016) found robust evidence that bank risk-taking is significantly higher in countries with high individualism, low uncertainty avoidance, and low power distance cultural values. Furthermore, countries with cultures that encourage higher risk-taking experienced higher banking issues measured by larger losses or more substantial loan loss provisions (Kanagaretnam, Lim and Lobo, 2011). As religiosity leads to risk aversion (Noussair and Trautmann, 2013) and lower corporate risk-taking (Hilary and Hui, 2009; Callen and Fang, 2015; Blau, 2017), Adhikari and Agrawal (2016) report consistent results in the banking sector. Banks headquartered in highly religious locations display lower fluctuations in stock returns, lower tail risk, and lower idiosyncratic risk, which makes them less affected by the financial crisis. These banks implement some measures to reduce risk, including prudent

asset management, concentrating on traditional banking, and discouraging their executive from increasing risk by monitoring incentives.

The findings are comparable in the affective measure of religiosity, where banks located in highly religious countries display a lower level of risk-taking and are less vulnerable to the financial crisis (Kanagaretnam *et al.*, 2015). As in Mcguire et al. (2012), banks from religious countries also exhibit a lower level of earnings management and a lower probability of reporting asset deterioration during crisis periods (Kanagaretnam, Lobo and Wang, 2015). The relationship between religiosity and low risk is also significant in the analysis covering the location of the bank's branch, and the findings are robust after controlling for the influence of headquarter religiosity (Chircop *et al.*, 2017). Thus, this strengthens the importance of including the geographical impact of social norms to analyse corporate behaviour.

In short, prior literature presents conclusive evidence that the influence of social norms on the individual ethical judgement has a significant impact on corporate behaviour. This inference demonstrates that religion is able to restrain unethical managerial behaviour and works as an alternative informal control mechanism for corporate control. However, the majority of the research for non-financial corporations is concentrated in the U.S. and focuses on the cognitive measure of religiosity. None of the previous studies integrates the issue of corporate governance and addresses the influence of secularisation. This thesis intends to fill this void.

3.2.3. The influence of Social Norms in a Country

In view of the above association between social norms and individual and corporate behaviour, it is likely that religious norms will provide a meaningful impact at the macro level. Stulz and Williamson (2003) maintain this notion and show evidence that a country's primary religion provides a better understanding of the cross-sectional variation in creditor rights compared to

a country's natural openness to international trade (i.e., language, income per capita, or the origin legal system). Cultural variables also explain how investor rights are enforced in a country and the freedom given to managers and boards in common law countries.

Motivated by the theoretical relationship between religion and economy sustained by secularisation theory, Barro and Mccleary (2003; 2006) demonstrate this theoretical link in their empirical analysis. Secularisation theory assumes that economic development will lessen the influence of religion in society, which suggests a causal relationship between religion and economy and the probability of having either a negative or positive relationship. Barro and Mccleary (2003) find that religious beliefs, especially belief in heaven and hell, positively contribute to economic growth, but church attendance negatively influences economic growth. These findings show that economic growth interacts with the extent of religious belief rather than religious belonging. Thus, this is in accordance with the view in which religious belief influences individual traits such as work ethics that contribute to economic development. In Mccleary and Barro (2006), GDP per capita indicates a significant negative effect on all measures of religiosity[18], which supports the secularisation hypothesis.

Religiosity also influences other components in the economic and financial system. Religiosity demonstrates an association with lower loan interest spread, larger facility amount, the use of accounting-based performance pricing, and a lower upfront fee (Chen *et al.*, 2016). These favourable terms in loan contracting are more pronounced in countries with weaker creditor rights, suggesting that religious principles play a more significant role in constraining opportunistic financial behaviour in a weaker legal environment. In sum, social norms, primarily religiosity, demonstrate robust evidence of having a significant relationship with

[18] Mccleary & Barro (2006) measure religiosity by weekly personal prayer, belief in hell and an afterlife, and whether people self-identify as religious.

every component of society (individual, corporations, and economy). Hence, analysing the influence of religiosity on shareholder and corporate behaviour is essential to understanding the mechanism for sustainable corporate performance.

3.3. Ownership Structure

The above discussion of prior literature has established the vital influence of religious norms on individual behaviour which impacts managerial characteristics and is further transmitted to the organisational outcome (i.e. higher earnings quality, low risk) and economic performance. This thesis takes a novel approach by analysing the influence of the religious norms of the controlling shareholder on corporate behaviour. This issue is essential as shareholder monitoring is one of the main components of the corporate governance system and a key mechanism for corporate control (Jensen and Meckling, 1976). A shareholder can monitor the firm and reduce agency costs by determining strategic corporate business decisions and how management is monitored and compensated (Zou and Adams, 2008). The components of ownership structure also indicate significant implications on the risk profile and performance of companies (Zou and Adams, 2008). As is further detailed in the next subsection, ownership concentration plays a major role in affecting corporate behaviour and the identity of the shareholders could impose significant differences in the result.

3.3.1. Large Shareholders

The benefit and incentive of monitoring are proportional to the percentage of shares owned (Jensen and Meckling, 1976). Hope (2013) notes that when ownership is widely dispersed, it is harder for shareholders to monitor managerial actions, and it is economically less feasible for any individual shareholder to incur significant monitoring costs as the benefits are small. Conversely, when ownership is concentrated on a few individuals, it is easier and more efficient for shareholders to monitor managerial action. Based on theoretical modelling, concentrated

ownership leads the largest shareholder to acquire more precise signals and effort to modify the compensation contract (Huddart, 1993). Consequently, the essential function of large shareholders is their role in monitoring the firm, acting as a potential solution to the agency problem by preventing actions that are in conflict with their interests (Cronqvist and Fahlenbrach, 2009; Demarzo and Urosevic, 2014). The mechanism of control is through direct action, negotiation with management, and proxy fights (Demarzo and Urosevic, 2014). For instance, managers who repeatedly act against the desires of controlling shareholders are likely to be replaced (Andres, 2008). Using natural experiment, Crane and Koch (2018) found that the ability of shareholders to coordinate and litigate against management improves the governance structure of the firm. Thus, better monitoring increases output, firm value, and positively contributes to economic development (Demarzo and Urosevic, 2014).

However, concentrated ownership could also imply potential drawbacks. First, large shareholders may deteriorate firm value by extracting private benefits (Edmans, 2014). When self-interest motivates large shareholders, they will probably use their control rights to maximise their own utility at the expense of stakeholders (i.e. minority shareholders and employees) (Gursoy and Kursat, 2002; Andres, 2008). Large shareholders can divert funds for their personal benefit in the form of special (hidden) dividends and preferential deals with their other businesses (Gursoy and Kursat, 2002). Second, concentrated ownership might point out a lack of diversification with high exposure to systematic risk, hence affecting the firm's investment policy (Goergen and Renneboog, 2001). By controlling the strategic decisions of the firm, large shareholders may be biased in evaluating an investment decision. Profitable projects may be forsaken based on total risk rather than their systematic risk (Gursoy and Kursat, 2002). A market with highly concentrated ownership itself might be an indication of a

poor governance environment where it is costly to conduct control-related activities (Zhang, 1998). Without a diversified portfolio, large shareholders may avoid risky projects.

It is evident that ownership structure affects firm investment and financial policies (Goergen and Renneboog, 2001; Cronqvist and Fahlenbrach, 2009) and directly contributes to higher risk (Gursoy and Kursat, 2002). Conversely, some empirical evidence suggests that the relationship of large shareholders to risk-taking is insignificant (Wright *et al.*, 1996; Agusman *et al.*, 2014) or negatively related (Gadhoum and Ayadi, 2003). Huang and Wang (2015) also report that Chinese companies with more concentrated ownership are less likely to invest in relatively riskier R&D intensive investment.

When large shareholders hold diversified portfolios, firms are reported to engage in riskier investments as compared to firms controlled by non-diversified large shareholders (Faccio, Marchica and Mura, 2011). This suggests that blockholder portfolios or investment decisions have a significant effect on firm behaviour. The result is consistent when similar tests were conducted on the banking sector (García-Kuhnert, Marchica and Mura, 2015). Paligorova (2010) comparably found that shareholders with large equity stakes in more than one company positively affect corporate risk-taking. Mishra (2011) also supports that only diversified and large shareholders pursue non-conservative investment strategies. In brief, these recent studies have highlighted a new significant dimension of ownership structure: the characteristics of shareholder portfolio.

Furthermore, as compared to a single large owner, firms with multiple large shareholders exhibit significant differences in terms of their monitoring role (Attig, Guedhami and Mishra, 2008), market value (Laeven and Levine, 2008), corporate risk-taking (Mishra, 2011), and capital structure (Boubaker, Rouatbi and Saffar, 2017). Using theoretical modelling, Dhillon and Rossetto (2015) support a clear distinction between ownership structures with one

large shareholder and those with multiple intermediate-sized blockholders concerning their implications for firm choices. Mid-sized blockholders may emerge to mitigate the conflict of interest between one large shareholder, who prefers less risky investments, and small, non-voting shareholders (Dhillon and Rossetto, 2015). Multiple large shareholders may also increase information asymmetry resulting from excess control (Attig, Guedhami and Mishra, 2008). Boubaker, Rouatbi and Saffar (2017) reported that multiple large shareholders increase firm's reliance on bank debt especially when the agency problems between controlling and minority shareholders are more critical.

According to Maury and Pajuste (2005), multiple large shareholders can have two different monitoring roles in firms. First, a blockholder has the power and incentive to monitor the largest shareholder, thus having the ability to reduce profit diversion. Second, a blockholder can form a controlling coalition with other blockholders and share the diverted profit. The positive implication of multiple large shareholders on firm value is more pronounced with the presence of a more equal distribution of votes among large shareholders (Maury and Pajuste, 2005). This is plausible as comparable voting power creates high control contestability among the largest controlling shareholder that is likely to enhance a firm's information quality, mitigate a firm's agency costs, and lower the cost of its equity capital (Attig, Guedhami and Mishra, 2008).

Multiple large shareholders are reported to have a strong positive association with corporate risk-taking (Mishra, 2011). Specifically, Mishra (2011) finds strong evidence that the presence of at least one large shareholder beyond the dominant shareholder, and the voting rights of the second-largest shareholder, positively contribute to corporate risk-taking. This evidence suggests a source through which multiple large shareholders affect the firm value as higher corporate risk-taking is likely to represent a non-conservative investment policy.

Furthermore, the study reports that corporate risk-taking increases when the number of significantly large shareholders besides the largest shareholder increases. This continues to increase up to the presence of four large shareholders. This finding supports the efficient bargaining effects hypothesis that multiple large shareholders reduce agency costs by disapproving low-risk projects.

The positive relationship between multiple large shareholders and corporate risk suggests that multiple large shareholders could promote an optimal investment policy by limiting the power of a single dominant shareholder and strengthens the theoretical view that multiple large shareholders improve internal governance by mitigating agency problems (type II) between the dominant shareholder and minority shareholders (Mishra, 2011). This effect is more pronounced in family-dominated firms and countries with relatively poor investor protection such as East Asia.

The above arguments clearly support the significant impact of large shareholders in firms. Large shareholders are able to perform better monitoring roles, especially in terms of mitigating agency conflicts. Corresponding to the influence of social norms, as discussed in section 3.2 above, this thesis predicts that the religious norms surrounding the location of controlling shareholders will affect shareholder monitoring behaviour and significantly influence corporate behaviour. It is expected that the influence of large shareholders will promote optimum investment decisions and lower agency costs.

3.3.2. Who owns the firm?

The identity of the controlling shareholders are reported to have an economically significant impact and are a fundamental driver in affecting firm risk behaviour, performance and value (Maury and Pajuste, 2005; Boubakri, Cosset and Saffar, 2013; Dong *et al.*, 2014). As blockholders vary in their beliefs, skills and preferences, Cronqvist and Fahlenbrach (2009)

find significant heterogeneity across different blockholders regarding firm investment, financial, and executive compensation policies. Various types of owners are likely to have diverse objectives and opt for different business strategies and ways to exercise their power that plausibly affect corporate strategies and risk-taking (Zou and Adams, 2008). The roles of each type of shareholder are likely different; therefore it is prudent to consider exactly who the owners are (Hope, 2013). Nevertheless, the identity of owners is often neglected as an important dimension of ownership structure (Zou and Adams, 2008). An analysis of 30,525 European Union (EU) firms indicates that the form of ownership is a vital factor in explaining the difference of performance among firms (Fitza and Tihanyi, 2017). Accordingly, the next discussion will focus on five main types of ownership (family, government, institutions, managerial ownership, and foreign ownership) and their implications for firm behaviour.

3.3.2.1. Family

Andres (2008) contends that founding-family ownership is a unique type of investor possessing distinctive characteristics. *First*, it is likely that families are undiversified investors; therefore, they have exceptional concerns over firm survival and strong incentives to monitor management closely. *Second*, families hold the advantage of the knowledge and experience passed on from generations. A long-term presence in the firm supports them in monitoring activities that require the knowledge of a firm or market-specific technology. In addition, long-term relationships build trust with employees, suppliers, and other external stakeholders. Often, family members are part of the executive board, and, as such, owner-manager conflicts will fail to arise in the first place. *Third*, investment strategies and decisions are based on long-term profit maximisation. Families regard their company as an asset to be passed on from generation to generation rather than to be consumed during a lifetime, leading to more efficient investment decisions.

The advantages of family firms are supported by empirical findings. Anderson & Reeb (2003) find that family firms, while having a risk profile similar to non-family firms, engage in significantly lower corporate diversification and appear to have a higher value. The findings suggest that family ownership is able to mitigate agency costs and reduce moral hazard conflicts for minority shareholders. Family firms are also reported to be more profitable and outperform others; however, this is only evidenced in firms with active founding families, either on the executive or the supervisory board (Andres, 2008).

However, family-owned firms are found to have a lower risk (Gursoy and Kursat, 2002). Family shareholders tend to avoid corporate risk-taking when their ownership increases, which is significantly contrary to other types of ownership (i.e. mutual funds, banks, and financial and industrial companies) (Paligorova, 2010). Lower risk-taking indicates that family firms are prone to sub-optimal investment policies as a result of lower diversification. Mishra (2011) finds that family-controlled firms, especially in lower investor protection regimes, follow conservative investment policies that are generally less likely to benefit minority shareholders. Andres (2008) clarifies that a combination of management and control may lead to sub-optimal investment decisions when the interests of families diverge with that of other shareholders.

Family firms with managerial or board representation are more prone to private benefit extraction if they are not monitored by another strong blockholder (Maury and Pajuste, 2005). Families tend to pursue diversification strategies at the expense of minority shareholders, such as channelling towards projects that create uncorrelated cash flows relative to the firm's core business or seeking less risky forms of financing. They are also likely to use less debt in the firm's capital structure (Andres, 2008). In an analysis across 33 countries, Dow and McGuire (2016) found that the performance of family firms measured by Tobin’s Q is significantly lower

than non-family firms. The results are influenced by the legal context and national culture of publicly traded family firms, which also serves to mitigate some of the generally negative impacts. In short, family firms may be advantageous in reducing agency costs but are likely to have undiversified portfolios and are associated with lower risk-taking that may affect overall firm performance.

3.3.2.2. Government

Literature is inclined to posit negative views towards government-owned firms. Government or state-owned firms suffer from high agency costs because their economic incentives are in conflict with corporate aims (Zou and Adams, 2008). A government's main objectives are to promote employment, regional development, and, politically, to secure future elections and maintain long tenures in power (Boubakri, Cosset and Saffar, 2013). Because of the high political cost, governments will normally avoid any form of investment decision that may put their position at risk, especially from the viewpoint of employees or voters.

According to Zou and Adams (2008), the primary justification of the undesirable position of government ownership is due to the absence of financial incentives to monitor the firm's operation closely. Government bodies hold voting rights but not cash flow rights, and the bureaucrats receive fixed civil service-scale salaries regardless of the financial performance of the companies. This arrangement plausibly attracts private, rent-seeking activities by politically connected managers (i.e. on-the-job perks, and forming relationships with colleagues and superiors by trading favours). In addition, to maintaining their political interest, governments invariably interfere with the appointment of important personnel and business management decisions. The result of managers pursuing personal economic gains and political intervention definitely increases the firm's agency cost, by employing less qualified managers, hence reducing shareholder value and firm efficiency.

In brief, analyses reveal that government-owned firms display higher risk (Gursoy and Kursat, 2002), are affected by higher stock volatility and lower stock returns (Zou and Adams, 2008), and demonstrate sub-optimal investment decisions (Boubakri, Cosset and Saffar, 2013). Tests in the banking sector also revealed comparable results. In China, government-owned banks are inclined to take more risk (Dong *et al.*, 2014) while in Europe, despite having lower costs, government-owned banks exhibit lower profitability, poorer loan quality, and higher insolvency risks than other types of banks (Iannotta, Nocera, and Sironi, 2007). In MENA, government ownership encourages banks to take more risks, with a higher tendency to increase capital adequacy ratios to hedge against high levels of risk, and the results were more pronounced before the 2008 financial crisis (Lassoued, Sassi and Ben Rejeb Attia, 2016). Importantly, the results are consistent throughout the various samples.

3.3.2.3. Institutions

The presence of large institutional ownership in a country implies the existence of strong shareholder rights, effective legal enforcement, extensive financial disclosure, and investment portfolio regulations (Li *et al.*, 2006). Activists, pension funds, corporations, private equity firms, and mutual funds are among the types of institutional shareholders that drive corporate policies (Cronqvist and Fahlenbrach, 2009). The attribute of institutional shareholders regarding the investment horizon (either short or long term) positively affect the market for corporate control in the event of mergers and acquisitions. Shareholders with longer investment horizons imply a higher ability to hold out in merger negotiations and have a greater incentive to monitor the firm (Gaspar, Massa and Matos, 2005). Institutional investors also positively affect corporate risk-taking, mainly for firms with growth opportunities (Wright *et al.*, 1996).

Institutional owner such as the mutual funds may act as a passive investor. Despite this, passive investors hold large voting blocs, which appear to improve firms' governance structure

by increasing the number of independent directors, removal of takeover defences, and promote equal voting rights (Appel, Gormley and Keim, 2016). Thus, consistent with the observed governance differences and increasing firm value, passive ownership is correlated with increases in firms' longer-term performance. Moreover, insider and institutional ownerships are found to have non-linear effects on corporate social responsibility (Oh, Cha and Chang, 2017). Passive institutional owners are vital for the corporation, Schmidt and Fahlenbrach (2017) reported that an exogenous change in passive ownership structure causes higher agency costs. In, short, the findings of these studies suggest the positive implication of institutional ownerships on the company's corporate governance structure, financial performance, as well as corporate social performance.

3.3.2.4. Managerial ownership/ corporate insider

Stock ownership by management can directly reduce the underlying agency problem: the more stock management owns, the stronger their motivation to work to raise the value of the firm (Hermalin and Weisbach, 1991). The conflict of interest is expected to be lower as managers own a portion of the firm's shares. This is known as the incentive alignment hypothesis and states that as manager ownership increases, their economic interests become more closely aligned with those of shareholders; therefore, managers will maximise the value of their equity stake through proactive business risk-taking (Zou and Adams, 2008). Supporting this perspective, Eisenmann (2002) reports positive relationships between CEO equity ownership and firm risk-taking. Empirical evidence supports a positive market reaction when insider purchases increase (He and Rui, 2016). The positive market reaction is also more significant in company with better governance.

From the opposite view, if a manager owns a significant percentage of a firm's shares and becomes part of the controlling shareholders, he can satisfy his own non-value-maximizing

objectives without endangering his employment and salary (Acero Fraile and Alcalde Fradejas, 2014). This position is a form of moral hazard which is likely to have a negative effect on minority shareholders. Furthermore, when managers invest a large share of personal net worth in firm equity, their personal wealth portfolios become correspondingly less diversified; hence, decisions against risky projects are most likely to be biased (Fama and Jensen, 1983; Wright *et al.*, 1996). The presence of significant pecuniary and nonpecuniary factors and the potential for entrenchment may further elicit insider decisions to be sub-optimal and inconsistent with growth-oriented risk-taking (Wright *et al.*, 1996). This condition is apparent when a significant portion of an investor's wealth is concentrated in a single investment. The negative relationship between managerial ownership and a firm's equity risk is referred to as the managerial risk aversion/entrenchment hypothesis (Zou and Adams, 2008).

Wright *et al.*, (1996) further contend that corporate insiders who own substantial equity stakes in the firms they manage will have less ability to diversify their personal portfolios through purchasing other investments. In an analysis of more than 500 firms, corporate insiders positively influence corporate risk when they possess a low degree of equity ownership. Conversely, as insiders increase their investment in a firm, they tend to reduce corporate risk. This negative relationship is also supported by Gadhoum and Ayadi (2003). As a result, managers with a high degree of equity ownership will have a greater level of economic interest in the company and are likely to be risk-averse and adopt non-value-maximizing strategies (Wright *et al.*, 1996; Zou and Adams, 2008). These factors will affect a firm’s performance and efficiency. However, the effect is not significant for managers with lower equity ownership due to the fear of being discharged (Wright *et al.*, 1996).

In sum, the relationship between managerial ownership and corporate behaviour exhibits two different arguments with a mix of empirical findings. However, the negative

relationship is more convincing as viewed from the perspective of diversification and is supported in some literature. Therefore, equity ownership by the manager is likely to lead to lower firm risk or volatility.

3.3.2.5. Foreign Ownership

Foreign ownership can make a difference in board monitoring behaviour. It is evidenced that independent directors will have greater incentives to protect shareholder interests in firms with high foreign ownership (Desender *et al.*, 2016). Companies with foreign ownership will promote the function of independent directors to monitor and communicate concerns about internal control weaknesses and other accounting issues to external auditors. Boubakri, Cosset and Saffar (2013) report robust and economically significant evidence that foreign ownership positively affects corporate risk. Firms with higher foreign ownership also appear to be less vulnerable to financial crises (Kolasa, Rubaszek and Taglioni, 2010). Two main arguments behind the positive findings are: firstly, as a result of international supply chains, foreign firms normally have a stronger resilience of value chain production models towards global adverse shocks, and, secondly, they have greater access to external financing opportunities to support affiliates facing external credit constraints (Kolasa, Rubaszek and Taglioni, 2010).

However, it can be argued that the positive impact of foreign ownership on firm value is attributable to the percentage of shareholding, commitment, and terms of involvement (Douma, George and Kabir, 2006). This is consistent with agency theory that suggests large shareholders hold higher incentives for monitoring and are thus subject to effective monitoring roles. Foreign ownership in banks, on the other hand, appear to negatively affect risk-taking (Lee and Hsieh, 2014; Lassoued, Sassi and Ben Rejeb Attia, 2016). The risk-taking implication for the banking sector is slightly different as it is normally associated with financial stability, i.e. the soundness of the banking system. Therefore, the negative relationship of foreign

ownership to bank risk-taking depicts a positive implication for the market and economy. In brief, foreign ownership is able to influence the board's monitoring role, hence positively contributing to the risk-taking and performance of firms and financial institutions as a whole.

3.4. Ethically Compliant Firms

3.4.1. Shariah Compliant Investment

Shariah compliant stock is a well-recognised ethical investment prospect in the financial industry. Following its increased acceptance in the market, prior literature has conducted numerous empirical studies to examine the performance of Shariah compliant equities compared to their conventional counterparts. A majority of the analysis is conducted at the index or portfolio level, and only a limited number of studies test at the firm level. The social norms perspective of ethical conducts essentially focus on the societal influence on individual behaviour. Complementary to this view, ethically compliant firms are a representation of ethical behaviour at the firm level. Both of these perspectives are interrelated and form a comprehensive understanding of the relationship between ethics and corporate performance.

Al-Khazali *et al.*, (2017) present evidence that the performance of the ethical stock market is connected to the norms of the local investors. In an analysis involving 15 Islamic countries for ten years, the findings reveal that the volatility of stock returns significantly decreases during the month of Ramadan as compared to the volatility observed in the other eleven months of the Islamic calendar. The results are robust in most Muslim countries and after controlling for the global financial crisis and the Arab spring. As the majority of Muslim countries promote Shariah compliant investments, the findings suggest a connection between social norms, faith-based investor attitudes, and the performance of Shariah compliant investments. The faith-based investor invests only in Shariah-compliant equities and excludes conventional equities in their portfolio. The conventional investor, on the other hand, invests

in both Islamic and conventional equities. Also, the comovement of newly added stocks with the existing Islamic index constituents increases during periods of high trading activity and during the month of Ramadan (Mazouz, Mohamed and Saadouni, 2016). The markets show positive reaction around the announcement for stocks that are added to the Islamic index and negatively to stocks that are removed from the index (Mazouz, Mohamed and Saadouni, 2019). The finding suggests that investors perceive firms' commitment to ethics as good news which is likely to be a source of value creation rather than a diversification constraint. In short, this strand of research supports the influence of religion on asset price.

Following the above framework, Umar (2017) analysed the performance of the Shariah versus the conventional index. The sample comprised of the Dow Jones conventional and Islamic indices for the world, developed countries, emerging markets, and the United States. The findings show that Islamic equities exhibit both short-term and long-term performance on a standalone basis. However, the inclusion of conventional equities in the portfolio reduces the desirability of Islamic equities in the short-term. Similarly, Al-Awadhi and Dempsey (2017) report that conventional equities in the GCC countries indicate higher returns and lower liquidity but face higher liquidity risk because of faith-based investors preference compared to Islamic equities. Thus, this suggests the inferior performance of Islamic indices and some opportunity costs for faith-based investors due to the exclusion of conventional equities from the portfolio. This result might reduce the competitive advantage of Islamic equities in the global market.

Despite the inferior performance, Shariah compliant equities demonstrate higher performance during the financial crisis. An analysis comparing 12 major indices[19] in the world

[19] The 12 indices comprise of the Dow Jones Islamic Market (DJIM), Morgan Stanley Capital International Islamic Index Series (MSCI), Standard & Poor Islamic (S&P), Russell Jadwa Islamic (RJI), Financial Times Islamic Series (FTSE), Royal Bank of Scotland Islamic (RBSI), Directional Movement (DMI) 150 Index, Bombay

indicates that Islamic indices outperformed the conventional indices during crisis periods; however, the results are inconclusive for non-crisis periods (Ho *et al.*, 2014). This finding is comparable in the regional analysis involving Europe, the USA and the World. Conventional equities show higher returns during a stable period, but Islamic indices indicate a better performance starting from the emergence of the subprime mortgage crisis in 2008 and in turbulent times (Jawadi, Jawadi and Louhichi, 2014). Islamic equity funds show lower performance compared to conventional funds by an average of 40 basis points per month but show higher performance during the financial crisis (Nainggolan, How and Verhoeven, 2016). Alam (2010) demonstrated evidence that the outperformance of Islamic equities during the period of economic downfall has overcome its underperformance during an economic boom. The Shariah-compliant equities performed better than the rest of the European market and exhibited less risk (Alam, 2010). Shariah-compliant equities carry less risk than conventional equities as a result of capital structure composition. Accordingly, during the global financial crisis, Shariah-compliant equities demonstrated lower values of systematic risk in the case of 'Low Debt' portfolios as compared to 'High Debt' portfolios (Alaoui *et al.*, 2016).[20] Thus, this suggests that Islamic funds are a safer investment with the return trade-off of being more ethical.

Prior studies thus far demonstrate that Shariah compliant equities outperform their conventional counterparts during the period of the financial crisis and high volatility. This outcome is primarily due to the filtering criteria associated with Shariah equities. Companies categorised as Shariah compliant are involved in less risky business activities and have a stable

Stocks Exchange (BSE) TASIS Shariah 50, Jakarta Islamic (JII), Kuala Lumpur Shariah (KLSI), Hong Kong Islamic (HKII), and Societe Generale Islamic (SGI).

[20] Alaoui et al. (2016) constructed proxy portfolios for Shariah funds based only on the debt filtering criteria. The 'Low Debt' portfolios represent the proxy for Shariah compliant funds while the 'High Debt' portfolios are the conventional funds.

capital structure. These companies are largely industrial companies with lower leverage and hold more tangible assets. Empirical evidence demonstrates that Shariah compliant equities are generally less risky than conventional compliant equities (Ashraf and Khawaja, 2016; Ashraf *et al.*, 2017). The results suggest a positive investment prospect for investors, especially during episodes of financial difficulties, and it also suggests the significance of research concerning Shariah compliant investment.

However, some studies report contradictory findings. Nasr *et al.* (2016) analysed the statistical properties of the Dow Jones Islamic Index (DJSI) and found that the volatility dynamic of DJSI was comparable to all formalised facts of traditional asset classes, and the forecast performance also aligned with predominant findings in the literature. Based on these results, Nasr *et al.* (2016) questioned the advantage of the Islamic index during extreme market fluctuations. Islamic indices exhibit higher performance in the long term and suggest some risky attributes compared to their conventional counterparts (Charles, Darné and Pop, 2015). This study shows that the majority of Islamic indices have a higher level of risk than the conventional indices in both periods of low and high volatility. In spite of this, the findings of these two studies might not represent overall Shariah compliant investment because the sample is limited to the Dow Jones indices. Different indices use different screening methodology, and the performance of Islamic equities is significantly affected by the screening methodology applied, which is either book-value based or market-value based. The book-value based approach normally suggests better nominal and risk-adjusted returns compared to the market-value based approach (Ashraf and Khawaja, 2016; Ashraf *et al.*, 2017).

Analysis concerning the performance of Shariah compliant investment at the firm level reveals more detailed results. US firms added to the Dow Jones Islamic Market World Index witness a permanent positive price, liquidity effects, and lower costs of equity, whereas

excluded firms sustain a negative price, liquidity effects and show no significant changes in the cost of equity (Chen and Ngo, 2017). The findings suggest a positive market reaction for companies categorised as Shariah compliant. Nevertheless, the ethical aspects of Shariah compliant firms are concentrated only on the core religious rules (the business and financial component screening). The prior literature argues that the current standards do not fully represent the intrinsic value of religion and are not a true representation of ethical investment. Shariah compliant firms indicate higher earnings manipulation; in contrast, firms with high ESG performance are less likely to manage earnings (Alsaadi, Ebrahim and Jaafar, 2016). This study supports the view that the current Shariah screening standard does not fully conform to fundamental Islamic principles and the Maqasid al Shariah. The current practice concentrates on negative screening and ignores social welfare and transparency. Firms with high ESG performance, on the other hand, disclose comprehensive details regarding ESG information, which is important for investors and rating agency to assess firm performance. Consequently, the next subsection discusses the empirical assessment of the performance of socially responsible investment (SRI) and whether SRIs present a promising investment prospect for ethical investors.

3.4.2. Socially Responsible Investment

Socially responsible investment (SRI) is a common type of ethical investment that capitalises on firms in ethical industries and engages in social welfare, environmental sustainability, and alternative energy production. These companies also implement sound governance policies to protect their shareholders and external investors. The two main objectives of SRI are to promote a positive social impact and financial gain for ethical investors. To achieve this, ethical-based investors have adopted a variety of innovative strategies, including ‘best-in-class’ investing, active ownership, and ESG integration (Trinks and Scholtens, 2017). A common

SRI investing strategy is to exclude stocks of companies involved in harmful and controversial activities, and this is termed negative screening.

Prior literature provides evidence that the financial performance of SRIs is related to the criteria of the screening process. Trinks and Scholtens (2017) report that the controversial stocks or the 'sin stocks' indicate additional risk-adjusted returns in a portfolio and excluding them may reduce financial performance. Higher screening intensity also reduces the financial performance of SRI mutual funds (Capelle-Blancard and Mojon, 2014). However, the study finds that the result is only significant for negative screening (excluding sin stocks). In a global analysis, SRI funds in the US, the UK, and in many continental European and Asia-Pacific countries indicate lower performance compared to their domestic benchmarks by -2.2% to -6.5% (Renneboog, Ter and Zhang, 2008). However, in some countries such as France, Japan and Sweden, the performance of SRI funds measured by risk-adjusted returns is comparable to conventional funds. Corporate governance and social screens are the two main contributing factors that lead to the inferior performance of SRI funds. However, Lee *et al.* (2010) report a significant reduction in alpha by 70 basis points per screening criteria using the Carhart performance model. Despite the lower performance reported in Trinks and Scholtens (2017), Capelle-Blancard and Mojon (2014) and Renneboog *et al.* (2008), the findings in Lee *et al.* (2010) suggest that an increase in screening intensity leads to lower systematic risk, which is consistent with the risk and returns hypothesis. These findings suggest the significant relationship between the screening criteria and SRI financial performance. In addition, ethical-based investors need to bear opportunity costs as a result of negative screening and limited portfolio choice but at the same time, enjoy a low-risk investment portfolio.

In the Australian market, Humphrey and Lee (2011) report no significant difference between the returns of SRI and conventional funds. Negative screening excludes firms that are

involved in unethical business practices (i.e. tobacco, alcohol). Positive screening, on the other hand, includes companies with high ESG performance in their funds. The study found little evidence that the screening process, either positive or negative screening, influenced total return, and it reported weak evidence that funds with higher screen intensity provided better risk-adjusted-performance. Hence, this suggests that positive screening significantly reduces a fund's risk, whereas negative screening significantly increases risk and results in a less diversified portfolio. Abdelsalam *et al.* (2014) explore the impact of screening criteria, particularly portfolio restrictions, expenses and value-added criteria, on the performance of ethical investments such as SRIs and Islamic mutual funds. To overcome the limitation of analysis based on an average basis, this research uses a quantile regression that captures fund performance at different stages. The findings report that the variation in the performance of SRIs and Islamic funds is only significant for some of the quantiles of the conditional distribution of fund performance. Despite the differences in the screening criteria of SRIs and Islamic mutual funds, both of the funds present a comparable performance. Overall, prior research on the performance of SRIs demonstrates inconsistent results. SRIs either show lower or comparable performance compared to their conventional counterparts.

In correspondence to the inconsistent performance of SRIs and the lack of ethical features in Shariah compliant investment (discussed in section 3.4.1 above), researchers try to examine ethical investments using a more comprehensive approach. Erragragui and Revelli (2016) demonstrate that the integration of social performance measures in Islamic portfolios leads to higher performance. The findings apply for portfolios with good records in governance, products, diversity, and environmental issues. In contrast, excluding community and human rights controversies in the Shariah compliance portfolio resulted in negative performance. The results are robust after controlling for market sensitivity, investment style,

the momentum factor, and sector exposure. The pioneering work of Erragragui and Revelli (2016) supports a positive investment prospect for ethical investment and the need for more comprehensive screening requirements to develop good quality, ethical investment portfolio.

3.5. Earnings Quality, Ethical Issues and Corporate Behaviour

In accounting, earnings quality refers to the ability of reported earnings to predict a company's future earnings (Sepe *et al.*, 2012, p.22). Intrinsically, earnings quality is measured by the degree to which past earnings are reliable and are likely to persist (i.e., measurement by Thomson and Reuters Star Mine). Earnings quality is assumed to be eroded by the managerial opportunistic behaviour of earnings management (Dechow, Ge and Schrand, 2010). Hence, earnings quality is the positive side of earnings management; both earnings quality and earnings management can be regarded as a different side of a coin.

Empirical studies predominantly examine the influence of earnings management or earnings quality as a depiction of corporate ethical practice and how this factor is associated with various corporate behaviour. In an analysis across 19 countries, Chen *et al.* (2018) demonstrate that higher earnings quality (lower discretionary accruals) is associated with the quality of corporate codes of ethics. The authors confirmed that the results are robust for firms with high likelihood of engaging in opportunistic reporting behaviour (firms that just meet or beat analysts' forecasts). The results are reported to be more pronounced for firms in countries with weaker investor protection mechanisms. This study shows the ethical aspect of earnings quality, in which it is directly linked with corporate ethical policies.

Another vital ethical issue in corporations is the agency costs resulted from information asymmetry. Managers may pursue their own interests, for instance, by maintaining large amounts of cash to keep sub-optimal levels of debt, risk and dividends as oppose to what is preferred by shareholders (Farinha, Mateus and Soares, 2018). The information conveyed by

earnings quality has shown to be an effective indicator of cash reserve levels especially for firms with lower financial disclosure and oversight (Farinha, Mateus and Soares, 2018). In particular, the study demonstrate that firms are inclined to hold more cash as earnings quality decreases except in a case losses. This findings provide evidence that poor earnings quality is associated with greater information asymmetries, which is a critical ethical issue in corporations. Thus, higher earnings quality can be assumed as indicator of better management quality and lower agency costs.

Earnings quality is also connected with voluntary corporate social responsibility (CSR) disclosure. Although both earnings quality and corporate social responsibility are ethical practices, some prior research report a negative relationship between the two especially in the emerging markets. Carey, Liu and Qu (2017) find that voluntary CSR reporting is associated with higher earnings management in China. The results suggest that Chinese firms are not fully embraced the ethical principles of CSR by using CSR reporting as a strategic device for window dressing to create the appearance of legitimacy. As a result, the authors also reported higher audit fees for these companies in response to heightened audit risk and greater audit effort. This finding is also comparable in Bangladesh as another emerging country (Muttakin, Khan and Azim, 2015). Despite these conflicting findings, these studies further reported that highly performing firms with greater governance structure demonstrate an intrinsic relationship between CSR and earnings quality. Firms with highly rated CSR performance indicate lower audit fees and less earnings management (Carey, Liu and Qu, 2017). Export-oriented companies govern by powerful stakeholders indicate higher CSR disclosure, and provide transparent financial reports evidence by lower earnings management (Muttakin, Khan and Azim, 2015).

The above empirical evidence reveal the ethical perspective of earnings quality, and that the information conveyed by earnings quality able to reflect managerial ethical practices, and vital for analysing corporate behaviour. Following this notion, this thesis incorporates earnings quality as an additional criterion for ethical screening. The combination between earnings quality and ESG screenings in the final stage will dismiss the 'window dressing' arguments of CSR disclosure as discussed in the above.

3.6. ESG Performance and Corporate Behaviour

Corporations engage in ethical activities mainly to gain legitimacy from society in general and in response to their stakeholder needs specifically. In theory, these activities are vital for corporate survival and performance.[21] As this thesis intends to incorporate ESG performance with current Shariah screening practices, it is vital to review the empirical evidence about the connection between ESG and corporate behaviour. The influence of ESG on firm behaviour will suggest the expected outcome of implementing comprehensive ethical screening criteria for equity performance.

Using the sample of the publically listed firm in the U.S., Mishra and Modi (2013) found significant evidence that positive ESG reduces firm idiosyncratic risk while negative ESG increases firm idiosyncratic risk. The impact of positive ESG on idiosyncratic risk is stronger for firms with high levels of financial leverage. These findings suggest the positive impact of ESG on firm stability, especially for high-risk firms identified by the level of debts. These findings are consistent in the analysis of firms in controversial industry sectors (i.e. alcohol, tobacco, and gambling). ESG performance of firms in a controversial industry demonstrates a significant negative relationship with firm risk (Jo and Na, 2012). In addition, the influence of ESG is more economically and statistically significant in controversial industry

[21] See section 2.3.2 and 2.3.3 in Chapter 2.

firms as compared to non-controversial industry firms. Prior studies also report similar results in Europe. Higher ESG performance was found to significantly decrease firm total and idiosyncratic risk (Sassen, Hinze and Hardeck, 2016). Among the ESG scores, the social performance showed a consistent, significant negative relationship with all measures of risk, including systematic risk. The findings suggest that higher ESG performance, especially in the social dimension, is likely to increase firm value through lower firm risk. Thus, this supports the risk-reduction hypothesis.

ESG performance is likely to influence agency costs. The first argument suggests that ESG activities are associated with higher agency costs and may deteriorate shareholder value. ESG performance itself can be seen as another form of agency cost as ESG will increase operating costs and weaken the firm's competitive position as a result of opportunity costs (Bhandari and Javakhadze, 2017). ESG activities may also imply managers' self-serving behaviour to gain legitimacy for their own benefit at the expense of the shareholders (Attig *et al.*, 2014). In contrast, the second view is based on the good management hypothesis of Waddock and Graves (1997) and Carroll (1979), which is supported by the stakeholder theory. This alternative view implies that ESG activities enhance firm relationships with their stakeholders, and in return, firms will gain the support provided by these groups, which will be translated into higher performance.

Ferrell, Liang and Renneboog (2016) report a negative relationship between ESG performance and agency issues. Firms that engage more in ESG suffer less from agency conflicts. These well-governed firms indicate less cash abundance, positive pay-for-performance, a small control wedge, and strong minority protection. ESG performance indicates a negative relationship with investment-cash flow sensitivity (a proxy for agency costs). Hence, firms with high ESG practices have higher access to obtain financing in capital

markets by reducing market friction and agency costs (Attig *et al.*, 2014; Samet and Jarboui, 2017a). These findings are also comparable in Bhandari and Javakhadze (2017) that investigate the relationship between ESG and firm-level capital efficiency. ESG distorts investment sensitivity to Tobin's q, which is a proxy for corporate growth opportunities and agency costs. The study also documents that ESG negatively affects the sensitivity of external finance to corporate growth and augments investment sensitivity to cash flows. Samet and Jarboui (2017b) found that firms with high ESG indicate higher investment efficiency as ESG activities decrease information asymmetry. ESG performance was also found to reduce investment excess through mitigating free cash flow problems for over-investing firms. Overall, these findings suggest a role of ESG as indirectly enhancing corporate access to capital and investment efficiency by mitigating agency conflicts and information asymmetry problems. Thus, this supports the good management view hypothesis.

Moreover, prior literature also provides evidence on the direct impact of ESG on firm value. Gregory *et al.* (2014) report that markets positively value ESG in the long run with high ESG firms indicating a higher expected growth rate in their abnormal earnings. The choice of ESG activities directly contributes to corporate performance by positively influencing the internal and external corporate governance and monitoring mechanisms[22] (Jo and Harjoto, 2011). Firm engagement in ESG also contributes to the higher firm value measured by industry-adjusted Tobin's q. Specifically, Jo and Harjoto (2011) found that ESG activities that increase firm value are the activities that address internal social enhancement within the firm such as employee diversity, the firm's relationship with its employees, and product quality. In contrast, board leadership, board independence, blockholder ownership, institutional

[22] The mechanism includes board leadership, board independence, institutional ownership, analyst following, and antitakeover provisions.

ownership, community relationship and environmental concerns play a relatively weaker role in enhancing firm value.

As explained in legitimacy and stakeholder theory, the relationship between the corporation and the society or stakeholders, in particular, is a fiduciary relationship that is based on a social contract. Following this view, Lins *et al.* (2017) provide evidence that ESG leads to higher firm performance in the period of low trust during the 2008-2009 financial crisis. Specifically, firms with high social capital (measured by the intensity of ESG), demonstrate four to seven percentage point higher stock returns compared to firms with low social capital. High-ESG firms also experience higher profitability, growth, and sales per employee compared to low ESG firms. This evidence suggests that the trust between a firm and its stakeholders that is built through the corporate engagement in ESG yields to corporate gain, especially when there is a negative shock on the overall level of trust in corporations and markets.

Furthermore, the influence of ESG on firm performance is largely associated with the market reaction towards corporate ESG news. Karim *et al.* (2016) found significant and positive abnormal returns after announcements of the lists of ethically-compliant firms. Markets show a positive reaction on the first day after a firm is announced as being included in a list of ethically-compliant firms by WME (world most ethical companies)[23]. This study provides evidence that ethics leads to shareholder value creation as evidenced by the short-term positive returns as a result of positive market reaction on firm ethical performance. Moreover, investors are inclined to have a stronger negative response to negative ESG events compared to positive ESG events (Krüger, 2015). Investors show a positive response to positive ESG news for firms with a history of poor stakeholder relations. In contrast, investors

[23] WME releases ethical rankings for companies, and released the first ranking that combines law, sustainability, ethics, culture, corporate governance and innovation in CSR. See https://www.worldsmostethicalcompanies.com.

responding negatively to positive ESG news is more likely to result from agency problems. ESG news with stronger legal and economic information content generates a higher investor reaction. The results are consistent with the argument in the good management view that supports a positive association between ESG and firm performance.

Despite the above, ESG activities might contribute to some disadvantages for corporations. Certain aspects of ESG show a significant relationship with downside tail risk (Diemont, Moore and Soppe, 2016). Furthermore, this relationship is sequential, which suggests the possibility of a causal link between ESG and tail risk. Even though the study uses the MSCI world index as the sample of the analysis, these findings are not generalizable because the nature of the relationship differs across regions, stakeholders and time. ESG ratings are also associated with higher ESG expenditure (Barnea and Rubin, 2010). These results support the agency costs view of ESG and the hypothesis that corporate insiders (managers and blockholders) induce firms to over-invest in ESG to gain legitimacy when they bear little of the cost of doing so.

Overall, ESG demonstrates a positive influence on corporate performance, including lower risk, lower agency costs, positive market response, and shareholder value creation. Consequently, this thesis expects that the integration of ESG components with the current Shariah screening standard will lead to high-quality equities that comply with the overall aspects of religion and ethical values and provide stable performance.

3.7. Summary

In summary, prior literature provides compelling evidence of the significant influence of religious norms, large shareholders, religious screening, and ESG on corporate behaviour. These factors demonstrate a significant impact on corporate risk, ethics, agency costs, and firm value. Previous studies, however, suffer from several limitations such as their measurements,

limited sample coverage, and narrow research perspective. A summary of the literature and the gaps in the prior studies is presented in Table 3.1 below.

Based on the findings and the gaps in the prior literature, this thesis contributes to the literature from two aspects. First, this thesis analyses the influence of religious norms from the perspective of corporate governance (the controlling shareholder). This research perspective also tackles the gap in the literature by covering the influence of the secularisation and regional analysis. Second, this thesis incorporates the ethical performance criteria (ESG and earnings quality) in the current Shariah screening framework. The analysis is conducted at the firm level, and additionally, compares the influence of various screening stages.[24]

This review of literature forms the empirical foundation of this thesis which is used to formulate the research questions and the research design including hypothesis development and variable measurements. This information will be applied and further discussed in the empirical chapters (Chapter 4, 5, 6 and 7).

[24] The details on the contributions of this thesis are discussed in section 1.4 in Chapter 1.

Table 3.1: Summary of literature review and research gaps

Research Focus	Reference	Gaps
Social Norms: **1. Individual ethical judgement and risk behaviour**	(Berman and West, 1998; Kennedy and Lawton, 1998; Longenecker, Mckinney and Moore, 2004; Brammer, Williams and Zinkin, 2007; Bloodgood *et al.*, 2008; Rashid and Ibrahim, 2008; Walker, Smither and Debode, 2012; Noussair and Trautmann, 2013; Sipon *et al.*, 2014; Jiang *et al.*, 2015)	The influence of social norms on individual ethical behaviour was measured using certain limited approaches such as surveys, interviews and descriptive analyses. It remains unclear whether this influence will significantly affect corporate behaviour.
2. Corporate ethical behaviour and earnings quality **3. Corporate Risk/ stock volatility** **4. Bank risk and earnings quality** **5. Agency costs, capital structure, cost of equity, audit price**	(Grullon, Kanatas and Weston, 2009; Callen, Morel and Richardson, 2011; Dyreng, Mayew and Williams, 2012; Mcguire, Omer and Sharp, 2012; Du, Jian and Lai, 2015) (Pirinsky and Wang, 2006; Hilary and Hui, 2009; Li *et al.*, 2013; Mihet, 2013; Callen and Fang, 2015; Blau, 2017) (Kanagaretnam, Lim and Lobo, 2011; Kanagaretnam *et al.*, 2015; Kanagaretnam, Lobo and Wang, 2015; Adhikari and Agrawal, 2016; Ashraf, Zheng and Arshad, 2016; Chircop *et al.*, 2017) (Ghoul *et al.*, 2012; Du, 2013; Baxamusa and Jalal, 2014; Leventis, Dedoulis and Abdelsalam, 2015)	Research at the corporate level suffers from the following limitations: 1. Most studies only focus on one country (i.e. U.S. or China). 2. Analyses religiosity from the perspective of one religion (i.e., Christianity, Buddhism, and Taoism). 3. Measures religiosity using religious denomination, which does not represent the true feelings about religion of the individual. 4. The research is all about geographical religiosity; none of the studies analyse religiosity from the perspective of controlling shareholders. 5. None of the studies analyse the effect of secularisation (developed countries). 6. Prior studies also fail to present how the influence of religiosity is different across regions in the world.
6. Country financial and economic growth	(Barro and Mccleary, 2003; Stulz and Williamson, 2003; Mccleary and Barro, 2006; Kumar, Page and Spalt, 2011; Chen *et al.*, 2016)	The influence of social norms at the country level represents the macro perspective. It is important to analyse how religiosity will have a significant influence on the corporations as one of the important components in the economy.

Research Focus	Reference	Gaps
Shareholder **1. Large shareholder and corporate behaviour** **2. Multiple large shareholders** **3. Large shareholder types**	(Huddart, 1993; Wright *et al.*, 1996; Zhang, 1998; Goergen and Renneboog, 2001; Gursoy and Kursat, 2002; Gadhoum and Ayadi, 2003; Cronqvist and Fahlenbrach, 2009; Paligorova, 2010; Faccio, Marchica and Mura, 2011; Agusman *et al.*, 2014; Demarzo and Urosevic, 2014; Edmans, 2014; García-Kuhnert, Marchica and Mura, 2015; Huang and Wang, 2015) (Maury and Pajuste, 2005; Attig, Guedhami and Mishra, 2008; Laeven and Levine, 2008; Mishra, 2011; Dhillon and Rossetto, 2015) (Wright *et al.*, 1996; Eisenmann, 2002; Anderson and Reeb, 2003; Gaspar, Massa and Matos, 2005; Li *et al.*, 2006; Douma, George and Kabir, 2006; Iannotta, Nocera and Sironi, 2007; Andres, 2008; Zou and Adams, 2008; Kolasa, Rubaszek and Taglioni, 2010; Paligorova, 2010; Boubakri, Cosset and Saffar, 2013; Hope, 2013; Dong *et al.*, 2014; Lassoued, Sassi and Ben Rejeb Attia, 2016; Desender *et al.*, 2016)	Large shareholders demonstrate a significant influence on corporate value, policies, risk-taking, and agency costs. However, prior research thus far focuses on the common characteristics of shareholders such as shareholder ownership concentration, shareholder portfolio diversification, and shareholder types. None of the previous studies analyses the influence of social norms on shareholder monitoring behaviour and the impact on the corporate outcome.
Ethical Investment **1. Shariah compliant investment: risk and performance**	(Alam, 2010; Ho *et al.*, 2014; Charles, Darné and Pop, 2015; Mazouz, Mohamed and Saadouni, 2016; Nainggolan, How and Verhoeven, 2016; Nasr *et al.*, 2016; Alaoui *et al.*, 2016; Alsaadi, Ebrahim and Jaafar, 2016; Ashraf and Khawaja, 2016; Al-Awadhi and Dempsey, 2017; Umar, 2017; Ashraf *et al.*, 2017; Chen and Ngo, 2017; Mazouz, Mohamed and Saadouni, 2019)	Prior studies are mostly conducted at the index or portfolio level, and only a limited number of studies conduct analysis at the firm level. In addition, the current Shariah criteria only focus on the basic religious criteria (industry and financial screening) and ignore the intrinsic value of religion (the ethical values).

Research Focus	Reference	Gaps
2. Socially responsible investment: risk and performance	(Mallin, Saadouni and Briston, 1995; Renneboog, Ter and Zhang, 2008; Lee *et al.*, 2010; Humphrey and Lee, 2011; Abdelsalam *et al.*, 2014; Capelle-Blancard and Mojon, 2014; Erragragui and Revelli, 2016; Trinks and Scholtens, 2017)	Previous research is unable to derive conclusive evidence on the performance of SRIs. SRI funds indicate either lower performance or are insignificant compared to conventional funds. Thus far, only Erragragui & Revelli (2016) integrate Shariah screening and SRI, yet this study ignores earnings quality.
Earnings Quality	(Dechow, Ge and Schrand, 2010; Sepe *et al.*, 2012; Muttakin, Khan and Azim, 2015; Carey, Liu and Qu, 2017; Chen *et al.*, 2018; Farinha, Mateus and Soares, 2018)	Earnings quality is associated with corporate ethical practices. How earnings quality as an ethical screening criterion influences corporate behaviour is still unexplored.
ESG **1. Risk** **2. Performance** **3. Agency costs**	(Jo and Na, 2012; Mishra and Modi, 2013; Diemont, Moore and Soppe, 2016; Sassen, Hinze and Hardeck, 2016) (Barnea and Rubin, 2010; Attig *et al.*, 2014; Ferrell, Liang and Renneboog, 2016; Bhandari and Javakhadze, 2017; Samet and Jarboui, 2017a, 2017b) (Jo and Harjoto, 2011; Gregory, Tharyan and Whittaker, 2014; Krüger, 2015; Karim, Suh and Tang, 2016; Lins, Servaes and Tamayo, 2017)	ESG contributes to lower risk, high performance, and lower agency costs. However, it remains unclear how ESG, as an ethical screening criterion influences corporate behaviour.

CHAPTER 4

The Influence of Shareholder Country Religiosity on Firm Volatility

Chapter 4 : The Influence of Shareholder Country Religiosity on Firm Volatility

4.1. Introduction

The influence of religion on individual behaviour and economic outcomes has been extensively studied in previous research. Despite the substantial documentation in this area, little is understood about the extent to which religious adherence affects corporate behaviour (Dyreng, Mayew and Williams, 2012; Mcguire, Omer and Sharp, 2012) and how this behaviour can have a significant impact on the volatility of firm accounting and market returns. Walker *et al*. (2012) noted that the relationship between religiosity and ethical behaviour at work still remains elusive. Moreover, no previous studies have tested whether the religiosity in the country of large controlling shareholders can have a significant impact on the volatility of firm returns globally. This study intends to clarify this issue by testing the impact of shareholder country religiosity on the volatility of firm accounting and market returns.

Large controlling shareholders play a pivotal role in shaping corporate decisions. Shareholder monitoring is part of the corporate governance system that functions as a mechanism to reduce agency costs (Jensen and Meckling, 1976). Shareholders can control the firm by determining strategic, corporate business decisions and how management is monitored and compensated (Jensen and Meckling, 1976; Zou and Adams, 2008). Recent studies have reported that the characteristics of large controlling shareholders appear to have significant implications on the risk profile and the performance of companies (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). These studies have highlighted that shareholders with diversified wealth positively affect the volatility of firm returns. The recent findings indicate that the individual characteristics of the shareholder have a vital influence on corporate behaviour. Therefore, it is of great consequence to analyse

whether the level of religiosity where the major shareholders are located or in short 'shareholder country religiosity' can significantly affect the volatility of firm returns.

Barro and Mccleary (2003) argue that religious[25] beliefs stimulate individuals' traits such as honesty and work ethics that can enhance economic performance. Their study highlights the essential motivational element of religion, the social norm aspect (Callen and Fang, 2015), and how religiosity can affect the microcomponent of the economy, i.e. the corporations. Research on banks reveals that religiosity significantly moderates their unethical and risky behaviour (Kanagaretnam, Lim and Lobo, 2011; Kanagaretnam *et al.*, 2015; Abdelsalam, Dimitropoulos and Elnahass, 2016; Adhikari and Agrawal, 2016; Chen *et al.*, 2016; Chircop *et al.*, 2017). At the corporate level, Hilary and Hui (2009) find that firms located in counties with higher levels of religiosity display lower variances in equity returns. However, these researchers focused their analysis on the U.S. and only use the accounting measure of volatility. In a more recent study, Blau (2015) finds that religiosity negatively affects the level of volatility in firm stock returns. Even though Blau (2015) accounts for the impact of religiosity on the stock price and reports the cross-country analysis, the sample still concentrates on foreign firms located in the U.S. and ignores the accounting perspective.

The majority of studies on the impact of religiosity on corporations mostly focus their analysis on the U.S. (Hilary and Hui, 2009; Kumar, Page and Spalt, 2011; Ghoul *et al.*, 2012; Mcguire, Omer and Sharp, 2012; Baxamusa and Jalal, 2014; Callen and Fang, 2015; Leventis, Dedoulis and Abdelsalam, 2015; Adhikari and Agrawal, 2016; Chircop *et al.*, 2017) or represent only one country (Du, 2013; Noussair and Trautmann, 2013; Canepa and Ibnrubbian,

[25] Religion is a form of social norms that can strongly influence the decision and the act of an individual or group (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015). As religion has a remarkable effect on the way individuals think and behaves, it is vital to understand how religion can impact corporate behaviour (Du, 2013).

2014; Du, Jian and Lai, 2015). A few types of research have conducted cross-country analyses (Dyreng, Mayew and Williams, 2012; Blau, 2017), but the firm level sample size has been rather small. As a result, the findings of a focused and small sample may not represent the global environment.

Moreover, prior research does not account for a wider view of religiosity. Most of the studies measure religiosity based on a particular religion such as Christianity (Stulz and Williamson, 2003; Grullon, Kanatas and Weston, 2009; Kumar, Page and Spalt, 2011; Ghoul *et al.*, 2012; Noussair and Trautmann, 2013; Salaber, 2013; Baxamusa and Jalal, 2014) or Buddhism (Du, 2013; Du, Jian and Lai, 2015). Longenecker *et al.* (2004) report that there is insufficient evidence to connect religious commitment with individual ethical judgment using the broad categories of faith.[26] However, the respondents who indicate that religious interests were of high or moderate importance to them demonstrated a greater level of ethical judgment. This outcome suggests that it is critical to measure religiosity based on a more broad and independent view. Kanagaretnam, Lobo and Wang (2015) and Kanagaretnam *et al.*, (2015) use a broad measure of religiosity, but their research focuses on banking institutions. It is vital to understand the impact of religiosity as a whole on non-financial firm behaviour as corporations represent an important component of the economy.

This research extends previous literature which concentrates on analysing volatility either from the accounting or market perspective. Unlike prior research which focuses on the U.S. or only one country, this study covers a global scope. This enables us to compare and contrast various regions and both developed and developing countries. In contrast to previous studies which defined religiosity based on one particular religion, this study use a multi-religion approach when defining religiosity. To the best of our knowledge, this is the first study

[26] In this case Catholic, Protestant, Jewish, other religion, and no religion.

to consider the impact of the religiosity of large shareholder's country on organisational outcomes.

This study constructs a global sample and examines whether the level of religiosity measured by the importance of religion in the shareholder's country is associated with the volatility of firm accounting and market returns. The study hypothesises that the level of religiosity where the shareholder is based will influence the behaviour of controlling shareholder, and significantly influence firm volatility. This argument is primarily built on the social norms theory which suggests that individuals will undertake actions in ways that correspond to the behavioural norms of groups that they are associated with. The behaviour and decision of managers and shareholders who are surrounded by a religious population will be influenced by the religious norms maintained by those in the population (Dyreng, Mayew and Williams, 2012).

The study utilises the instrumental variable approach (two-stage least squares) to tackle the potential endogeneity issue. As discussed in Barro and Mccleary (2003, 2006), secularisation theory (Weber, 1930) points out the possibility of a reverse effect from economic advancement to changes in religiosity. In our case, financial performance, which is part of economic development, is likely to have a similar consequence (Blau, 2017). Secularisation theory suggests that economic development causes individuals to become less religious. The theory also claims that when the economy is more advanced, religion plays a lesser role in a country's political, social and legal decisions (Barro and Mccleary, 2003). Following Barro and Mccleary (2006) the analysis uses a variable capturing the importance of religious authorities in the country. In particular, we use religious democracy as our exogenous instrument. Religious democracy is the percentage of respondents that indicate one of the essential components of a country's democracy is when the religious authorities have the

authority to interpret the law. This variable recognises the influence of religious authorities, which is similar to the state regulation of religion used in Mccleary and Barro (2006). In a variety of tests, the results reveal that this particular variable meets the essential assumptions for a valid instrument.

We find robust evidence that companies that are controlled by the shareholders based in countries with higher levels of religiosity display lower levels of volatility in both accounting and firm-specific market returns. The results are also consistent when religiosity is measured from the perspective of company locations. These findings support the notion that religion, as a set of social norms, is able to curb unethical activities by managers and thus lead to risk-averse behaviour. The results support the view that factors outside common financial characteristics may influence the level of volatility in accounting returns and stock prices (Blau, 2017). However, the impact of religiosity on firm volatility weakens in the long-term for firms located in developed countries. This finding is due to the fact that religiosity is lower in developed countries, which is in line with secularisation theory that suggests development causes people to become less religious. Moreover, the impact of religiosity is slightly different across regions. The influence of religiosity in North America is unchanged, but in the other regions, religiosity shows lower impact compared to the global sample. A robust test following Mcguire *et al.* (2012) further shows that the negative association between religiosity and volatility is stronger for firms with lower external monitoring as measured by the percentage of institutional ownership. This result is consistent with the view that religiosity can function as an alternative and additional control mechanism for corporations.

The study contributes to the literature in several ways. First, this study extends research in corporate governance by examining the impact of religiosity from the outlook of large controlling shareholder on the volatility of firm returns. The results provide robust evidence

that shareholder country religiosity reduces volatility even after controlling for firms with local ownership. Our results extend the findings of Faccio, Marchica and Mura (2011), (García-Kuhnert, Marchica and Mura (2015), and Mishra (2011). This is the first study that tests whether shareholder country religiosity has a significant impact on the volatility of firm returns.

Secondly, this study extends the research on secularisation theory (Weber, 1930) and the urbanisation hypothesis (Mcguire, Omer and Sharp, 2012). As discussed above, the secularisation theory suggests the existence of causality between religiosity and economic development, where modernisation causes religion to lose its dominant influence on social life. Similarly, the urbanisation hypothesis expects the impact of religiosity to be lower in more urbanised areas. The analysis accounts for this endogeneity issue by using an instrumental variable approach and conducts a separate test of the interaction between developed countries and religiosity. Consistent with the theory, the results provide evidence that the negative association between religiosity and volatility is attenuated for firms located in developed countries.

Third, this study uses a global sample and compares the impact of shareholder country religiosity between different regions in the world, namely North America, Central America, Europe, the Middle East and Africa, and Central Asia. We cover multiple countries and multiple religions, utilising one of the largest sample archival studies on the impact of shareholder country religiosity at the corporate level. The analysis exploits a global collection of firm-level data from Orbis and measures of religiosity by the World Value Survey (WVS) that represent almost 90 percent of the world population (Chen *et al.*, 2016). In particular, the overall sample includes up to 57,718 firm-year observations between 2007 and 2016 in 59 countries. This sample is geographically diverse and represents many religious denominations.

The large sample allows for the assessment of cultural differences between different geographical regions and, importantly, the generalisation of findings and significant policy implications for the global market.

Fourth, this research presents comprehensive evidence on the impact of religiosity on the volatility of firm returns by measuring volatility using the accounting and market approach. Accounting returns represent the internal performance made by the firm, but the data is at a low frequency. Market data, on the other hand, is more extensive although it does not directly represent the management's behaviour; it reflects the investors' or market's behaviour towards the firm. Thus, it is vital to utilise both measures of volatility in order to capture a complete perspective. Finally, the study additionally contributes to the literature on corporate governance by conducting additional tests that control for the type of ultimate ownership and external monitoring. The results show a consistent view that the influence of religiosity remains significant after controlling for types of large, ultimate ownership. In addition, the significant impact of religiosity appears stronger for firms with weaker corporate governance mechanisms.

The chapter continues as follows: Section 4.2 discusses the underpinning theory and hypotheses development. Section 4.3 describes the sample selection procedure, the empirical model, and the variable measurements. Empirical results are presented in Section 4.4. Section 5.5 concludes the chapter.

4.2. Theory and Hypothesis Development

4.2.1. Large Controlling Shareholder and Corporate Behaviour

Agency theory suggests that an essential function of large shareholders is their role in monitoring the firm. Large shareholders act as a potential solution to the agency problem by preventing actions that are in conflict with their interests (Cronqvist and Fahlenbrach, 2009; Demarzo and Urosevic, 2014). The mechanism of shareholder control is through direct action,

negotiation with management, and proxy fights (Demarzo and Urosevic, 2014). For instance, managers who repeatedly act against the desires of controlling shareholders are likely to be replaced (Andres, 2008). Thus, it is expected that better monitoring increases output, firm value, and positively contribute to economic development (Demarzo and Urosevic, 2014).

The benefit and incentive of monitoring are proportional to the percentage of shares owned (Jensen and Meckling, 1976). As ownership concentration increases, agency costs are expected to be lower. When ownership is concentrated with a few individuals, it is easier and more efficient for shareholders to directly monitor managerial actions. Based on theoretical modelling, concentrating share ownership leads the largest shareholders to acquire more precise signals of effort and modify the compensation contract (Huddart, 1993). Therefore, the influence of shareholders on corporate behaviour is expected to be higher when the companies are controlled by large shareholders.[27]

Empirical evidence shows that large shareholders indicate a significant impact on firm investment and financial policies (Goergen and Renneboog, 2001; Cronqvist and Fahlenbrach, 2009) and directly contribute to higher risk (Gursoy and Kursat, 2002). Recent studies report that the investment portfolio of large controlling shareholders appears to have significant implications on the risk profile and the performance of companies (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). Firms are reported to engage in riskier investments when controlled by large, diversified shareholders (Faccio, Marchica and Mura, 2011). The result is consistent when similar tests were conducted on the banking sector (García-Kuhnert, Marchica and Mura, 2015). Paligorova (2010) comparably found that shareholders with large equity stakes in more than one company positively affect corporate

[27] On the negative side, concentrated ownership might also lead to some disadvantages, such as extracting private benefits, use control right to maximise their utility, divert funds for personal benefits, and have bias judgement in making investment decision. The conflicts between large and minority shareholders is categorised as agency costs type 2, which could be another prospect for future research.

risk-taking. Mishra (2011) also supports that only diversified and large shareholders pursue non-conservative investment strategies. These studies provide evidence that companies are likely to take more risks when controlled by shareholders with diversified investments. The results indicate that the individual characteristics of the shareholders play a significant role in shaping corporate behaviour.

Furthermore, the important for corporations to respond to the rights of the shareholders as the owner of the firm is also explained in the stakeholder theory. In this theory, the shareholders are one of the main stakeholders of the corporation who has special claims on the firm (Freeman, 2001). Shareholders have a direct connection with corporate actions which can affect or are affected by the corporate performance. Hence, the theoretical and empirical evidence clearly points out that large controlling shareholders can have a significant influence on corporate behaviour and outcomes. Therefore, it is likely that external social factors that shape the shareholders' individual characteristics will have important consequences on corporate performance. Thus, our aim in this study is to examine the impact of shareholder country religiosity on the stability of firm accounting and market returns.

4.2.2. The Influence of Religion

Religion is a vital social mechanism that can strongly influence the decisions and the acts of an individual or group regarding economic decisions and social interactions (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015; Chircop *et al.*, 2017). Religiosity is expected to influence corporate behaviour for three main reasons: (1) religion is a part of social norms; (2) religion is the source of morality and ethics; and (3) religion leads to fear of uncertainty.

Firstly, the social norm perspective of religion. Social norms are a shared value within a society that acts as a social force in shaping individual characteristics regardless of economic

forces (Elster, 1989). Festre (2010, p. 514) defines social norms as "*an external rule shared by a group, sustained both by sanctions and by emotions of guilt and shame, whose primary characteristic is that it enjoins its followers to forgo selfish benefits in the name of group benefits*". Following this conjecture, religion can be perceived as a form of the social norm with specific guidance and rules that strongly influence the decision or the acts of individuals regardless of personal or economic benefits. Individuals and organisations adhere to the religious norms that derived from the emotion of guilt and shame and feel accountable for their actions towards the society.

Social norms can influence finance and the economy by affecting social value, the country's legal system, and how resources are allocated in an economy (Stulz and Williamson, 2003). Social Norms can also influence the economic outcome by changing a person's utility function and political preferences (Guiso, Sapienza and Zingales, 2006). Thus, integrating social norm elements in economic research is used to capture the nuances of the real world (Guiso, Sapienza and Zingales, 2006). A form of control mechanism by society to ones who violate such norms is in the form of open criticism and withdrawal of social support. Conversely, those who comply with the norms may receive higher levels of social recognition and respect (Kanagaretnam, Lobo and Wang, 2015). This public reaction will act as a form of external control mechanism to the corporations. Pirinsky and Wang (2006) support the view of the social norms and find evidence that the price movement of the equity market is linked to the trading patterns of local residents.

Hence, as the religious norms of the local population is a central component of the environment in which managers live and operate, social norms theory predicts that managers will be influenced by the local religious norms regardless of their religious adherence (Mcguire, Omer and Sharp, 2012). The impact of social norms can cause managers to change

their behaviour or find employment in areas that match their fixed preferences (Dyreng, Mayew and Williams, 2012). It is likely that shareholder located in more religious societies will try to avoid social sanctions and subscribe to prudent behaviour, and this influence will affect the controlled firm.

Secondly, religiosity is a primary source of morality and ethical behaviour. The role of religion in guiding expectations and its influence on one's self-identity explains the direct influence of religion on the individual, ethical behaviour in organisations (Weaver and Agle, 2002). Weaver and Agle (2002) further rationalise that the more salient the religious identity, the more likely a person will comply with the role expectations of the religion and the more difficult it will be for other factors to influence his or her decisions. Unethical behaviour such as dishonesty that can deteriorate the company's performance is explicitly condemned in the teachings of all religions.

Longenecker, Mckinney and Moore (2004) supports the above view and finds that business managers and professionals who indicate that religious interests were essential to them demonstrated a higher level of ethical judgment. Likewise, religiosity was found to reduce the willingness of individuals to behave unethically (Kennedy and Lawton, 1998), and a more religious person (measured by attendance to religious services) was less likely to cheat (Bloodgood *et al.*, 2008). Local religiosity also was found to control bad-news-hoarding activities by managers, where firms located in a highly religious country indicated lower levels of future stock price crash risk (Callen and Fang, 2015).

The support of religiosity towards ethical behaviour in corporations is more pronounced in the studies of earnings management. (Du, Jian and Lai (2015) report robust evidence that religion is significantly and negatively linked to the unethical practice of earnings management by local companies. Banks in countries with higher religiosity exhibit a lower probability of

reporting asset deterioration (Kanagaretnam, Lobo and Wang, 2015). Moreover, companies headquartered in highly religious countries have a lower possibility of backdating options, practice aggressive earnings management, and are involved in securities lawsuits (Grullon, Kanatas and Weston, 2009). Religiosity also reduces the probability of financial restatement and misinterpretation of financial statements (Dyreng, Mayew and Williams, 2012). The assumption of firm high ethical behaviour in religious areas further results in reduced audit fees (Leventis, Dedoulis and Abdelsalam, 2015). The consistent findings imply that religiosity has outstanding effects on the way an individual thinks and behaves and therefore can deter undesirable corporate behaviour (Du, 2013). Religiosity instils financial conservatism that has an impact on ethical decisions in a corporate environment (Kanagaretnam *et al.*, 2015; Adhikari and Agrawal, 2016). Therefore, it is anticipated that religion can serve as an effective control mechanism that can reduce the excessive volatility in firm returns.

Finally, religion creates a sense of anxiety and a fear of uncertainty (Hilary and Hui, 2009). Religion upholds modesty in financial pursuit, prioritises spiritual engagement over monetary gain, and promotes absolute belief in God, especially in times of fiscal and other hardships (Adhikari and Agrawal, 2016). The result of individuals striving to reduce subjective amounts of anxiety and uncertainty, and adherence to religious teachings in their lives, will lead to risk-averse behaviour (Hilary and Hui, 2009; Adhikari and Agrawal, 2016). Thus, this can contribute to more stable corporate returns.

Consistent with the above notion, an examination by Hilary and Hui (2009) supports the proposition that religiosity leads to risk aversion at the individual level. Their analysis further demonstrates that this relationship also influences organisational behaviour; firms located in countries with higher levels of religiosity are exposed to less volatility as measured by the variances in equity returns or returns on assets. Noussair and Trautmann (2013) support

the individual perspective and find strong positive evidence that people with more regular church membership or attendance are more risk-averse in terms of financial risks. In addition, companies founded by religious entrepreneurs are reported to have lower debts and invest less in fixed and intangible assets, thus exhibiting less risky decisions (Jiang *et al.*, 2015).

Similarly, in the financial sector, banks headquartered in more religious areas reveal strong evidence of lower volatility in stock returns, have a lower likelihood of insolvency, and remain less vulnerable to crises (Adhikari and Agrawal, 2016). These banks grow more stable assets, hold less risky assets, rely more on traditional banking, and do not encourage their executives to increase risks. The finding is further verified in the analysis across 30 countries, where banks located in more religious countries display lower levels of risk in their decision making and are more stable during the recent financial crisis (Kanagaretnam *et al.*, 2015). (Chircop *et al.*, 2017) further support that the religiosity of the geographic area significantly influences bank behaviour, as evidenced by the adverse relationship between branch religiosity and bank risk-taking.

4.2.3. The Theoretical Relationship and Hypothesis

The above theoretical and empirical views support the significant relationship between religious norms, large controlling shareholders, and firm stability. Social norms can be regarded as an everyday code of conduct that determines how a person behave in certain situations (Festré, 2010). In this perspective, the social norms surrounding the shareholder will act as an important driving force to distinguish the behaviour of the shareholder. This distinguish behaviour include the perception and attitude towards ethics and risk which is not driven by economic forces. The incentive to comply with such norms is largely to gain social

acceptance or approval.[28] The positive (negative) emotions with regard to social approval (disapproval) are vital to understanding how social norms interact with formal institutions.

Individuals in society will obey the norm to receive social approval in the form of social recognition and to avoid disapproval, which can arise in the form of social ostracism and physical violence (Elster, 1991). Individuals are affected by the norms because of social preferences which are supported by the intrinsic and extrinsic motivations. A substantial fraction of the society exhibits social preferences as they do not only care about the material resources allocated for them but also cares about the material resources allocated to relevant agents (Fehr and Fischbacher, 2002). The social approval and disapproval, and the individual social preferences have contributed to individual intrinsic and extrinsic motivations to comply with the norms.[29] As corporations are managed and controlled by the individual, it is likely that the behaviour of the corporation will be affected by the norms of the individual who control the organisations. This connection has led to the social norms – individual – corporation relationship.

The connection between social norms and corporate behaviour is also explained in the relationship between formal and informal institutions.[30] This relationship exists as a result of an isomorphic process between the organisation and the institutional environment such as religion (Meyer and Rowan, 1977). This process comes from normative social pressure on corporations to respond and adapt to the environmental structures (Zucker, 1987). The pressure for corporations to comply with the norms can come informally or formally from the society

[28] See section 2.2.1 in Chapter 2 for a detail discussion about social norms theory.
[29] The intrinsic motivations are the self-satisfaction for conformity with the norms such as the desire for prestige, esteem, popularity and acceptance, and to avoid the feeling of shame and guilt for violating the norms. Extrinsic motivation includes social rewards such as social recognition and the concern for reciprocal fairness in social interactions.
[30] See section 2.5.1 in Chapter 2 for more explanation about the connection between formal and informal institutions.

or other organisations respectively within which the organisations operate. This societal landscape affects corporate behaviour as it forms the building blocks for organisations as what to consider as proper, adequate, rational or important. Social norms influence corporate behaviour through the controlling shareholder and through direct social pressure.[31]

In relation to the social norms – individual – corporation relationship, this study expand the theoretical connection between religious norms and corporate performance based on the theoretical link that transmits ethics into shareholder value creation (Donker, Poff and Zahir, 2008). As explained in 4.2.2 above, religious norms is one of the primary source of ethical and moral behaviour. Therefore, shareholder originated from a religious country is expected to demonstrate a higher level of ethical judgment that affects his or her controlling behaviour and leads to a direct influence on corporate ethical commitments. This ethical values affect corporate performance by affecting internal *corporate behaviour* and external *market responses*. As described in the theoretical model of Donker, Poff and Zahir (2008), ethics influence corporate behaviour by establishing *responsible management* and lead to positive market responses by conveying the information about *corporate commitments* towards their stakeholders.

The corporate information about ethical commitment will have an impact on individual behaviour and the organisation in spreading the corporate moral norms and values. Corporations with high ethical reputations among stakeholders inclined to experience a positive impact on corporate economic performance.[32] The market response will lead to a long-term impact on market performance identified using market variables. The management's

[31] This relationship is illustrated in Figure 2.1 in section 2.1.1 of Chapter 2.
[32] This position is also supported in the legitimacy and stakeholder theory.

responsibility on the other hand will be more pronounced in the short-term identified using accounting variables. This factor will then translate into a stable corporation or low volatility.

It is important to note that the influence of religious controlling shareholders will be moderated by the secularisation in society. Secularisation is a process of rationalisation and disenchantment of religious teaching as a result of modernity. Secularisation leads to the social transformation from close afflation with religious values towards materialistic aspects. In short, secularisation theory hypothesise that economic development will loosen the influence of religion in the society and causing an individual to become less religious. Therefore, secularisation will affect both market and accounting performance, especially in the developed nations.[33]

In addition to the above theoretical connection, prior literature consistently shows the positive impact of religion as a form of social norm on ethical behaviour and risk-aversion. This study, therefore, predicts that religiosity may be another indicator that can affect the volatility of firm returns. By linking the importance of large controlling shareholders and the influence of religiosity on corporate behaviour, it is expected that the level of religiosity where the shareholders are based can have a vital influence on the characteristics of the shareholder, thus leading to a high tendency to affect corporate outcomes. The first measure of volatility is accounting volatility, it is defined by how much a company's return on assets in five years differs from its mean value: the standard deviation. This variable represent the direct internal corporate behaviour affected by the managerial decisions and business performance. Therefore, hypothesis H1 can be constructed as follows:

[33] See section 2.2.1 for the discussion about secularisation theory.

H1: Firms controlled by shareholders that are based in more religious countries are likely to have lower volatility in accounting returns.

Second, to capture the comprehensive impact of religiosity on the volatility of firm returns, the study also takes into account the market measurement of firm volatility. This is measured by firm-specific (idiosyncratic) volatility defined as the standard deviation of the residuals from a market model regression. Idiosyncratic volatility referred to the volatility that is prevalent to a particular company and not the overall uncertainty that effect the market like the fluctuation in the stock market as a result of investors' buying and selling activities. On average, idiosyncratic volatility accounts for over 90% of the total security risk for a company over time compared to the overall market risk (Vozlyublennaia, 2013). Thus, the level of idiosyncratic volatility indicates important consequences for the amount of information carried by stock returns (Brown and Kapadia, 2007).[34]

This firm-specific volatility are the factors that affect the company's stock and its underlying businesses at the micro level. The factors include the company's financial and investment policy, management decisions, business operations, and also the location of operations and corporate culture. In particular, the firm characteristics that was found to explain idiosyncratic volatility are book-to-market, leverage, firm size, earnings per-share, turnover, growth opportunities, profit margin, and industry composition (Brown and Kapadia, 2007; Vozlyublennaia, 2013).

Consistent with the above arguments, the social norms of shareholder's country influence shareholder's individual characteristics, which effect their controlling behaviour. The shareholder's controlling behaviour exhibits a significant influence on firm's idiosyncratic

[34] See Brown & Kapadia (2007) page 359 for the importance of analysing idiosyncratic risk.

volatility as major controlling shareholders play important roles in directing the corporate internal policies, business decisions and the corporate culture. Vozlyublennaia (2013) report that the characteristics of the shareholder (institutional ownership) able to explain the variations in idiosyncratics volatility across companies. Hence, as religion instils financial conservatism, low tolerance to uncertainty, and high ethical judgement, firms controlled by the shareholder from the religious country is expected to have lower market uncertainty measured by idiosyncratic volatility. Consequently, hypothesis H2 is as follows:

H2: Firms controlled by shareholders that are based in more religious countries are likely to have lower firm-specific market volatility.

4.3. Data and Methodology

To address the hypotheses at a global scale, the study gathers data from different databases, namely Orbis by Bureaux Van Dijk, the Thomson Reuters' Datastream, Thomson Reuters' Eikon, the World Value Survey (WVS)[35], and the World Bank Database. Orbis is the primary source of data that covers accounting and ownership data for the global sample, Datastream is the source for market price data, Eikon provides the scores for earnings quality, WVS provides the measures of religiosity, and World Bank is the source for country economic and governance variables. The analysis divides the sample into two datasets: Panel A for accounting volatility and Panel B for market volatility. Both Panel A and Panel B are unbalanced panel data sets between 2007 and 2016. As a result of the selection process, Panel A covers a higher number of countries but with a fewer number of observations than Panel B. Table 4.1 in section 4.4.1 lists the number of companies and observations for each country in the sample.

[35] The World Values Surveys (WVS) is a non-commercial and non-governmental international social survey organization headquartered in Vienna, Austria. WVS is comprised of a global network of social scientists led by an international team of scholars with the main objective of exploring values and their impact on social and political life globally. The first survey was carried out in 1981 and all the data is publicly accessible from www.worldvaluessurvey.org.

Precisely, the initial global accounting data for all active and listed non-financial companies in Orbis from 2007 to 2016 consists of 48,073 firms with 480,730 observations. For Panel A (accounting volatility), the sample is further restricted to companies with at least five years of available data for EBIT (earnings before interest and tax), shareholder equity and total assets. Following Faccio, Marchica and Mura (2011), the five-year period is a requirement to compute accounting volatility (volatility of ROA and ROE). This process has reduced the sample to 39,670 firms and 326,965 observations. An additional requirement for the sample is that the country should have at least two companies. After merging the accounting volatility data with the shareholder-year data, religiosity score and main control variables, the final sample for Panel A includes 12,917 companies from 59 countries with 35,632 firm-year observations.

For Panel B, the weekly firm stock price and country index price from 2007-2016 are obtained from Datastream for all listed firms with available accounting data. This process has resulted in 10,907,300 firm-weakly observations for the firm stock price and 25,480 observations for country index price. After computing the market volatility based on the method explained in 4.3.3.2, the available firm market volatility variables are merged with the shareholder-year information, religiosity and main control variables. Similar to Panel A, the sample in Panel B includes only countries with at least two firms. Through this selection process, the final sample for Panel B comprises 13,421 companies from 53 countries with 57,718 firm-year observations.

4.3.1. Endogeneity Issue and Estimation Technique

This study analyses the relationship between shareholder country religiosity and the measures of firm volatility. As argued in Barro and Mccleary (2003), it is likely that economic development is reverse causing the changes in religiosity. This argument is explained by

secularisation theory which suggests that economic advancement causes individuals to become less religious (Barro and Mccleary, 2003). Blau (2015) argues that financial development as a part of economic development, measured by the stability of stock prices, might have similar consequences as the economy. On the basis of these arguments, volatility measured by the stability of companies' accounting and stock price returns could have a reverse causality relationship with the level of religiosity. This relationship has violated one of the main assumptions in the classical linear regression model by creating a condition where the error distribution is not independent of the regressors' distribution. Therefore, this study uses an instrumental variable (IV) estimator to allow for possible endogeneity.

The two most prominent IV estimators are the two-stage least squares (2SLS) and generalised method of moments (GMM). The GMM estimator is more efficient than the simple IV estimator in the presence of heteroskedasticity. However, if heteroskedasticity is not present, the GMM estimator is not asymptotically efficient compared to the IV estimator (Baum, Schaffer and Stillman, 2003). In addition, GMM is more efficient in an over-identified model where the number of instruments exceeds the number of parameters. In the case of the exact-identified model, the GMM estimator coincides with the 2SLS estimator, which also corresponds with the indirect least-squares estimator (Judge *et al.*, 1985, p.595).

As the model in this study is exactly identified, following Barro and Mccleary (2003), Blau (2015) and Mcguire, Omer and Sharp (2012), the two-stage least squares (2SLS) regression is employed to address the potential endogeneity issue. The model which will be discussed in the next subsection is tested using robust regressions and is clustered by the firm to control for heteroskedasticity in the time series observations. Hence, in the context of this

estimation approach, there is no advantage to choosing GMM over 2SLS and both estimators are likely to produce a similar output.[36]

The next issue is whether to perform ordinary pooled 2SLS or the 2SLS using the panel data estimation technique of fixed-effects or random effects. As discussed in Baltagi (2013), Hsiao (2014) and Wooldridge (2010), fixed effects and random effects estimators assume that each unit in the panel structure (which are firms in our case) have their own intercepts, and, at the same time, restrict the slope to be homogenous. These estimations accommodate the heterogeneity in the individual specific effects (λ_i) by decomposing λ_i into two independent components or composite error terms ($\varepsilon_{it} = \lambda_i + u_{it}$). In general, fixed effects assume that λ_i are constant for each individual while in random effects λ_i are drawn independently from some probability distribution.

The random effects model assumes that λ_i is a random variable and uncorrelated with the regressor or $\text{Cor}(\lambda_i\, x_{it}) = 0$. Thus, to perform a random effects estimator, the model needs to satisfy this central assumption. To confirm this, this study runs a preliminary test using a pre-developed model mimicking the model (1) in section 4.3.2 below and runs Wooldridge's (1995) score test to identify whether the individual specific effects are correlated with the regressor. The null hypothesis is $\text{Cor}(\lambda_i\, x_{it}) = 0$, and the result of the test indicates that the p-value of Wooldridge's (1995) score test is 0.000 which is significant at 1%, thus leading to the

[36] To clarify this assumption, this study tests the model using GMM and confirms that the results of GMM estimations are exactly similar to the 2SLS estimations. Because of the exact similarity, the results of GMM models are not reported in this thesis.
Another approach for GMM is the dynamic panel GMM estimator of Arellano-Bond (1991) difference GMM estimator, and Blundell and Bond (1991) and Blundell and Bover system GMM estimator (1995, 1998). These dynamic models include the lag value of the dependent variable (y_{it-1}) as the independent variable and generate the instruments from lags to address the endogeneity issue. However, to apply these estimation approaches, the models need to satisfy the Sargan test for overidentifying restrictions and the Arellano-Bond test for autocorrelation. This thesis rejects the use of dynamic GMM estimators because after performing the preliminary test, the models fail to meet these primary conditions which lead to bias results. Additionally, as the instruments are generated from lags, this can lead to the disadvantage of GMM concerning the issue of instrument proliferation (too many instruments), where instruments grow quadratically in *t* and GMM becomes inconsistent as the number of instruments diverges.

rejection of the null hypothesis. This result indicates that λ_i is not independent and the random effect model is not appropriate and suggests the use of a fixed effects estimator.

In the fixed effects model, individual specific effects are assumed to have individual specific intercepts which are not correlated with the regressor or $\text{Cor}(\lambda_i x_{it}) \neq 0$. The fixed effect estimator proceeds by removing λ_i from the model, which is considered as the source of the problem, and then running OLS on the resulting model. The fixed effects estimator relies on estimating heterogeneity within the group or time series variations. Therefore, the major drawback of this estimator is that the effects of variables that do not change over time cannot be identified. In the context of this study, the main variable which is shareholder country religiosity is a time-invariant variable that only changes every five years.[37] Hence, the fixed effect estimator is not suitable to fulfil the main objective of this study which is to examine the influence of shareholder country religiosity on firm volatility.

Consequently, within the context of the main objective of this study, the nature of the variable measurement and the specified model, 2SLS using ordinary pooled model is indicated as being the most efficient estimator. [38] The pooled model basically postulates that both the intercept and the slope are identical across unit and time. This assumption, however, might lead to a heterogeneity bias because there are a number of intuitive reasons to consider the various effects of independent variables across unit and time. For instance, it is likely that the influence of shareholder country religiosity on the volatility of company A is significantly different from company B when both of these companies have different capital structures and operate in different business environments. Therefore, to overcome this issue, the study developed an empirical model that controls for a number of firm characteristics, country factors

[37] See section 4.3.4 for the definition and data source of religiosity and 4.3.5 for Shareholder country religiosity.
[38] Based on the objective of this study, the specified model combines firm-level and country-level variables leading to different time variant measures. Therefore it is not applicable to control for either firm or country fixed effects.

such as economy, governance and culture, and additionally controls for industry and time fixed effects. The model also clusters at the firm level to exploit the panel structure of the data.

4.3.2. Empirical Model

This study employs 2SLS regression following Barro and Mccleary (2003), Blau (2015) and Mcguire, Omer and Sharp (2012), to analyse the relationship between shareholder country religiosity and firm volatility, and also to address the potential endogeneity issue. The study used as an instrument the exogenous variable that has a high correlation with religiosity: religious democracy. Religious democracy is the percentage of citizens that regard an essential characteristic of democracy as when the religious authorities have the power to interpret the laws. The idea of using the religious democracy variable as an instrument is similar to the approach of Mccleary and Barro (2006) that uses the state regulation of religion as an instrument for country religiosity. State regulation of religion is an indicator variable capturing whether or not a particular country has formally recognised religious authorities. Similar to this, religious democracy also denotes the recognition of religious authorities in the country. Religious democracy additionally indicates the existence of freedom to practice religion in the country. As opposed to freedom, religiosity is believed to be lower in countries that explicitly restrict religious practices, such as in communist countries (e.g. China) (Barro and Mccleary 2003). Therefore, it is intuitive that religious democracy has a positive effect on the level of religiosity.

To determine the efficiency of this instrument, a simple correlation analysis between religious democracy and the measures of religiosity were conducted. Religious democracy is positively correlated with Religiosity (0.6749, significant at 5%) and is positively correlated with the alternative measure of religiosity: religious member (0.6766, significant at 5%). On the other hand, the correlation between religious democracy and the four measures of firm

volatility are all less than 0.006 and are negatively insignificant. These simple tests have indicated that the instrument is orthogonal to the dependent variables but heavily correlated with the independent variables of interest. As such, religious democracy meets the necessary conditions required for the identification of a valid instrument.

In particular, the relationship between religiosity and the measure of firm volatility is tested using the following procedure: In the first stage, the endogenous variable (Religiosity) is regressed on the instrument (Religious Democracy) including the exogenous independent variables. The second stage uses the predicted value of religiosity from the first stage regression as the independent variable of interest.

$$Volatility_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \sum_{i=1}^{n} \beta_i Controls_{it} + YearFE + IndustryFE \quad + \varepsilon_{it} \tag{1}$$

Where:

Volatility = measures of accounting and market volatility

Religiosity = the predicted value of religiosity in the country where the company's major controlling shareholder is based.

Controls = a list of identified firm and country observable determinants of volatility

YearFE = year fixed effects

IndustryFE = industry (2 digits NAICS industry codes) fixed effects

The definition of variables is discussed below in detail. All tests use robust regressions and are clustered by the firm to exploit information in the cross-sectional and time-series nature of the data and to control for heteroskedasticity and the serial correlation in firm time series observations.

4.3.3. Dependent Variable: Volatility

4.3.3.1. Accounting measurement of volatility

The study employs the volatility of return on assets (ROA) as the main measure of accounting volatility, and, additionally, uses return on equity (ROE) as the alternative measure in the robust analysis. The volatility is calculated using the standard deviation method as in (2).

$$\sigma_x = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1}} \tag{2}$$

In the above, *x* represents ROA or ROE. ROA is defined as the ratio of earnings before interest and tax (EBIT) divided by total assets, and ROE is the ratio of EBIT to shareholder equity. Both ROA and ROE are adjusted with the country-industry returns. The standard deviation of ROA and ROE is calculated over five consecutive year overlapping periods. This process will reduce the observations to six years. As mentioned above, following Faccio, Marchica and Mura (2011) and García-Kuhnert, Marchica and Mura (2015), firms with less than five years of ROA (ROE) data will be excluded from the sample. Therefore, for each firm, at least a single observation of firm accounting volatility (sd_ROA/ sd_ROE) is generated and the control variables are measured at the first available year-end. As in Faccio, Marchica and Mura (2011), the adjusted ROA and ROE are calculated by finding the difference between a firm's ROA (ROE) and the average ROA (ROE) for each year across all firms in the same four digit NAICS industry code and from the country in which the company is registered. This method will derive a cleaner measure of accounting volatility by removing the influence of the countries of origin, the industry's economic cycles, and the controlled actions of insiders.

4.3.3.2. Market measurement of volatility

The main measure of market volatility employed in the analysis is idiosyncratic volatility (Idio_volt). To derive idiosyncratic volatility, an estimation of the firms' weekly stock returns is calculated using the following formula:

$$Return_t = \ln(Price_t) - \ln(Price_{t-1}) \quad (3)$$

Idiosyncratic volatility is estimated using the market model regression augmented using the Fama–French three-factor[39] model as follows:

$$Return_t = \alpha + \beta_1 Market\ Return_t + \beta_2 SMB_t + \beta_3 HML_t + \varepsilon_t \quad (4)$$

Where:

$Return_{it}$ = firm's weekly stock returns calculated using formula (3)

Market Return$_t$ = weekly index return for each country calculated using formula (3)

SMB = Fama-French returns factors, where SMB stands for "Small Minus Big" (in terms of market capitalization)

HML = Fama-French returns factors, where HML stands for "High Minus Low" (in terms of book to market ratio)

Model (4) is calculated for each company on a yearly basis. Idiosyncratic volatility is the standard deviation of the residuals from this model. In addition, we use total volatility (Total_volt) as the alternative measure of market volatility. Total volatility is calculated as the standard deviation of a firm's weekly stock returns over the last year. Finally, following Sila

[39] See Fama & French (1993) for a complete description of these factor returns. This study constructs our own measure of Fama-French factors (SMB and HML) for each country using our extensive collection of weekly firm stock prices.

et al. (2016), to annualise these variables, total volatility and idiosyncratic volatility are multiplied by the square root of 250.

4.3.4. Religiosity

Consistent with prior research, the study captures religiosity at the geographical level by utilising the main variable, which is the importance of religion in the country (Mcguire, Omer and Sharp, 2012; Kanagaretnam *et al.*, 2015; Kanagaretnam, Lobo and Wang, 2015; Leventis, Dedoulis and Abdelsalam, 2015; Chen *et al.*, 2016). This variable represents the affective element of religiosity (Mcguire, Omer and Sharp, 2012), which relates to a person's feelings and attitudes towards religion. The importance of religion implicitly denotes the level of religious adherence and awareness by the society in the country. Specifically, religiosity is measured using the responses to the World Value Survey research. It is the percentage of respondents in the country who indicate that religion is important to themselves. WVS is an international survey on thousands of respondents from 99 countries worldwide (Kanagaretnam, Lobo and Wang, 2015). Religiosity data is obtained over the two most recent WVS. WVS wave 5 (2005-2009) and WVS wave 6 (2010-2014), as the sample period, cover 2007 to 2016.[40] In the robustness test, the analysis employs an alternative measure of religiosity: religious membership. This variable denotes the percentage of the respondents that have a membership with religious organizations. This behavioural element of religiosity represents the degree of religious adherence through the time devoted to religious activities.

[40] According to WVS, the next survey fieldwork for WVS wave 7 will be conducted worldwide from 2017 until 2018. Therefore, the study assumes that the religiosity score for 2015 and 2016 will follow the most recently available WVS survey: WVS wave 6. As in Kanagaretnam, Lobo & Wang (2015), the religious score is matched with the firm-year financial data using the most recent WVS survey.

4.3.5. Shareholder Country Religiosity

The measurement of shareholder country religiosity begins by identifying the large ultimate controlling shareholders for all companies. Large shareholders are defined as shareholders holding at least 5% of voting rights.[41] The ultimate ownership is identified through a pyramiding technique. This approach was earlier used by Faccio, Marchica and Mura (2011), Faccio and Lang (2002), and La Porta, Lopez-De-Silanes and Shleifer (1999). As explained by Faccio, Marchica and Mura (2011), in this process, whenever the direct shareholder of a firm is another firm, the study will search through multiple levels of ownership until reaching the ultimate owner. If a shareholder *i* owns a fraction a_{iy} of the shares of firm *Y*, which owns a fraction β_{yi} of the shares *J*, the shareholder *i*'s control over voting rights in *J* is the weakest link in the chain, the minimum being a_{iy} and β_{yi}. A significant improvement in applying this calculation over prior studies is that Orbis provides extensive information on firms and ownership data around the globe and covers private as well as public companies. The study will query for multiple levels of ownership within the database rather than within the sample. This gives a significant advantage and an excess of queries over the extensive coverage of the Orbis global database. After identifying the largest ultimate controlling shareholder for all companies with available ownership data, the study then matches the shareholders' countries with the religiosity data from WVS. Hence, shareholder country religiosity represents the level of religiosity where the shareholder is based, which is expected to have a strong influence on the characteristics of the shareholders.

[41] There is no unanimous theoretical ground in defining blockholders, but, normally, blockholders refer to shareholders that hold 10% (Faccio and Lang, 2002; Bodnaruk *et al.*, 2008; Laeven and Levine, 2008; Mishra, 2011) or at least 5% (Li *et al.*, 2006; Cronqvist and Fahlenbrach, 2009) of equity ownership of the firm. The cut off of 5% is conventionally used in the literature as it represents a minimum significant threshold of votes as most countries mandate the disclosure of 5% ownership stakes.

4.3.6. Main Control Variables

A set of main control variables is identified based on previous literature. Specifically, the control variables are as follows: (1) Local ownership is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company and 0 otherwise. This variable is crucial to verify that the impact of religiosity is not biased to the geographical location of the company and consistent for the company with foreign ownership. (2) Profitability is defined as the ratio of EBIT to total assets (ROA). Profitability is included as the main control variable to cater for the differences in management quality, as it is arguable that the high volatility of company returns could be the result of poor management ability rather than excessive risk decisions (Faccio, Marchica and Mura, 2011). (3) Size is the natural logarithm of firm total assets, where total assets are the sum of fixed and current assets. (4) Leverage is measured by the ratio of total debt to total assets; total debt incorporates current and noncurrent liabilities. (5) Sales growth is the annual growth rate of sales. (6) Age is calculated as the natural logarithm of 1 + the number of years since incorporation. This variable will control for differences in the life cycle of a firm as it is expected that firm volatility possibility declines with firm age (Faccio, Marchica and Mura, 2011). (7) Big 4 is a dummy variable equal to 1 if the firm auditor is one of the big four audit companies (Deloitte, Price Waterhouse, Ernst & Young, and KPMG). This variable indicates the audit quality of a firm; it is expected that firms using one of the big four audit companies will have higher accounting quality and lower volatility. (8) GDP growth is measured by the annual change in the estimated GDP of a given country at constant 2005 prices. As the sample includes multiple countries, this variable will control for economic development in the country that can indirectly influence the volatility of firm returns.

(9) Market size is the equity market capitalization of listed firms in the country as a percentage of total GDP. Mishra (2011) finds that the market size of listed firms in the country significantly affects the stability of firm returns. (10) Corruption measures the control of corruption among the government and officials in the country. This variable takes a score between 0 and 100 where higher scores indicate a greater level of control for corruption. Abdelsalam et al. (2016) document that corruption is a significant determinant of company accounting quality, hence it is presumed that corruption will influence the volatility of corporate returns. (11) Uncertainty avoidance is the Hofstede's culture variable that measure the degree to which the members of a society in a country feel uncomfortable with uncertainty and ambiguity. Prior studies show that the volatility of corporates returns is strongly related to a particular cultural element in society. Corporations located in countries with low tolerance to uncertainty are likely to be risk-averse by having a lower likelihood of insolvency and low variance of corporate returns (Li *et al.*, 2013; Mihet, 2013; Ashraf, Zheng and Arshad, 2016). Cultures with higher uncertainty avoidance have a greater degree of anxiety and prefer a more predictable environment, thus leading to lower volatility. Therefore, it is important to demonstrate that the influence of religiosity on firm volatility is not affected by other cultural norms in society.

4.4. Empirical Results

4.4.1. Descriptive Statistics

The sample is divided according to the measures of volatility: Panel A for accounting volatility and Panel B for market volatility. This sample includes 12,917 firms and 35,632 observations in Panel A, and 13,421 firms with 57,718 observations in Panel B. The sample includes at least two firms from a maximum of 59 countries. However, in both Panel A and Panel B three countries represent a significant fraction of the sample: China (15.87% in Panel A and 18.52%

in Panel B), Australia (13.3% in Panel A 14.74% in Panel B), and India (9.19% in Panel A and 9.75% in Panel B). Twenty-one countries in the sample are developed nations that represent almost half of the sample size. In particular, the developed countries consist of 14,652 firm-year observations in Panel A and 22,001 firm-year observations in Panel B.[42]

In Table 4.1, the descriptive statistics are reported for the main variables used in the analysis. The first two lines present the descriptive of the dependent variables, followed by the measures of religiosity and the main control variables. The descriptive results show that religion, overall, is somehow important amongst the global community with more than a 50% average score. In Panel A, the results indicate that 23% of companies are controlled by foreign owners, around 28% of firms are audited by a Big 4 auditor, 25% of firm-year observations experience loss, and 44% of firms are from developed countries. The results are slightly similar in Panel B where about 22% of the companies are controlled by foreign owners, 31% of firms are audited by a Big 4 auditor, about 19% of firm-year observations experience loss in the current or previous fiscal periods, and approximately 42% of the firms are from developed countries.

Figure 4.1 shows the top, median, and bottom five countries in the sample based on the main measure of religiosity derived from WVS. It is clear that China represents the lowest score of religiosity with only 16.2% of the respondents stipulate that religion is important in their lives. Similarly, as part of China, Hong Kong (27.1%) indicates that religion is less important for the majority of citizens. Religiosity also appears to be low in Vietnam (32.4%). These scores confirm the argument of Barro & Mccleary (2003) that claim religiosity should be lower in communist countries that suppress religion. Religiosity also appears to be lower in developed countries such as the Netherlands (30.2%) and Norway (32.7%). The level of

[42] See Appendix A.1 for the list of countries with the distribution of observations

religiosity in these developed countries verifies secularisation theory as discussed above. The theory suggests that economic advancement causes individuals to become less religious (Barro and Mccleary 2003). This further strengthens the argument of reverse causation between religiosity and economic or financial development. Finally, the highest religiosity mostly comes from MENA countries such as with Morocco (98.7%), Egypt (99.5%), and Jordan (99.6%).[43]

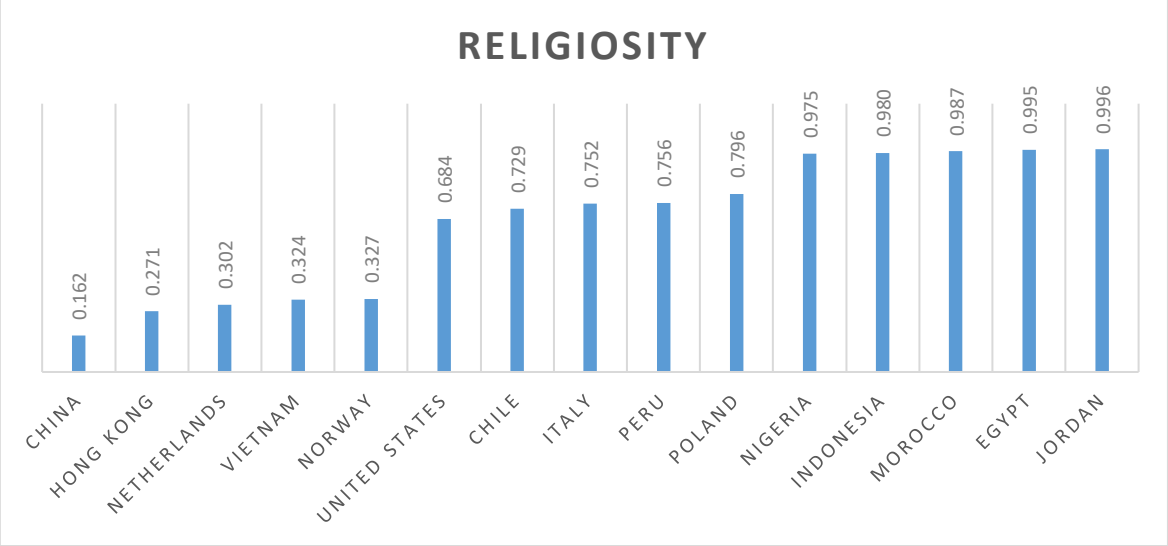
Table 4.1: Firm-level summary of descriptive statistics for main dependent and independent variables

Variables	**Panel A: Accounting Volatility**			**Panel B: Market Volatility**		
	Mean	**Median**	**Std. Dev.**	**Mean**	**Median**	**Std. Dev.**
sd_ROA	0.5588	0.0375	14.4181			
Idio_volt				1.1071	0.8915	0.8160
Shareholder Country						
Religiosity	0.5225	0.4080	0.2810	0.5084	0.4080	0.2968
Local owner	0.7761	1.0000	0.4169	0.7840	1.0000	0.4115
Profitability	-0.2521	0.0132	29.1787	-0.1960	0.0052	34.2434
Size	11.8085	11.8685	2.4844	12.0030	12.0795	2.4027
Leverage	0.9976	0.4848	27.5406	1.1209	0.4746	31.2361
Sales growth	1.5152	0.0000	28.0922	1.6629	0.0000	31.2400
Age	3.0425	2.9957	0.8999	3.1197	3.0445	0.8126
Big 4	0.2812	0.0000	0.4496	0.3150	0.0000	0.4645
GDP growth	0.0001	0.0000	0.0022	0.0002	0.0000	0.0087
Market size	87.7430	66.0235	97.7166	92.9160	74.0015	99.6667
Control of Corruption	64.0947	62.6214	27.7428	66.3593	64.4231	25.7997
Uncertainty avoidance	55.2708	51.0000	23.5888	50.5896	48.0000	21.5071
Developed	0.4273	0.0000	0.4947	0.4317	0.0000	0.4953
Earnings quality	41.9997	37.0000	31.1225	41.9030	37.0000	31.3797

This table reports the descriptive statistics for the main variables. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. *Earnings Quality* is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank.

[43] See Appendix A.2 for the descriptive statistics of the country religiosity scores.

Figure 4.1: The religiosity score (bar) for the top, median, and bottom five countries in the sample



Data source: World Value Survey (WVS), the average score of WVS wave 5 (2005-2009) and WVS wave 6 (2010-2014).

Table 4.2 presents the Pearson correlation coefficient for the test and the main control variables for the overall sample from 2007 to 2016. The results indicate that shareholder country religiosity is negatively correlated with the measure of volatility, which conforms to our hypotheses. However, the result for accounting volatility is insignificant, and this suggests that a multivariate analysis using 2SLS that accounts for endogeneity will provide more reliable inferences about these associations. The control variables are correlated with the dependent variables in a way that is generally consistent with prior literature. For instance, as expected, Local ownership, Profitability, Size, Big 4 and Age are all negatively associated with volatility while Leverage and Control of Corruption are both positively correlated with volatility. The significant correlation between the control variables and the dependent variables indicate the importance of controlling for these variables in the multivariate test. Control of Corruption shows a high correlation (80.58%) with developed countries. Therefore, Control of Corruption will be excluded from the developed countries regression model. Overall, the correlations

among independent variables are within acceptable limits and reject the possibility of multicollinearity.

Table 4.2: Correlation matrix

Panel A: Accounting Volatility

	sd_ROA	Shareholder country religiosity	Local owner	Profitability	Size	Leverage	Sales growth
sd_ROA	1.0000						
Shareholder country religiosity	-0.0011	1.0000					
Local owner	-0.0120*	-0.0034	1.0000				
Profitability	-0.6779*	0.0173*	0.0086	1.0000			
Size	-0.0747*	-0.1296*	-0.0948*	0.0517*	1.0000		
Leverage	0.1476*	0.0135*	-0.0055	-0.1410*	-0.0775*	1.0000	
Sales growth	0.0052	0.0032	0.0015	-0.0024	-0.0189*	-0.0006	1.0000
Age	-0.0262*	0.1435*	-0.0400*	0.0141*	0.2416*	0.0024	-0.0037
Big 4	-0.0169*	0.0329*	-0.1265*	0.0165*	0.3142*	-0.0109*	-0.0049
GDP growth	-0.0008	0.0191*	-0.0088	0.0002	-0.0012	-0.0004	-0.0012
Market size	0.0092	0.0591*	-0.0548*	-0.0049	0.0556*	-0.0006	0.0028
Control of Corruption	0.0344*	-0.0404*	-0.0898*	-0.0196*	-0.1019*	-0.0057	0.0144*
Uncertainty avoidance	-0.0092	0.1817*	-0.0954*	0.0042	-0.0897*	-0.0079	0.0072
Developed	0.0334*	-0.1723*	-0.0927*	-0.0207*	-0.0587*	0.0013	0.0065
Earnings quality	-0.0264*	0.0675*	-0.0384*	0.0269*	0.2034*	0.0115	-0.0139*

	Age	Big 4	GDP growth	Market size	Control Corrup.	Uncertainty avoidance	Developed
Age	1.0000						
Big 4	0.1018*	1.0000					
GDP growth	-0.0003	0.0067	1.0000				
Market size	-0.0280*	0.2114*	-0.0029	1.0000			
Control of Corruption	-0.0482*	0.3262*	-0.0073	0.2965*	1.0000		
Uncertainty avoidance	0.2453*	-0.0356*	0.0030	-0.2909*	0.0404*	1.0000	
Developed	-0.0074	0.2384*	-0.0114*	0.0579*	0.8106*	0.1674*	1.0000
Earnings quality	0.1971*	0.1268*	-0.0036	0.0051	-0.0257*	0.0632*	-0.0302*

Panel B: Market Volatility

	Idio_volt	Shareholder country religiosity	Local owner	Profitability	Size	Leverage	Sales growth
Idio_volt	1.0000						
Shareholder country religiosity	-0.0165*	1.0000					
Local owner	-0.0073	-0.0018	1.0000				
Profitability	-0.0323*	0.0157*	-0.0004	1.0000			
Size	-0.4703*	-0.1084*	-0.0581*	0.0442*	1.0000		
Leverage	0.0337*	0.0109*	-0.0044	-0.1039*	-0.0888*	1.0000	
Sales growth	0.0124*	-0.0032	-0.0030	0.0021	-0.0045	-0.0010	1.0000
Age	-0.2366*	0.1686*	-0.0476*	0.0112*	0.2311*	-0.0040	-0.0055
Big 4	-0.1379*	0.0706*	-0.1372*	0.0183*	0.2793*	-0.0130*	-0.0043
GDP growth	-0.0029	0.0161*	-0.0010	-0.0001	0.0016	-0.0004	-0.0009
Market size	0.0197*	0.0961*	-0.0556*	-0.0018	0.0255*	0.0020	0.0004
Corruption	0.1764*	-0.0612*	-0.0901*	-0.0154*	-0.1594*	0.0059	0.0049
Uncertainty avoidance	-0.0850*	0.1569*	-0.1521*	0.0033	0.0382*	-0.0029	0.0007
Developed	0.1771*	-0.1365*	-0.0982*	-0.0139*	-0.1428*	0.0115*	0.0012
Earnings quality	-0.2330*	0.0887*	-0.0492*	0.0265*	0.1978*	0.0099*	-0.0120*

	Age	Big 4	GDP growth	Market size	Control Corrup.	Uncertainty avoidance	Developed
Age	1.0000						
Big 4	0.1336*	1.0000					
GDP growth	0.0098*	0.0115*	1.0000				
Market size	-0.0124*	0.2076*	-0.0027	1.0000			
Control of Corruption	-0.0192*	0.3234*	-0.0082*	0.3026*	1.0000		
Uncertainty avoidance	0.2667*	0.0860*	0.0078	-0.2358*	0.1744*	1.0000	
Developed	0.0361*	0.2322*	-0.0043	0.0429*	0.7912*	0.3667*	1.0000
Earnings quality	0.1872*	0.1317*	0.0025	0.0174*	-0.0314*	0.0720*	-0.0305*

This table reports the Pearson correlation matrix for the test, and main control variables in Panel A and Panel B. * stand for statistical significance at the 5% level. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. *Earnings Quality* is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank.

4.4.2. Main Results

4.4.2.1. Shareholder Country Religiosity and the Accounting and Market Volatility

The study explores the impact of shareholder country religiosity on different measures of firm volatility, which are the volatility of firm accounting and idiosyncratic market returns. Shareholder country religiosity is the level of religiosity (primarily measured by the importance of religion) in the country where the shareholder is based. Previous research has established that religion is a form of social norm that can strongly influence the decisions and the acts of individuals (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015). Literature in corporate governance has further demonstrated the importance of large controlling shareholders in affecting corporate decisions (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). Combining these two arguments, it is anticipated that the level of religiosity of the shareholder's country has a strong influence in shaping shareholder characteristics and hence can significantly affect corporate behaviour.

Table 4.3 reports the main result using 2SLS, model 1 presents the influence of religiosity on the volatility of accounting returns, and model 2 shows the impact of religiosity on the volatility of market returns. In the first model of Table 4.3 (Panel A), the results indicate that shareholder country religiosity measured by the importance of religion has a significant negative impact on the standard deviation of ROA, after controlling for numerous firm-level and country-level variables. In Panel B, testing the impact of shareholder country religiosity on firm idiosyncratic volatility, the results show a significant negative influence of Shareholder country religiosity on Idio_volt. The accounting and market measures of volatility provide a consistent result of the negative coefficient for religiosity, thus supports hypothesis 1 and 2.

The negative influence of shareholder country religiosity to firm volatility is robust, even after controlling for firms with local ownership. These results signify that corporate

outcomes are not only affected by the local religiosity of companies, but they are also significantly impacted by the level of religiosity of large controlling shareholders. The finding supports the theoretical assumption of the social norms theory that religion can influence individual behaviour and is also consistent with the existing argument that religion is able to function as a form of a monitoring mechanism for corporations. These findings provide new insight into corporate governance literature where specific characteristics of controlling shareholders can strongly influence their monitoring behaviour and corporate outcomes. Therefore, the study anticipates that corporations that are owned and controlled by shareholders that originate from highly religious countries have more prudent and conservative investment strategies.

Prior research has extensively used measures of volatility in this study as a proxy for corporate risk (Hilary and Hui, 2009; Faccio, Marchica and Mura, 2011; Sila, Gonzalez and Hagendorff, 2016). Following this conjecture, the findings further support that religiosity can lead to risk-averse behaviour by individuals, and this behaviour is able to influence corporate performance. The results are in line with Adhikari and Agrawal (2016), Blau (2015), Callen and Fang (2015), Kanagaretnam *et al.* (2015) , Hilary and Hui (2009), Noussair and Trautmann (2013) that suggest prudent behaviour and lower risk-taking by corporations and financial institutions in highly religious countries. This, furthermore, supports the view that religion is a form of social norm that can strongly influence the decisions and the acts of an individual or group (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015).

Table 4.3: Primary estimation-Regression results for shareholder country religiosity and firm volatility

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Shareholder country religiosity	-0.674**	-0.360***
	(0.284)	(0.0239)
Local ownership	-0.378**	-0.0439***
	(0.183)	(0.0107)
Profitability	-0.331***	-0.00006
	(0.102)	(0.0002)
Size	-0.233***	-0.142***
	(0.0465)	(0.0031)
Leverage	0.0262	-0.0001
	(0.0173)	(0.0004)
Sales Growth	0.0017	0.0002*
	(0.0020)	(0.0001)
Age	-0.115	-0.0610***
	(0.0963)	(0.0062)
Big 4	-0.0393	-0.0458***
	(0.158)	(0.0101)
GDP Growth	-4.944**	0.180
	(2.132)	(0.275)
Market Size	-0.0001	0.0002***
	(0.0003)	(0.00005)
Control of Corruption	0.0126***	0.0016***
	(0.0032)	(0.0002)
Uncertainty avoidance	-0.0068*	-0.0014***
	(0.0036)	(0.0003)
Intercept	4.244***	3.007***
	(1.389)	(0.0538)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35632	57718
First Stage Regressions:		
Religious democracy	1.3355***	1.1629***
	(0.0174)	(0.0187)
Partial R2 of excluded instruments	0.4391	0.3644
F-test of excluded instruments	5871.69	3858.75
Wooldridge's (1995) score test (p-values)	0.0000	0.0000

This table reports 2SLS regression results for the primary estimation of shareholder country religiosity and firm volatility. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

For control variables, Size indicates a negative coefficient in all models, reflecting that bigger firms are less volatile. Likewise, Age negatively affects firm volatility. These findings are as expected as firms with substantial resources and greater experience are likely to have more stable returns. Sales growth is positively associated with the volatility of market returns. This result suggests evidence that the volatility of firm returns, especially the market returns, will be higher when firms engage in more business activities. Big 4 shows a significant negative coefficient in the market model, indicating that firms with higher audit quality experience stable earnings. GDP growth is insignificant for market volatility but negatively impacts accounting volatility. Market size represents the size of public corporations in the country. The positive coefficient of Market size represents an expected sign, where the firms' returns are more uncertain in a market with a high number of competitors. The level of control of corruption in a country indicates a significant positive relationship with all measures of volatility. The findings strongly suggest that country governance has an important influence on the volatility of firm returns. The positive relationship suggests that firms located in countries with high governance quality show active investment strategies which likely leading to higher volatility. Finally, the coefficient of uncertainty avoidance is consistent with the theory and prior research. The result indicates that firms surrounded by a society with a high level of anxiety report less volatility in their returns. This result supports the relation of volatility and ethical values. In sum, the coefficient of control variables is consistent with the theory and previous literature.

The first stage regression in Table 4.3 reports the coefficient of instrumental variable (IV) and some additional analysis to assess the relevance of the IV. The p-values from the Wooldridge's (1995) score test are less than 0.05 in all models, thus confirming the existence of endogeneity in the model. These findings provide support to the argument of causality in

secularisation theory and the rationale to use the instrumental variable estimation. The partial R^2 and the F-statistics result indicate that the instruments are highly correlated with the endogenous variable, with F-statistics between 3858 and 5871 and a partial R2 are around 0.36. According to Staiger and Stock (1997), the rule of thumb suggests that an F-statistic below 10 is a sign of a weak instrument. The results further confirm that the instrument used in the analysis is valid.

4.4.2.2. The Influence of Developed Countries

This study hypothesised that firms controlled by shareholder located in highly religious countries exhibit lower volatility. In relation to this, the secularisation theory suggests that economic development causes individuals to become less religious. Therefore, it is anticipated that the level of religiosity is lower and the impact of religiosity on volatility is attenuated in developed countries. Likewise, prior literature suggests that rural areas generally exhibit a higher level of religiosity (Mcguire, Omer and Sharp, 2012). Therefore, to clarify this assumption, the study additionally examines whether the influence of religiosity is different in developed countries. To test whether shareholder country religiosity plays an important role in developed nations, the study generates a dummy variable called Developed which is equal to 1 if the country is categorised as a developed country[44] and zero otherwise, and interacts this variable with shareholder country religiosity. The model for this estimation is as follows:

$$Volatility_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \beta_2 (\widehat{Religiosity}_{it} \times Developed_i) + \beta_3 Developed_i + \sum_{i=1}^{n} \beta_i \, Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (5)$$

[44] As presented in Table 4.1, the developed countries in the sample are Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, the United Kingdom, and the United States. These developed countries are based on the list provided by the CIA World Factbook 2017. Generally, these developed nations have a GDP per capita above $15,000 and HDI (Human Development Index) scores above 0.76 in 2015.

The developed countries consist of 15,225 (42.73%) firm-year observations in Panel A and 24,916 (43.17%) firm-year observations in Panel B, which is near to half of the sample size. This indicates that developed countries represent a significant number of firms and observations in the sample that likely to have a higher influence on the results. A simple correlation test supports the theory and reveals that developed countries display a significantly lower level of religiosity (-0.1723). This model additionally controls for earnings quality because it is likely that firms with lower earnings quality have higher volatility, and the impact is prone to be more sensitive when the sample is divided according to their economic development.

The findings in all models reported in Table 4.4 show that shareholder country religiosity remains significant and negative, but the impact of religiosity is significantly different in developed countries. The coefficients of the interaction term which is Shareholder country religiosity * Developed is insignificant in the accounting model, but positive and significant at the 1% in the market model. The findings suggest that there is no significant difference on the influence of religiosity on accounting volatility for the developed countries. While in the market model, the positive coefficient of the interaction term indicates that the negative association between religiosity and market volatility is attenuated for firms located in developed countries.

In theory, accounting and market measurement capture different dimensions of firm volatility. Accounting information represents the past and the short-term performance of the firm while market measurement is more towards the future and the firms' long-term growth (Richard *et al.*, 2009). Therefore, based on this theory, the finding shows that the influence of economic development or secularisation on religiosity is more pronounce in the long-term.

Table 4.4: Regression results for shareholder country religiosity and developed countries

	Panel A: Accounting	**Panel B: Market**
	(1) sd_ROA	(2) Idio_volt
Shareholder country religiosity	-0.881**	-0.366***
	(0.389)	(0.0292)
Shareholder country religiosity*Developed	0.0359	0.160***
	(0.444)	(0.0472)
Developed	0.321	-0.0107
	(0.378)	(0.0285)
Local ownership	-0.0312	-0.0257***
	(0.0840)	(0.0096)
Profitability	-0.0295	-0.00002
	(0.0310)	(0.0003)
Size	-0.148***	-0.129***
	(0.0307)	(0.0029)
Leverage	0.0373	-0.0002
	(0.0367)	(0.0005)
Sales Growth	0.0009	0.0002**
	(0.0007)	(0.0001)
Age	-0.0369	-0.0467***
	(0.0587)	(0.0059)
Big 4	-0.0853	-0.0256***
	(0.0962)	(0.0097)
GDP Growth	-2.919	0.199
	(2.387)	(0.276)
Market Size	0.0008**	0.0002***
	(0.0004)	(0.00004)
Earnings Quality	-0.0042***	-0.0021***
	(0.0012)	(0.0001)
Uncertainty avoidance	-0.0004	-0.0013***
	(0.0046)	(0.0003)
Intercept	4.823*	2.951***
	(2.530)	(0.0560)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	24336	46035
First Stage Regressions 1:		
Religious Democracy	1.2521***	1.1503***
	(0.0326)	(0.0283)
Partial R2 of excluded instruments	0.3214	0.2987
First Stage Regressions 2:		
Religious Democracy*Developed	1.1419***	1.0741***
	(0.0183)	(0.0181)
Partial R2 of excluded instruments	0.4467	0.4357
Wooldridge's (1995) score test (p-values)	0.0427	0.0000

This table reports 2SLS regression results for shareholder country religiosity and developed countries. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. *Shareholder country religiosity* Developed* is the interaction between the two variables. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Earnings Quality* is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

These findings support the long-term nature of cultural values. Geert Hofstede provide assumption that culture is like climate and is unlikely to vary or change over time. Thus, religiosity and secularisation are a form of culture which is prone to impact corporations in the long term. Overall, the result support that firms controlled by shareholder located in higher (low) religious countries will have lower (higher) volatility in their returns, which is in line with the main hypotheses. The findings in the market model also sustain the secularisation hypothesis that postulates lower religious influence in the modern society. In addition, earnings quality reports a significant negative relationship with volatility, indicating that the influence of earnings quality on firm volatility corresponds to the assumption.

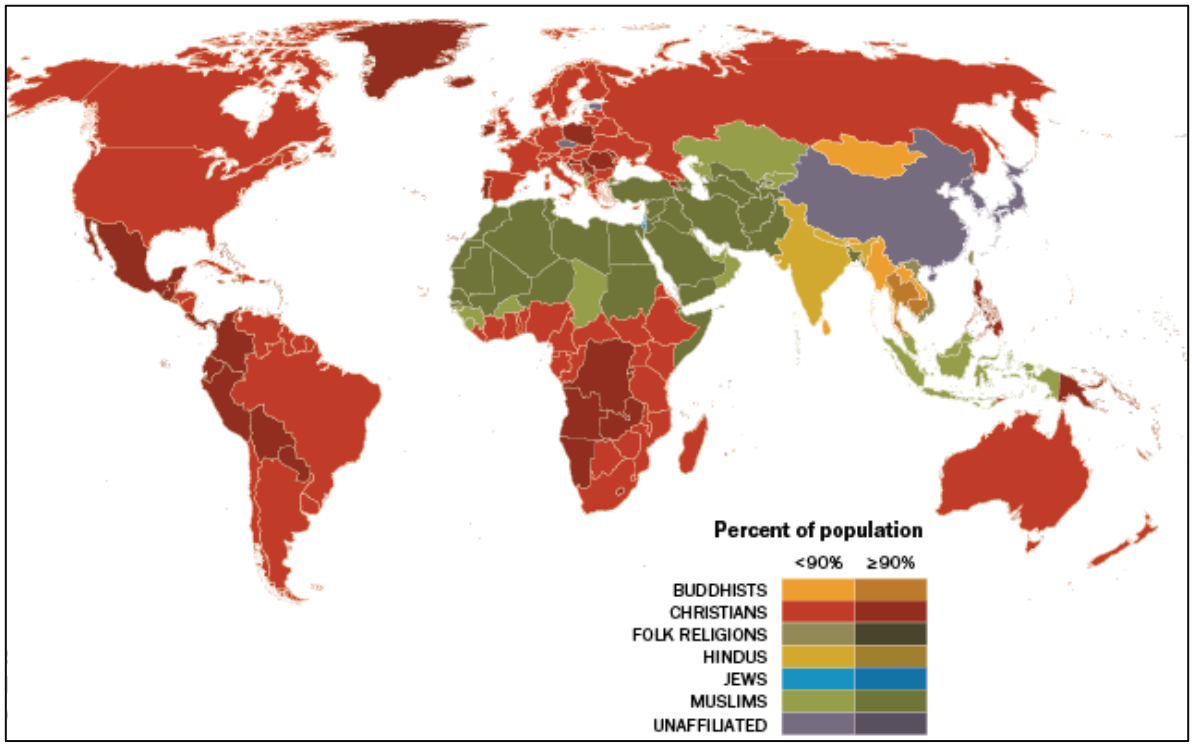
4.4.2.3. Shareholder Country Religiosity and the Accounting and Market Volatility: Regional Analysis

Our findings thus far have consistently reported that shareholder country religiosity is able to moderate the volatility of accounting and market returns. The analyses are primarily built on the foundation that religious social norms in the geographic area where the shareholders are based influence shareholder monitoring behaviour and the financial decisions of the firms. However, firms in the sample are geographically diverse, covering multiple regions and representing many religious denominations in the world. Each geographical region exhibits different cultures and economic orientations, and it is possible that the influence of religiosity is different between regions. Accordingly, the study identifies five main regions in the sample and generates dummy variables equal to 1 if the firm is located in the respective region and 0 otherwise. The estimation interacts the shareholder country religiosity variable with the dummy variable indicating the region of the companies to examine whether our result varies according to the geographic location of the firms. The model for this estimation is as follows:

$$Volatility_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \beta_2 (\widehat{Religiosity}_{it} \times Region_i) + \beta_3 Region_i + \sum_{i=1}^{n} \beta_i \, Culture_{it} + \sum_{i=1}^{n} \beta_i \, Controls_{it} + YearFE + IndustryFE \; + \varepsilon_{it} \quad (6)$$

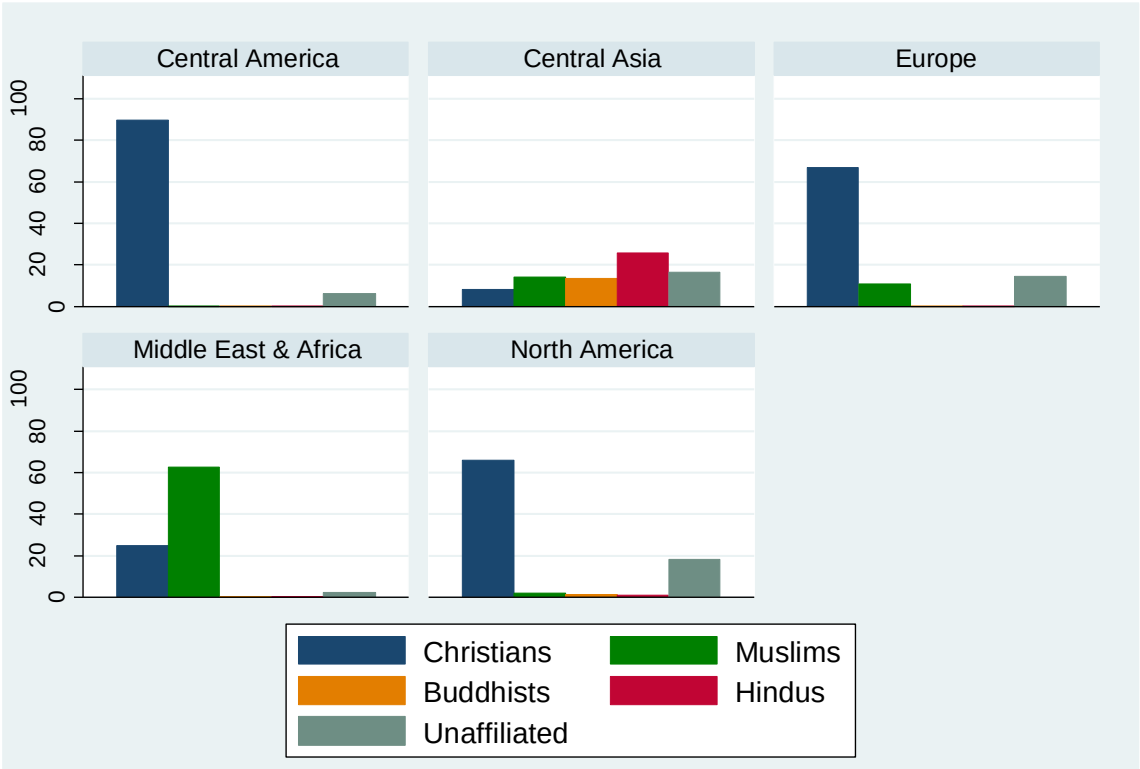
The regions included in the model are North America, Central America, Europe, the Middle East and Africa, and Central Asia. It is likely that the influence of shareholder country religiosity in the regional analysis is affected by the specific cultural factors related to the region. The most prominent issue is pertaining to the influence of religious denomination in the countries within the regions. Figure 4.2 below illustrates the largest religious group in the countries around the world. It is clear that some religions are more dominant in particular countries, and the distribution of the major religious groups are different according to the region. In general, countries in North America and Europe are mostly Christian. The Middle East and Africa have greater Muslims population, and the religious groups are more dispersed in Central Asia. As detailed in Figure 4.3, the three most prominent groups in the sample are Christians, Muslims and the Unaffiliated. Hindus and Buddhists on the other hand are only concentrated in Central Asia. Therefore, to restrain the potential bias in the analysis, the empirical model in this section additionally controls for the influence of culture measured by the percentage of major religious denominations in the country according to the region. In particular, the variables for culture in model (6) include the percentage of Christians, Muslims and the Unaffiliated in all models, and also Hindus and Buddhists in the model for Central Asia.

Figure 4.2: Largest religious group distributions by country.



Source: Pew Research Center. Colours represent the largest religion in each country. Darker shadings represents a greater prevalence of the largest religion.

Figure 4.3: The average percentage of religious group in the sample by regions.



Data Source: The Association of Religious Archive (ARDA), www.thearda.com

Data for the percentage of religious denominations in the country were downloaded from The Association of Religious Archive (ARDA) that covers information on religion for more than 200 countries from 1900 to 2015. While the main sample covers 2007 to 2017, the sample for regional analysis covers only nine years (2006-2015). The impact of shareholder country religiosity between different regions in the world is presented in Table 4.5. Consistent with our expectations, we find that shareholder country religiosity remains negative and significant in affecting firm accounting and market volatility, but the impact is lower in most regions.

The impact of religiosity on reducing firm volatility has no significant difference in North America. The findings imply that the influence of religiosity in North America is statistically comparable to the global sample which is consistent with the previous studies that focus on the United States (Hilary and Hui, 2009; Callen, Morel and Richardson, 2011; Kumar, Page and Spalt, 2011; Ghoul *et al.*, 2012; Mcguire, Omer and Sharp, 2012; Baxamusa and Jalal, 2014; Leventis, Dedoulis and Abdelsalam, 2015; Adhikari and Agrawal, 2016; Chircop *et al.*, 2017). In the Middle East and Africa, shareholder country religiosity shows an insignificant difference in short-term measurement (accounting volatility) but shows a parallel result in the long-term (market measurement). In general, the interaction terms are positive which indicate that the magnitude influence of religiosity in the region is lesser compared to the overall global sample.

Table 4.5: Regression results for shareholder country religiosity according to regions

	North America		**Central America**		**Europe**		**Middle East & Africa**		**Central Asia**	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	sd_ROA	Idio_volt	sd_ROA	Idio_volt	sd_ROA	Idio_volt	sd_ROA	Idio_volt	sd_ROA	Idio_volt
Shareholder country religiosity	-0.144*	-0.589***	-0.253***	-0.670***	-0.329***	-0.792***	-0.260***	-0.667***	-0.270***	-0.448***
	(0.0741)	(0.0601)	(0.0759)	(0.0641)	(0.0778)	(0.0680)	(0.0787)	(0.0657)	(0.0834)	(0.0519)
Shareholder country religiosity* Region	2.905	0.168	0.244**	0.297**	0.314***	0.771***	0.175	0.485***	0.228***	0.236***
	(2.099)	(0.469)	(0.119)	(0.148)	(0.0895)	(0.0599)	(0.141)	(0.106)	(0.0597)	(0.0489)
Region	-1.377	0.213	-0.0563	-0.163	-0.432***	-0.623***	-0.141	-0.576***	-0.506***	-0.286***
	(1.314)	(0.288)	(0.0820)	(0.109)	(0.0585)	(0.0351)	(0.130)	(0.0881)	(0.0587)	(0.0443)
Christian	0.0801***	0.0909***	0.123***	0.131***	0.166***	0.176***	0.158***	0.189***	-0.0933	0.540***
	(0.0300)	(0.0283)	(0.0312)	(0.0297)	(0.0304)	(0.0299)	(0.0298)	(0.0297)	(0.0734)	(0.0531)
Muslims	0.120***	0.0239	0.129***	0.0403	0.153***	0.0346	0.129***	0.0964***	-0.0288	0.452***
	(0.0225)	(0.0303)	(0.0237)	(0.0311)	(0.0234)	(0.0323)	(0.0263)	(0.0325)	(0.0726)	(0.0521)
Buddhists									-0.0461	0.480***
									(0.0580)	(0.0383)
Hindus									0.0492	0.486***
									(0.0797)	(0.0538)
Unaffiliated	0.259*	-0.852***	0.0344	-0.991***	0.148	-1.034***	-0.0003	-0.951***	0.0007	0.463***
	(0.147)	(0.102)	(0.135)	(0.108)	(0.133)	(0.114)	(0.141)	(0.112)	(0.144)	(0.0866)
Local ownership	-0.133***	-0.0060	-0.0974***	-0.0028	-0.0926***	0.0054	-0.0956***	-0.0102	-0.101***	-0.0273***
	(0.0340)	(0.0122)	(0.0235)	(0.0111)	(0.0234)	(0.0112)	(0.0235)	(0.0111)	(0.0230)	(0.0101)
Profitability	-0.0014	-0.0070***	0.0120*	0.0022	0.0136**	0.0039**	0.0117*	0.0020	0.0108*	0.0012
	(0.0069)	(0.0022)	(0.0063)	(0.0020)	(0.00629)	(0.0020)	(0.00628)	(0.0020)	(0.0063)	(0.0020)
Size	-0.100***	-0.118***	-0.102***	-0.120***	-0.0964***	-0.117***	-0.100***	-0.121***	-0.0960***	-0.119***
	(0.0063)	(0.0027)	(0.0061)	(0.0027)	(0.0058)	(0.0026)	(0.0060)	(0.0027)	(0.0059)	(0.0026)
Leverage	0.438***	0.0450***	0.451***	0.0553***	0.451***	0.0565***	0.451***	0.0544***	0.450***	0.0497***
	(0.0365)	(0.0094)	(0.0371)	(0.0097)	(0.0371)	(0.0097)	(0.0371)	(0.0097)	(0.0371)	(0.0097)
Sales Growth	0.0161**	0.0133***	0.0145**	0.0124***	0.0135*	0.0108***	0.0146**	0.0124***	0.0147**	0.0138***
	(0.0069)	(0.0019)	(0.0069)	(0.0019)	(0.0069)	(0.0019)	(0.0069)	(0.0019)	(0.0069)	(0.0019)
Age	-0.0243**	-0.0716***	-0.0340***	-0.0774***	-0.0189	-0.0586***	-0.0340***	-0.0755***	-0.0322***	-0.0801***
	(0.0117)	(0.0058)	(0.0116)	(0.0058)	(0.0119)	(0.00592)	(0.0116)	(0.0058)	(0.0120)	(0.0058)
Big 4	-0.0629***	-0.0797***	-0.0433**	-0.0761***	-0.0565***	-0.0705***	-0.0441**	-0.0737***	-0.0581***	-0.0684***
	(0.0198)	(0.0097)	(0.0181)	(0.0098)	(0.0192)	(0.0099)	(0.0181)	(0.0098)	(0.0190)	(0.0098)
GDP Growth	-0.305	0.151	-0.609	0.175	-1.117*	0.139	-0.423	0.212	-0.728	0.0723
	(0.559)	(0.267)	(0.570)	(0.283)	(0.602)	(0.264)	(0.572)	(0.283)	(0.576)	(0.286)

Market Size	0.0008***	0.0006***	0.0008***	0.0007***	0.0006***	0.0005***	0.0008***	0.0010***	0.0007***	0.0012***
	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)
Corruption	0.0028***	0.0004	0.0035***	0.0008**	0.0047***	0.0020***	0.0033***	-0.0001	0.0010**	-0.0024***
	(0.0004)	(0.0003)	(0.0004)	(0.0003)	(0.0005)	(0.0003)	(0.0004)	(0.0003)	(0.0004)	(0.0004)
Uncertainty avoidance	-0.0012***	-0.0021***	-0.0022***	-0.0027***	0.0017***	-0.0005	-0.0023***	-0.0025***	-0.0059***	-0.0043***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)	(0.0006)	(0.0004)
Intercept	1.008***	2.997***	1.105***	3.063***	0.753***	2.955***	1.100***	3.046***	1.579***	2.430***
	(0.0900)	(0.0621)	(0.0951)	(0.0642)	(0.102)	(0.0792)	(0.0968)	(0.0651)	(0.147)	(0.0865)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	35355	52769	35355	52769	35355	52769	35355	52769	35260	52701
First Stage Regressions 1:										
Religious Democracy	0.7947***	0.5824***	0.7605***	0.5572***	0.7230***	0.5372***	0.7881***	0.5686***	0.9848***	0.8952***
	(0.0230)	(0.0208)	(0.0227)	(0.0204)	(0.0231)	(0.0204)	(0.0248)	(0.0222)	(0.0196)	(0.0199)
Partial R2 of excluded instruments	0.2609	0.1740	0.2435	0.1617	0.2356	0.1550	0.2302	0.1519	0.3619	0.3563
First Stage Regressions 2:										
Religious Democracy* Region	1.3421***	1.1856***	1.5294***	1.7834***	1.4877***	1.3727***	0.8412***	0.8540***	1.4461***	1.3058***
	(0.1551)	(0.1584)	(0.1018)	(0.0714)	(0.0175)	(0.0177)	(0.0254)	(0.0250)	(0.0175)	(0.0181)
Partial R2 of excluded instruments	0.1681	0.1832	0.2638	0.3216	0.4344	0.4143	0.6202	0.5813	0.5996	0.5428
Wooldridge's (1995) score test (p-values)	0.0032	0.0000	0.0015	0.0000	0.0000	0.0000	0.0005	0.0000	0.0004	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Region* is a dummy variable equal to 1 if the company is located in the respective region (North America, Central America, Europe, Middle East and Africa, or Central Asia) and 0 otherwise. *Shareholder country Religiosity*Region* is the interaction between the two variables. *Christians, Muslims, Buddhists and Hindus* are the percentage of Christians, Muslims, Buddhists, and Hindus population in the country. *Unaffiliated* is the percentage of the population with no religious affiliation in the country. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. *Religious Democracy* Region* is the interaction between the two variables serve as the instrument for the interaction term. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

4.4.2.4. The Influence of Cultural Distance

Shareholder country religiosity is defined as the level of religiosity where the major shareholder originates. The study hypothesises that the social norms where the shareholder is located will influence the behaviour of the controlling shareholder which significantly affects the firm's investment policies and thus the return volatility. However, in a case where the company is controlled by a local owner, the level of shareholder country religiosity and the company's geographical religiosity will be equal. In other words, the measure of shareholder country religiosity is only different from the company's geographical religiosity if the company is controlled by a foreign owner. The issue is on the existence of cultural distance between the foreign controlling shareholder and the firm, and whether the influence of religiosity on firm volatility is channelled by the controlling shareholder or is actually influenced by the geographic location of the firm.

Accordingly, to further verify the significant influence of shareholder norms on firm behaviour, this section introduced two additional variables to the model. Following Manev and Stevenson (2001), the first variable is an indicator of country difference, which is foreign ownership (Foreign), defined as a dummy variable equal to 1 if the country of origin of the largest controlling shareholder is different from the firm and 0 otherwise. The analysis interacts Foreign with the measure of shareholder country religiosity to test whether shareholder origin strengthens or reduces the influence of religiosity on firm behaviour. The second variable which is cultural distance is measured as Euclidean distance:

$$CD_{ij} = \sqrt{\sum_{k=1}^{3} (D_{ik} - D_{jk})^2} \qquad (7)$$

Where CD_{ij} is the cultural distance between the controlling shareholder i and the firm j, and D_{ik} and D_{jk} are the indices for the k-th dimension in i's and j's national culture. The study used three of Hofstede's dimensions of national culture that are reported to have a significant influence on corporate risky behaviour (Ashraf, Zheng and Arshad, 2016). The dimensions of national culture employed in the measure of culture distance are uncertainty avoidance (UAI), power distance (PDI), and individualism (IDV).[45] Firm volatility is expected to be higher in a culture with low UAI, high PDI and UAI. The model of the analysis is as follows:

$$Volatility_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \beta_2(\widehat{Religiosity}_{it} \times Foreign_i) + \beta_3 Foreign_i + \beta_4 Culture\ Distance_i + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (8)$$

Table 4.6 reports the results for this analysis. The findings indicate that the influence of shareholder religiosity on firm volatility is consistent while the interaction term (Shareholder country religiosity*Foreign) is negative and significant in both the accounting and market model. The findings indicate that the influence of shareholder religiosity is higher for companies with foreign ownership and foreign ownership strengthens the influence of religiosity on firm volatility. The influence of cultural distance, however, is insignificant which indicate that the general culture distance measured by UAI, PDI and IDV has no significant impact on firm volatility in these models. Importantly, the results support the main findings and demonstrate that foreign religious shareholders contribute to lower volatility and verifies the significant influence of shareholder's origin and social norms on firm volatility.

[45] UAI is the degree to which the members of a society feel unpleasant with uncertainty and ambiguity. PDI is an index that measure the extent to which the less powerful members of a society accept and expect an unequal distribution of power. People in societies with high PDI accept a hierarchical order in which everybody has a place without demanding further justification. IDV is the culture that individuals are expected to take care of only themselves and their immediate families.

Table 4.6: Regression results for shareholder country religiosity: the influence of cultural distance.

	Panel A: Accounting	**Panel B: Market**
	(1) sd_ROA	(2) Idio_volt
Shareholder country religiosity	-1.303***	-0.442***
	(0.471)	(0.0265)
Shareholder country religiosity*Foreign Owner	-0.753*	-0.647***
	(0.414)	(0.0724)
Foreign	0.187	0.297***
	(0.297)	(0.0399)
Cultural Distance	-0.0038	-0.0001
	(0.0025)	(0.0004)
Profitability	-0.0295	0.00001
	(0.0311)	(0.0003)
Size	-0.166***	-0.131***
	(0.0364)	(0.0029)
Leverage	0.0373	-0.0002
	(0.0368)	(0.0005)
Sales Growth	0.0009	0.0002**
	(0.0008)	(0.0001)
Age	0.0144	-0.0434***
	(0.0607)	(0.0058)
Big 4	-0.0087	-0.0153*
	(0.0763)	(0.0089)
GDP Growth	-3.051	0.182
	(2.378)	(0.278)
Market Size	0.0008	0.0003***
	(0.0005)	(0.00004)
Earnings Quality	-0.0041***	-0.0021***
	(0.0012)	(0.0001)
Intercept	5.257*	2.916***
	(2.788)	(0.0560)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	24032	45529
First Stage Regressions 1:		
Religious Democracy	1.2274***	1.1052***
	(0.0249)	(0.0224)
Partial R2 of excluded instruments	0.3963	0.3578
First Stage Regressions 2:		
Religious Democracy*Foreign	1.2351***	1.2715***
	(0.0201)	(0.0188)
Partial R2 of excluded instruments	0.3544	0.3752
Wooldridge's (1995) score test (p-values)	0.0172	0.0000

This table reports 2SLS regression results for shareholder country religiosity and developed countries. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Foreign* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in a different country as the company and 0 otherwise. *Shareholder country religiosity* Foreign* is the interaction between the two variables. *Cultural Distance* is calculated as Euclidean distance: $CD_{ij} = \sqrt{\sum_{k=1}^{3}(D_{ik} - D_{jk})^2}$; Where CD_{ij} is the cultural distance between the controlling shareholder *i* and the firm *j*, D_{ik} and D_{jk} are the indices for the *k*-th dimension in *i*'s and *j*'s national culture. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Earnings Quality* is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank. *Religious Democracy* is the instrumental variable define as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

4.4.2.5. Additional Robustness Tests

The study additionally performs a number of robustness tests to provide support for the results. The results are reported in Appendix A.3 until Appendix A.11 in the last section of this chapter. First, some control variables such as profitability, leverage, sales growth, and market size show a high standard deviation. This factor is driven by the variations in terms of the size and the business nature of the firms and the country coverage included in the sample. Therefore, to eliminate the possibility that the results are affected by the extreme values, the study minimize the variation of the variables using winsorising technique and re-estimate the primary model. The results in Appendix A.3 shows that the influence of Shareholder country religiosity remains negative and significant. In this test, Shareholder country religiosity demonstrates higher negative coefficient, and the coefficient of some control variables show some changes. For instance, Profitability, Leverage, Sales Growth, Age, Big4, and Market Size show significant coefficient in all models, but Uncertainty avoidance becomes insignificant. However, the effect on the main variable is trivial which reject the possibility that the estimations are affected by outliers in the sample.

Prior literature reports consistent results that the level of religiosity where the firm is located has a significant impact on their volatility. Therefore, in the second robust analysis, we test the impact of religiosity on a larger global sample and measure religiosity based on the geographical location of the company. The results in Appendix A.4 show that geographical religiosity reports a negative coefficient for accounting and market volatility. These findings clearly suggest that firms located in a more religious area are likely to be more stable in terms of accounting returns, which is consistent with Hilary & Hui (2009). The findings further indicate that the level of religiosity where the firm is located plays a major role in influencing the stability of the firm's stock returns. The results confirm the findings of Blau (2015) which

suggest that religiosity proxy by religious adherence and religious beliefs negatively affect the level of volatility in stock returns. This robust test strengthens the theoretical assumption and the importance of religiosity in affecting corporate behaviour. This indicates that religiosity as a form of social norm is able to influence corporate behaviour either directly (through the managers) or indirectly (through the controlling shareholders).

Third, to further support the primary findings, we exploit an alternative measure of accounting and market volatility. As explained in the methodology section 4.3.2., the standard deviation of ROE (sd_ROE) and the standard deviation of company weekly stock price (Total_volt) are the alternative measures of accounting and market volatility respectively. The results reported in Appendix A.5 show that the impact of shareholder country religiosity is consistent, thus maintaining the primary estimations.

Forth, the study replicates the model in the primary analysis and employs an alternative measure of religiosity. In this test, religiosity is defined by the percentage of the respondents that have membership in religious organisations. This variable represents the behavioural element of religiosity that indicates the level of religious adherence through the time dedicated to religious activity. Similar to the result in the primary test, in Appendix A.6, Religious member shows a consistent, significant negative relationship with all measures of firm volatility.

Fifth, Ghoul *et al.* (2012) and Mcguire, Omer and Sharp (2012) argue that if religiosity can influence firm behaviour, it is possible that the effect of religion will be more important for companies with a low level of external monitoring. This argument suggests that the influence of religious norms could alternatively function as a form of external control. To test this assumption, following Mcguire, Omer and Sharp (2012), this study uses the percentage of institutional ownership as a proxy for external monitoring and divides the sample into low

and high external monitoring. Firms with a value above (below) the median percentage of institutional ownership in the sample are defined as having high (low) external monitoring. Appendix A.7 presents the results on the impact of shareholder country religiosity on firm uncertainties for a different level of external monitoring. The findings indicate robust and consistent negative associations between shareholder country religiosity and measures of firm volatility. Importantly, the relationship between religiosity and firm volatility is stronger (higher negative coefficient) in the sample of low external monitoring. For instance, the coefficient of religiosity is -0.814 in model 1 but higher (-1.109) in model 2, and this pattern is consistent with the market estimation. These findings further support the above argument and the previous analysis on shareholder country religiosity, thus indicating that religious norms can alternatively serve as an external governance mechanism, especially for companies with low external monitoring. These results are consistent with the results of prior research (Ghoul *et al.*, 2012; Mcguire, Omer and Sharp, 2012; Callen and Fang, 2015).

Sixth, the research of ownership structure argues that the identity of the shareholders are reported to have an economically significant impact and are a fundamental driver in affecting firm behaviour (Maury and Pajuste, 2005; Boubakri, Cosset and Saffar, 2013; Dong *et al.*, 2014). Various types of the owner are likely to have diverse objectives and opt for different business strategies and ways to exercise their power that plausibly affect corporate strategy and risk behaviour (Zou and Adams, 2008). It is therefore prudent to consider exactly the types of owners are as the roles of each type of shareholder are likely different (Hope, 2013). Following these arguments, the study conducts a test and includes various types of largest ultimate owners as additional control variables. The results reported in Appendix A.8 show that the influence of shareholder country religiosity is consistent in all models, even after controlling for the types of ownership. Overall, the ownership types display coefficients which

are in line with the theory. Family-owned firms exhibit lower volatility, which is consistent with the arguments that this kind of firm follows conservative investment policies (Mishra, 2011). Manager-owned firms show lower volatility in all models. Stock ownership by management can directly reduce the underlying agency problem. Therefore the more stock management owns, the stronger their motivation to work to raise the value of the firm (Hermalin and Weisbach, 1991) and stable returns.

Seventh, the study addresses the influence of the financial crisis on the main findings by removing the crisis periods (years 2007-2008) from the sample and re-estimating the main model. Appendix A.9 shows that the non-crisis sample exhibits consistent results, where the coefficient of shareholder country religiosity remains significant and negative, similar to the full sample effect. These findings support the assertion that corporations controlled by religious shareholders are less severely affected by the financial crisis.

Eight, Faccio, Marchica and Mura (2011) find that controlling shareholders with diversified portfolios positively affect the volatility of firm returns. The assumption is that the financial conditions of controlling shareholders will influence the controlling behaviour of the shareholder and thus affect the company's investment policy. The companies controlled by diversified shareholders are likely to have more active investment policies and are willing to take more risk as compared to companies controlled by nondiversified shareholders. Shareholder diversification indicates an important variable that can influence the volatility of firm returns. Therefore we test whether the results hold after controlling for shareholder portfolio diversification measured by the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Appendix A.10 reports that the results remain consistent and support the main estimations.

Finally, using alternative instrument and limited information maximum likelihood (LIML) model; to recap, this paper used religious democracy as the instrument for religiosity and 2SLS to overcome the endogeneity issue in the regression. Religious democracy is the percentage of citizens who regard having religious authorities to interpret laws is one of the essential characteristics of democracy. This instrument is similar to the approach of Mccleary and Barro (2006), who used state regulation of religion as an instrument for religiosity. State regulation of religion and religious democracy indicate recognition of religious authorities in a country. Formal recognition of religious authorities demonstrates the government supports of religious practices which could lead to higher religiosity in the population. The main instrument (religious democracy) is a percentage score from a survey; therefore, it is prudent to check whether the results hold after using an instrument measured at the aggregate level. As an alternative, Fox, Finke and Dane (2018) published an index measuring formal state religious support.[46] The religious support index range from 0 to 13, indicating from low to high formal religious support by the government. This variable is available for 183 countries between 1990 and 2014. In this sensitivity test, the estimation uses religious support as an alternative instrument and regress the main model using LIML as an alternative estimator. In theory, LIML may lead to less bias and better confident interval than 2SLS. As the alternative instrument only available until 2014, the study use nearest-neighbour interpolation to estimate the score for 2015 and 2016. Results in Appendix A.11 shows that shareholder religiosity remains negative and significant in affecting accounting and market uncertainty. The coefficient of shareholder religiosity is also relatively similar to the primary estimation, which further verified that the main instrument is efficient, and our findings are robust.

[46] This data is part of 'The Religion and State (RAS)' project based in Bar Ilan University, Ramat Gan, Israel. The main objective is to provide detailed information on several aspects of separation of religion and state for 183 states on a yearly basis between 1990 and 2014. Data available in Association of Religious Data Achieve (ARDA).

4.5. Conclusion

This study tests whether the level of country religiosity where the shareholders are based will have a significant influence on the volatility of company returns. Volatility is measured by the volatility of firm accounting and firm-specific market return. The estimations account for the presence of endogeneity and employ an instrumental variable estimation for a global data set on up to 57,718 firm-year observations between 2007 and 2016 in 59 countries. The theory and prior research predict that firms located in areas with high levels of religiosity are prone to have high ethical values that lead to more stable returns. The level of religiosity in a particular area is expected to influence the characteristics of the shareholders. Thus, this will affect shareholder monitoring behaviour resulting in lower volatility.

The findings support the theoretical assumption and provide robust evidence that companies controlled by shareholders with higher levels of religiosity display lower levels of volatility in both accounting and market measures. Likewise, the companies that are located in religious areas are prone to lower volatility. These findings support the view that religion, as a set of social norms, is able to restrain individuals from unethical activities and lead to risk-averse behaviour. The impact of shareholder country religiosity on volatility is attenuated in the long-term for firms located in developed countries, which is in line with secularisation theory. Moreover, the influence of shareholder country religiosity is marginally different across regions. The results indicate lower influence in Central America, Europe, Middle East and Africa, and Central Asia, but, no significant difference in North America. The robust analysis further shows that the negative association between religiosity and firm volatility is stronger for firms with lower external monitoring. The findings imply that religiosity is able to serve as a control mechanism for corporations by shaping the behaviour of shareholders and managers. The results hold after conducting several additional robust analyses.

The findings of this study have important policy implications. The results provide preliminary insight into how the behaviour of the local society may affect firm behaviour and influence organizational outcomes. The negative relationship between shareholder country religiosity and stock volatility strengthens the theoretical view on the association between social norms and asset price. The findings provide meaningful insights into the corporate governance literature that specific characteristics of the controlling shareholder can strongly influence corporate behaviour. Moreover, the findings support the argument that religion can operate as an informal control mechanism that can influence shareholder control behaviour and is able to restrain managerial unethical behaviour, thus reducing agency cost. This vital information should be of interest to managers, the board of directors, regulators, and especially investors in making their portfolio investment decisions.

CHAPTER 5

Comprehensive Ethical Screening and Firm Volatility

Chapter 5 : Comprehensive Ethical Screening and Firm Volatility

5.1. Introduction

The influence of ethics on firm performance is a fundamental issue that has stimulated numerous debates in academia as well as the industry. The importance of ethics in the corporation has gained prominence in the wake of the 2008 global financial crisis. One of the mechanisms to analyse the corporate ethical performance is through an ethical screening procedure. This approach allows the market to select and distinguish corporations not just according to financial performance, but base on the corporate ethical functioning as well. Despite this, whether ethical screening affects stability at the firm-level is an important question that is relatively unexplored in the literature. Bartram, Brown and Waller (2015) noted that there is insufficient work on the fundamental determinants of volatility at the firm level. Prior literature is also yet to find unanimous agreement on the impact of current ethical screening on portfolio performance (Nainggolan, How and Verhoeven, 2016). Capelle-Blancard and Mojon (2014) found that, as of 2011, more than fifty studies using similar methodologies have examined the performance of ethical funds and have almost unanimously demonstrated that the financial performance of ethical investment funds is comparable to their conventional peers. This has led to another question: are existing ethical screening methodologies efficient in providing the investor with a list of highly ethically-compliant firms with better financial performance?

Corresponds to the above issue, this study develops a comprehensive ethical screening framework and investigates the impact of different levels of ethical compliance on the stability of firm accounting and market returns. We define the stages of ethical compliances using three potential sources of firm ethical behaviour. These are, namely, the Shariah screening, earnings quality, and the ESG (environment, social, and governance). The Shariah screens are designed

to exclude companies with lines of business and financial ratios that are incompatible with Shariah/Islamic investment rules. In other words, it is the adherence to an ethical code that relates to religion (Alsaadi, Ebrahim and Jaafar, 2016). Hence, we refer to this stage as religious screening. The second and the third stage are positive screening; these two stages screens firm based on a specific threshold in relation to the firm's ethical practices of earnings quality and ESG performance respectively.

This study is linked to the work of Renneboog, Ter and Zhang (2008), Lee *et al.*, 2010; Humphrey and Lee (2011), Abdelsalam *et al.*, (2014) Capelle-Blancard and Mojon (2014), Charles, Darné and Pop (2015), Nainggolan, How and Verhoeven (2016), Nasr *et al.* (2016), Alaoui *et al.* (2016), Arshad, Aun and Rizvi (2016), Ashraf and Khawaja (2016), Erragragui and Revelli (2016), Al-Awadhi and Dempsey (2017), Al-Khazali *et al.* (2017), and Ashraf *et al.*(2017) that empirically examine the volatility of ethically-compliant firms as compared to the non-ethically complainant firms. This chapter extends their work by integrating the screening process of two prominent ethical investments (Shariah compliant investment and socially responsible investment (SRI)) into a more comprehensive screening methodology. This chapter also extends this work of Erragragui and Revelli (2016) by adding earnings quality measures into the screening framework and offer new evidence on how the screening criteria at three different levels influence firm volatility.

Literature that analyses the performance of ethical investments is inconclusive. In general, ethical funds either provide no significant difference with conventional funds or fail to exhibit better performance (Abdelsalam *et al.*, 2014). To date, the empirical studies mostly examine the performance of ethical investments from the perspective of Shariah-compliance equities (Alam, 2010; Jawadi, Jawadi and Louhichi, 2014; Arshad, Aun and Rizvi, 2016; Nasr *et al.*, 2016; Ashraf *et al.*, 2017; Umar, 2017) or socially responsible funds (Renneboog, Ter

and Zhang, 2008; Lee *et al.*, 2010; Humphrey and Lee, 2011; Capelle-Blancard and Mojon, 2014; Trinks and Scholtens, 2017). Erragragui and Revelli (2016) measure the impact of ESG integration on the performance of Shariah-compliance equities. However, they exclude the ethical component of earnings quality. Moreover, the analysis is conducted at the portfolio level, and the sample is limited to the U.S. This study intends to fill this gap by conducting a firm-level analysis to examine the performance stability of ethically-compliant firms utilising a global dataset.

Prior literature has proposed that compliance to religious practices is another possible driver of firm performance (Al-Khazali *et al.*, 2017). However, Alsaadi et al. (2016) find that firms that are listed in the religious index appear to have a positive relationship with earnings manipulation. In contrast, firms with a high degree of ESG scores are less likely to manage earnings. These findings support the notion that the current Shariah screening procedure does not entirely correspond to primary Islamic principles (Alsaadi, Ebrahim and Jaafar, 2016), which are the Maqasid (objective) of the Shariah. The current screening practices ignore the intrinsic Shariah values of equity, justice and fairness as embodied in social responsibility funds (Naughton and Naughton, 2000; Abdelsalam *et al.*, 2014). The current screening processes focus on negative screening, are less transparent and are inconsistent among users (Derigs and Marzban, 2008; Ho, 2015). As a result, firms that satisfy the screening criteria are merely free from any prohibited elements under the Shariah rather than being involved in an intentional decision to conduct business in a Shariah-compliant manner (Alsaadi, Ebrahim and Jaafar, 2016). Ashraf and Khawaja (2016) provide evidence that different Shariah standards affect both portfolio composition and return performance.

This study develops the connection between ethics and firm volatility using the theoretical framework that connects ethics influences corporate behaviour and market

responses (Donker, Poff and Zahir, 2008). This relationship is supported by stakeholder and legitimacy theory (Suchman, 1995; Freeman, 2001) and evidence in empirical analysis (Mishra and Modi, 2013; Gregory, Tharyan and Whittaker, 2014; Sassen, Hinze and Hardeck, 2016; Lins, Servaes and Tamayo, 2017). Corporations that contribute to the well-being of their stakeholders will receive a positive response from the market. The benefit can be intangible, such as cost reduction, or intangible such as an increase in employee motivation. The theory maintains that by engaging in ethical programs, companies establish trust and long-term relationships with their stakeholders that translate into a good reputation and higher earnings. Hence, firms with high ethical standards are expected to present higher performance stability.

Using a more recent and comprehensive sample of globally listed corporations for the period of 2007 to 2016, the primary empirical results using two-stage least squares find that ethically-compliant firms measured by the comprehensive ethical screening display lower volatility in both accounting and market measures. The findings are also consistent in the robust analysis using matched pair sample derived from a propensity score matching technique. Moreover, the results of the comparative analysis show an increase in firm stability in the higher screening stage. The findings report a consistent increase in the negative relationship between ethically-compliant firms and the measure of firm volatility. The results indicate that the higher the screening intensity, the lower the volatility, and this is consistent with the theoretical assumptions.

This study extends the previous literature on several aspects. First, this study developed a new, comprehensive ethical screening framework using religious, moral and ethical values. In addition to the basic religious screening, the framework integrates additional phases of screening, which includes excluding companies with low earnings qualities and low environmental, social and governance (ESG) performance. The application of this framework

will create a unique, ethically-compliant firm that has sound financial features, is friendly to the environment, contributes to social well-being, and has a high moral standard. This integration implies a considerable contribution and policy implication to ethical finance literature.

Second, the analysis provides the first evidence of the impact of the comprehensive ethical screening on volatility at the firm level. Previous literature mostly analyses the performance of ethical investment at the portfolio or index level (Lee *et al.*, 2010; Abdelsalam *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Charles, Darné and Pop, 2015; Arshad, Aun and Rizvi, 2016; Nasr *et al.*, 2016; Ashraf *et al.*, 2017; Chen and Ngo, 2017). However, the index level analysis is subjected to the portfolio theory. The screening criteria which is based on negative screening will restrict the investment universe, resulting in less efficient portfolios. Consequently, the ethical funds will have lower returns and higher idiosyncratic risk compared to the conventional counterparts (Humphrey and Lee, 2011). In addition, a direct comparison of different ethical standards at the portfolio or index level will lead to biased inferences as a result of different investment universes, the methodology of index calculation, and the rebalancing timing of the index (Ashraf and Khawaja, 2016).

Third, the study compares the impact of screening stringency and intensity measured by the different stages of ethical screening. The findings provide evidence on the importance of incorporating additional screening criteria based on ethical, social and moral values. As an implication, the proposed comprehensive screening framework will benefit both religious and ethical investors by providing access to religious and high ethical investments with stable returns. The integration of the ethical elements of earnings quality and ESG standards will also improve the quality of existing screening procedure by increasing transparency and mitigating information asymmetry.

The chapter is structured as follows: Section 5.2 presents the underpinning theory and hypothesis development. Section 5.3 describes the research design including the construction of comprehensive ethical screening, the sample selection procedure, the empirical model, and variable measurements. Empirical results are presented in Section 5.4, and Section 5.5 is the conclusion.

5.2. Theory and Hypothesis Development

5.2.1. Theoretical connection between Ethics and Performance

The connection between ethical practices and corporate performance is explained in the legitimacy and stakeholder theory. Legitimacy theory describes the purpose of organisations pursuing ethical conduct. This theory assumes the existence of a fiduciary relationship or a 'social contract' between the corporation and the members of the society in which the firm operates (Deegan, 2002). Complying with the social contract is essential for firm performance. The act of corporations gaining legitimacy will promote ethical practices by first, promoting transparent accounting practices (i.e., disclosures and earnings quality), and second, by embedding ethical programs (i.e., emission reduction) as part of the corporate goals. The intention of corporations pursuing legitimacy through ethical practices is mainly to safeguard the continuity of its business, gain credibility for their corporate image, and ensure continuous support from society. Gaining legitimacy leads to stability, persistence, and a desirable image because audiences are most likely to supply resources to legitimate organisations and view them as more worthy, meaningful, predictable, and trustworthy (Suchman, 1995).

Consistent with the above, the stakeholder theory clarifies the method to formulate corporate ethical responsibility and differentiate the needs according to specific groups. Stakeholder theory addresses the ethical and moral obligation of corporations to respond to the rights of individuals and groups that are affected by the actions of the corporation, which is the

stakeholders. According to Freeman (2001), stakeholders are a "group or individual who can affect or is affected by the corporation," and they are groups who are vital to the survival and success of the corporation. This group includes not only the stockholders and the management as agents, but it is also comprised of suppliers, customers, employees, and the local community including the competitor and government in the narrow sense. The theory upholds that "each of these groups has a right, and therefore must take part in determining the direction of the firm in which they have a stake." Similar to legitimacy theory, the responsibility of a corporation towards its stakeholders is based on the concept of the fiduciary relationship or 'trust'. For instance, the employees usually have their livelihood at stake; therefore, in return for their loyalty, the corporation is expected to provide for them and carry them through difficult times. Responding to the specific needs of the subgroup in the society is fundamental because each stakeholder has different or sometimes conflicting expectations towards corporations that might contribute to a different outcome (Chen and Roberts, 2010).

Legitimacy and stakeholder theory are directly or indirectly related to each other as both theories explain why organisations embrace a particular ethical strategy. In legitimacy theory, the actions of organisations are viewed as legitimate from the viewpoint of social norms where the society is considered as a whole without identifying separate individuals or groups. Stakeholder theory on the other hands recognises the different expectations towards corporations from various constituents in the society. Hence, both of these theories explains the connection between ethics and corporate behaviour and the vital of ethical practice on and performance.

(Donker, Poff and Zahir, 2008) suggest that the theoretical connection between ethics and firm performance exists as ethics influences corporate behaviour and market response, which in the end leads to an increase in firm value. Corporate ethical practices convey the

information about corporate 'commitments' towards the society which leads to a positive response from the internal and external stakeholder (i.e., the employees and the customers). Karim, Suh and Tang (2016) support this argument and report a positive market reaction on the first day after the announcements of the lists of ethically-compliant firms. The markets also react positively around the announcement of stocks added to the Islamic index and negatively to stocks that are removed from the index (Mazouz, Mohamed and Saadouni, 2019). The findings suggest that investors perceive firms' commitment to ethics as a source of value creation. Thus, the market will respond positively to corporations that concerned with the well-being of society, consumers, and employees. For instance, by demonstrating appropriate production procedure and after-sales service, the market will reward the firms with loyal customers, and suppliers inclined to deliver goods and services at a lower cost (Donker, Poff and Zahir, 2008).

Karim, Suh and Tang (2016) explained that performing ethically would result in tangible and intangible benefits. By implementing environmental programs of energy reduction, companies can gain financial benefit from cost reduction, which translates into higher earnings. The intangible benefit can come from an increase in reputation and employee motivation. By engaging in ethical programs, corporations establish trust and bond with their stakeholders through the development of a reputation and long-term firm value.

The empirical research also supports the theoretical relationship between ethics and firm performance. (Gregory, Tharyan and Whittaker, 2014) find that firms that engage in ESG indicate positive market response and a higher expected growth rate in the long run. Companies with high ESG performance also appear to have lower total and idiosyncratic risk, thus having a potential of positive impact on firm value (Mishra and Modi, 2013; Sassen, Hinze and Hardeck, 2016). Firms with high ESG rating also demonstrate better performance during the

2008 financial crisis. Specifically, high-ESG firms indicate four to seven percentage points higher in returns with higher profitability, growth, and sales than firms with low ESG (Lins, Servaes and Tamayo, 2017). This evidence suggests that by being involved in ESG activities, firms develop trust with their stakeholders and investors and the impact is more pronounced during the periods of low trust measured by high volatility.

5.2.2. Ethical Screening and Performance

The form of ethical investments can be divided into Shariah-compliant investments and socially responsible investments (SRI). As with any other investment, the objective of these investments is to provide lower volatility and better returns to investors. In this regard, the previous study has conducted an extensive analysis to measure the performance of ethical investments. However, the empirical evidence thus far has been unable to provide unanimous conclusions. Moreover, the analyses were usually conducted at the portfolio or index level.

In the GCC, Shariah-compliance stocks reported higher returns and lower liquidity as compared to conventional stocks (Al-Awadhi and Dempsey, 2017). The analysis of the Dow Jones global index series suggested some meaningful results. Islamic indices exhibit higher performance and are associated with higher risk (Charles, Darné and Pop, 2015). Umar (2017) reported that, on a standalone basis, Islamic indices exhibit desirable performance in both the short term and the long term. However, in comparison, conventional indices demonstrate better performance in the long term. Using uniquely constructed portfolios Ashraf and Khawaja (2016) reported that Shariah-compliance portfolios indicate lower risk compared to conventional portfolios.

A small number of studies present evidence at the firm-level. Chen and Ngo (2017) report that firms categorised as Shariah-compliant experience a significant change in their value. They found that firms included in the Shariah-compliance index observe permanent

favourable price and liquidity effects while excluding firms that maintain negative price and liquidity effects. Within the scope of capital structure theory, (Alaoui *et al.*, 2016) analyse the impact of debt screen on firm market risk and performance at both the portfolio and firm-level. They find that Shariah-compliant stocks show lower systematic risk especially during the global financial crisis, but they do not necessarily provide better returns.

Using an extensive sample of indices from twelve different index providers, (Ho *et al.*, 2014) show that Islamic indices outperformed their conventional counterparts during the crisis periods. However, during the non-crisis period, the performance was generally comparable. Shariah-compliant stock indicates better performance with lower volatility during the economic downturn but slightly underperformed during an economic boom (Alam, 2010). This finding is also supported by (Jawadi, Jawadi and Louhichi, 2014) who find that Shariah-compliant indices in specific regions outperformed during the subprime crisis and in turbulent times. Similarly, the Islamic equity portfolio exhibits higher risk-adjusted returns than the market portfolio during the sub-period 2007 to 2009 (Ashraf *et al.*, 2017).

Most of the above analysis provides support that ethical investments are able to provide better returns to investors, especially during crises. However, (Nasr *et al.*, 2016) examine the statistical properties and volatility of the Dow Jones Islamic Stock Market Index (DJIM) and report that DJIM possessed all the formalised facts and expected performance of conventional asset classes. Provided with this evidence, they disagree with the impression that investments in the Islamic index can offer protection against extreme market fluctuations such as the crisis. However, this position is questionable since the paper did not perform a comparative analysis.

The findings for SRI reported mixed results. SRI funds show comparable performance with conventional funds, which might be due to the lower diversification of SRI as a result of the screening process (Humphrey and Lee, 2011). (Renneboog, Ter and Zhang, 2008) report

similar results for France, Japan and Sweden, where the risk-adjusted returns of SRI funds are not statistically significant from conventional funds. However, in the US, the UK, and many continental European and Asia-Pacific countries, SRI reports a lower performance with their domestic benchmarks. Similarly, Trinks and Scholtens (2017) find lower risk-adjusted returns in SRI stocks, which suggests that there are opportunity costs to negative screening. The inconsistent results in the performance of SRI might be due to the bias in the portfolio level analysis. As mentioned, research at the portfolio or index level is bound to the conventional portfolio theory of diversification. SRI represented a less diversified portfolio of a few industries and is limited to companies with high ESG performance. As such, analysis at the firm-level employed in this study will not suffer from this problem.

5.2.3. The Hypothesis

The above empirical evidence reveals that ethical-compliance equities demonstrate some variance in their performance, especially during periods of uncertainty. This study incorporates the Shariah or religious screening criteria and ESG screening measures with an additional screen for earnings quality. Erragragui and Revelli (2016) report that integrating ESG screens with Shariah-compliant stocks has resulted in higher portfolio performance as compared with the SRI portfolio alone. In sum, the above theoretical views and empirical evidence inclined to support the positive impact of ethics on firm short-term and long-term performance.

Ethical practices affect internal corporate behaviour by establishing responsible management and lead to positive market responses as the companies act in line with social preferences. Ethical screening which is established based on religious and moral values is a systematic process that identifies ethically performing firms according to the classified benchmark. Ethically-compliant firms convey information about corporate commitments towards its stakeholders that include society as a whole. These firms contribute to internal firm

performance by responding to the needs of their stakeholder (i.e., leading to motivated and loyal employees). The firm ethical practices such as environmentally friendly projects will help the firm to gain social legitimacy that drives positive market response. As a result of positive market response and management responsibility, it is expected that highly ethically-compliant firms will demonstrate both short-term and long-term performance, which is depicted as stable accounting and market performance. Also, it is important to note that ESG activities are likely to cost the companies, especially in the short term, which is more pronounced in accounting performance. This factor might impact the firm's operation cost in the short run but is unlikely to affect the whole performance of the firm.[47] Therefore, the study expects that ethically-compliant firms will exhibit lower volatility in their accounting and market returns. Therefore hypothesis 1 (H1) is constructed as follows:

H1: Ethically-compliant firms screened using the comprehensive ethical screening are likely to have lower volatility in accounting and market returns.

Second, the study additionally examines the impact of screening intensity and stringency on firm volatility. The concept of screening intensity is common in socially responsible investment (SRI) funds that involve environmental, social and governance (ESG) screening. Screening intensity can be defined as the number of screens utilised on the companies to form the SRI funds. Using the Carhart performance model, the screening intensity of SRI funds shows lower systematic risk (Lee *et al.*, 2010). In Islamic fund research, (Nainggolan, How and Verhoeven, 2016) finds a positive relationship between fund performance and the number of accounting screens employed but fails to observe a significant relationship between fund performance and the stringency of accounting screens. This finding

[47] Only findings in the robust test that controls for the types of controlling shareholders (Table 5.12), and shareholder investment characteristics (Table 5.14) show lower negative coefficient for comprehensive ethical screening in the accounting measure of volatility.

indicates that screening intensity is somehow similar but different to the concept of screening stringency because the increase in the number of screening processes does not necessarily indicate that the screening criteria is more stringent.

In this paper, we examine the influence of screening intensity on firm volatility as the primary test, and also test the influence of screening stringency as a robust check. Screening intensity is defined by screening stages and screening stringency is measured by the percentage of the benchmark (see 5.3.1 below for details). Specifically, to examine the efficiency of the additional ethical standard, the study splits the screening criteria into three different stages and compares the impact of each screening stage to firm volatility. Stage 1 is religious screening, Stage 2 is a combination of basic religious screening and earnings quality, and Stage 3 is a comprehensive ethical screening that additionally screens for ethical industries and ESG performance. Therefore, hypothesis H2 is as follows:

H2: Ethically-compliant firms screened using more intensive criteria are likely to have lower volatility in accounting and market returns.

5.3. Research Design

5.3.1. Ethical Screening Construction

Our comprehensive ethical screening is constructed based on three main stages. Stage 1 is religious screening; stage 2 is earnings quality screening; and stage 3 is environmental, social and governance (ESG) screening. The ethically-compliant firms are identified by dummy variables: 1 if the company passed the screening criteria and 0 otherwise.

5.3.1.1. Stage 1: Basic Religious Screening

The study identified the religious screening criteria and benchmark based on three main steps. First, the study gathered a list of major global Shariah screening users and compared the

Shariah screening methodologies applied by all identified users. Next, we derive a set of basic Shariah screening methodology based on two main categories: majority and stringent rule. The majority rule means that the screening benchmark is applied by a majority of the identified screening users. The stringent rule on the other hands refers to the strictest benchmark applied by the screening users. The majority method use in this paper is similar to one of the Shariah compliance investment strategies proposed by Derigs and Marzban (2009). The majority rule is founded in the Islamic juristic principle which states that *"the majority deserves to be treated as the whole thing"* (Derigs and Marzban, 2009). Thus, the Shariah screening methodology used in this paper does not refer to a particular screening methodology (i.e., Dow Jones Islamic Index or AAOIFI) but is derived by comparing various screening methodologies applied in the market.

The study identifies 31 primary global Islamic finance users as listed in Appendix B.1. The list and the details of methodologies were adopted from Ho (2015) and Derigs and Marzban (2008). We conduct a cross check with the users' respective websites to ensure accuracy and that the information is up to date. The basic Shariah screening involves two main steps: firstly, excluding companies with non-permissible business activities according to the Shariah or qualitative screening and, secondly, screening the company's financial aspect based on specific financial ratios or quantitative screening. The qualitative stage of screening excludes companies with non-permissible business activities according to Shariah rules. The study considers a type of business to be impermissible if it is stated as impermissible in one of the screening methodologies. The detailed types of prohibited business activities are listed in Appendix B.2. The study manually matched the list of prohibited businesses to the NAICS

industry's six-digit code (See Appendix B.3).[48] The company is non-Shariah compliant if it is categorised under one of the identified industry codes.

In the second step of the primary screening, the quantitative screening, a company is considered as Shariah-compliant if it does not exceeds the specific threshold of the financial components. Derigs and Marzban (2008) and Ho (2015) explain that the relevance of this type of screening is connected to the prohibition of interest (Riba), uncertainty (Gharar) and the trading of money according to Shariah law. The quantitative screen can be divided into four main categories:

i. *Debt screen*. Receiving and paying interest are against Shariah rules; thus, the level of interest paid is proxied by the company's level of debt. The debt screen applied in this study is that the portion of the debt from the company's total assets must not exceed 33 percent in both the majority and stringent rule.

ii. *Liquidity screen.* From a Shariah perspective, businesses should gain income only from the trading of physical goods (tangible assets). Income derived from liquid asset components such as cash and short-term investments are considered to be Riba and are impermissible. Therefore, Shariah-compliant companies should preserve a great extent of illiquid assets. The maximum permissible liquidity level of a company applied in this paper is defined by the receivable and cash to total assets not exceeding 50 percent in the majority rule and 30 percent in the stringent rule.

iii. *Interest screen.* Earnings from interest are explicitly condemned in the Shariah. However, companies cannot avoid from being involved in banking transactions, either to manage their operating activities, cash flows, or other liquid assets. Interest screens

[48] The NAICS codes are selected as it provides a greater level of detail about a firm's activity compared to the SIC codes.

are measured in two ways: the amount of interest income received or the amount of liquid assets (cash and interest-bearing securities). Since the information of interest income is not available for non-financial firms, we focus on the second measure which is the total amount of cash and interest-bearing securities (proxy by short-term investments) to total assets. The benchmark is 33 percent for the majority rule and 30 percent for the stringent rule.

iv. *Non-permissible income screen.* This screening stage measures the level of additional income gained from non-Shariah compliant activities. This stage applies in a case where the primary business of a company is Shariah-compliant but the company is involved in some non-compliant activities or business segments. For instance, an airline company is generally considered as compliant, but the company might be involved in serving and selling of alcohol. If the generated income from this activity exceeds the accepted threshold, the airline company is considered to be non-Shariah-compliant. In this stage, the scholars unanimously agree that the non-permissible income from any additional non-compliant income must not exceed 5 percent of the total revenue.

The information for the first three screening categories is obtained from the companies' accounting information from the Thomson Reuters Datastream. For the non-permissible income screen, we acquire this information from the companies' segments, and the data is available in Orbis, by Bureau Van Djik. As mentioned before, the financial ratios and the benchmarks are selected based on common practices (applied by the majority of the users). In cases where we were unable to identify the majority, we chose the intermediate stringent criteria. For example, for the liquidity screen, the range of the benchmark is from 33% to 70%. Therefore, the 50% benchmark is chosen for the majority screening. The list of financial

benchmarks for all identified Shariah screening users and the chosen criteria is summarised in Appendix B.4.

5.3.1.2. Stage 2: Earnings Qualities Screening

The earnings quality measurement for each company is obtained from Thomson Reuters StarMine which is downloaded from Thomson Reuters Eikon. The earnings quality model developed by StarMine measures the degree to which past earnings are reliable and are expected to persist. The score is expressed in a percentile rank (1-100) based on the sustainability of company earnings, with 100 representing the highest rank and a better earnings quality. High-quality earnings reveal a company's current, past, and also future operating performance regardless of the level of generated income. Therefore, the earnings quality score will provide more accurate and reliable measures to evaluate company performance and accounting quality. In this study, we use two important components for earnings quality: the accruals and cash flow components.

StarMine measures accruals as the changes in operating assets and liabilities from the past four quarters to the most recent quarter. The changes are measured from eight different sources in both current and non-current operating assets and liabilities and are scaled by average assets. Meanwhile, the cash flow component is measured as the annualised free cash flow scaled by average assets. Company earnings are likely to persist when they have high cash flow. In this paper, a company is considered to have an acceptable level of earnings quality when both of their accruals and cash flow components scores are above average (both accruals and cash flow quality above 50 percent). This screening stage is essential as it is expected that

companies with high earning quality to have a lower likelihood of being involved in the unethical activity of accounting manipulation.[49]

5.3.1.3. Stage 3: Ethical Industries, and Environmental, Social and Governance (ESG) Screening

The third screening stage is constructed by examining the methodology of four primary ethical index providers, namely FTSE4Goods Indices, Dow Jones Sustainability Indices, MSCI Global Social Responsibility Indices, and S&P Environmental and Socially Responsible Indices. This stage comprises two main criteria: ethical industries and ESG screening. In sum, these ethical indices exclude companies that are involved in immoral and business activities that can negatively affect the environment and society including alcohol, gambling, tobacco, military weapons, firearms, nuclear power, fossil fuels, adult entertainment, and genetically modified organisms. Since religious screening (Stage 1) has excluded all immoral business activities, this stage additionally excludes companies with activities that are detrimental to the environment, i.e. businesses that are involved in nuclear and fossil fuels.

In the second step of this stage, the companies' ESG performance measures are gathered from Thomson Reuters Asset4 which is available in the Thomson Reuters Datastream. This database provides scores for over 4000 active, publically-listed firms globally. For each firm, 750 data points of publically available data were collected to form the 250 performance indicators. These performance indicators were further grouped into 18 categories within four main pillars: economic performance, environmental performance, social performance, and governance performance. For the screening, the analysis used the overall ESG performance scores and applied a minimum of a 50 percent threshold. A company is categorised as having

[49] See Chapter 2 section 2.4.3.1 for further discussion on the rational of including earnings quality as an additional screening criteria.

an acceptable ESG performance if it scores above this minimum threshold.[50] The summary of the comprehensive screening criteria and the stages are summarised in Table 5.1.

Table 5.1: Summary of Comprehensive Ethical Screening Criteria

Stages/ Types	**Description**	**Stage 1: Basic Religious**	**Stage 2: Religious + EQ**	**Stage 3: Religious + EQ + Ethics**
Religious industries	Excludes: Tobacco, poultry, meat and food-related production, alcohol, arms, film, music, broadcasting, conventional financial services, real estate, leasing companies, media & advertising-related, entertainment, amusement and recreation, gambling, hotels and motels, restaurant & bar.	✓	✓	✓
Financial ratios	1. Debt to total asset (majority: <33%; stringent: <33%) 2. Receivable + Cash to total assets (majority: <50%; stringent: <33%) 3. Cash + interest-bearing securities to total assets (majority: <33%; stringent: <30%) 4. Income from non-permissible segments to total revenue (majority: <5%; stringent: <5%)	✓	✓	✓
Earnings quality	Earnings quality score above 50% for accruals and cash flow components.		✓	✓
Ethical industries	Additionally excludes fossil and nuclear			✓
ESG	ESG overall score Above 50%			✓

5.3.2. Data

The study constructs the sample by using the Thomson Reuters Asset4 (Asset4) global database that covers forty-two countries in the world for a period of ten years from 2007 to 2016. The Asset4 sample covering ESG scores, accounting information, and stock and market price data are gathered from Thomson Reuters Datastream. As mentioned above, we collect data for companies' business segments from Orbis by Bureau Van Dijk and earnings quality from

[50] This benchmark is similar to the ethical screening criteria set by FTSE4Goods. In FTSE4Goods, for the emerging markets, a company needs to obtain an ESG rating of 2.5 over 5 or above to be added to the FTSE4Good Index Series.

Thomson Reuters Eikon. In addition, as the sample covered a multi-country analysis, countries' economic and governance measures are collected from the World Bank database. Due to the disparity between accounting and stock price data availability and variable measurement procedures, the accounting volatility variable covers a higher number of companies but with a fewer number of observations than market volatility. Therefore, the analysis divides the sample into Panel A and Panel B that represents an unbalanced panel sample for accounting volatility and market volatility respectively. The list of countries and the number of firms and observations in the sample is presented in Table 5.2.

The initial Asset4 global data for all active and inactive listed firms from 2007 to 2016 consists of 5060 firms with 49,280 observations. We exclude financial firms with NAICS industry codes from 5200 to 5399, and so the initial sample of non-financial firms reduced to 4,323 firms with 41,959 observations. The sample is additionally restricted to firms with available accounting data for religious screening: the financial composition screening. The accounting information required for this stage are total assets, total debts, earnings before interest and tax (EBIT), receivables, cash and cash equivalence, and short-term investments. This process has reduced the sample to 4,041 firms with 34,701 observations.

Following Faccio et al. (2011), for Panel A (accounting volatility), the sample is further restricted to companies with at least five years of available data for EBIT and total assets. The five-year period is a requirement to compute the accounting volatility by deriving the standard deviations using the five periods rolling window technique. An additional requirement for the sample is that the country should have at least two companies. After merging the accounting volatility data with the main control variables, the final sample for Panel A includes 2,722 companies from 42 countries with 13,918 firm-year observations. For Panel B, we gathered the weekly companies stock price and the local country index price from 2007-2016 from

Datastream for all listed firms with available accounting data. After calculating the market volatility based on the method explained in 4.3.2 in Chapter 4, the available firm market volatility variables are merged with the screening information and the main control variables. Similar to Panel A, the sample in Panel B includes only countries with at least two firms. Through this selection process, the final sample for Panel B comprises 2,339 companies from 42 countries with 19,518 firm-year observations.

5.3.3. Empirical Model

This study analysed the impact of ethical screening on firm volatility. The objective is to provide evidence of whether firms with high ethical standards derived from comprehensive ethical screening provide more stable returns than firms with low ethical performance. As explained in section 5.3.1 above, the study constructs the list of ethically-compliant firms by filtering firms according to the selected religious screening criteria, earnings quality screening and ESG screening. Ethical-compliance is a dummy variable equal to 1 if the company passes the screening criteria and 0 otherwise.

As a result of the screening process, the ethically-compliant firms belonged to specific industries and were characterised by lower debt, low liquidity, low-interest income, better earnings quality, and high ESG performance. Due to the fact that all of these factors, especially the level of leverage, influence financial risk (Alaoui *et al.*, 2016) the bidirectional relationships between ethically-compliant firms and volatility in returns are intuitive. The level of firm financial risk (measured by the level of debts and liquidity) has a high impact on whether the firm will be included or excluded as ethically-compliant firms. Ethically-compliant firms have a high probability of influencing firm risk or volatility (accounting and market volatility) and vice versa. As discussed in (Ashraf *et al.*, 2017), conventional financial theory suggests that leverage will give a direct impact on the level of a firm's returns, and the effect

is conditional on current economic conditions. Importantly, the relationship between financial leverage and returns depends heavily on a company's investment and financing decisions, and these factors are endogenous. This implies that the firm's business activities and financial components contain risk-related information and, as such, ethically-compliant firms are expected to have low volatility in their returns.

To account for this endogeneity issue, the study extracts the exogenous component of ethically-compliant firms by constructing an instrumental variable (IV) that captures the natural trend of ethically-compliant firms across all firms involved in similar types of activities and in similar locations.[51] For this purpose, the study follows the methodology in Faccio et al. (2011) and uses the fraction of ethically-compliant firms to all firms in the same country and industry as the instrument (IV) for ethically-compliant firms. These variables capture the country-industry effect which is not directly related to firm volatility. To assess the relevance of the IV, a simple correlation analysis between the ethically-compliant firms' variables and the instruments was conducted. The IVs are positively correlated with ethically-compliant firms' variables with a correlation from 0.40 to 0.64 and are significant at 5 percent. On the other hand, the correlation between the IVs and the measures of firm volatility are negative and inconsistent with mostly insignificant correlation of less than 0.14. These simple tests have indicated that the instrument is orthogonal to the dependent variables but are heavily correlated with the independent variables of interest. Consequently, the IV meets the necessary conditions required for the identification of a valid instrument.

In particular, the relationship between ethically-compliant firms and the measure of firm volatility is tested using the following procedure: in the first stage, the endogenous

[51] As explained in 4.3.1, the study use pooled 2SLS because the model is exactly identified, and the measurement of ethical funds is a dummy variable which is a time invariant variable. Within this constrains, GMM, fixed effects and random effects estimator are not efficient to fulfil the objective of this chapter.

variable which is the ethical-compliance variables is regressed on the instrument including the exogenous independent variables. The second stage uses the predicted value of ethically-compliant firms from the first stage regression as the independent variable of interest. The second stage model is as follows:

$$Volatility_{it} = \alpha_0 + \beta_1 \widehat{EthicalFirms}_{it} + \sum_{i=1}^{n} \beta_i \, Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (1)$$

Where:

Volatility = measures of accounting and market volatility

Ethical firms = predicted value of ethically-compliant firms.

Controls = a list of identified firm and country observable determinants of firm volatility

YearFE = year fixed effects

IndustryFE = industry (2 digits NAICS industry codes) fixed effects

The definition of variables is discussed below in detail. All tests use robust regressions and are clustered by the firm to exploit information in the cross-sectional and time-series nature of the data and to control for heteroskedasticity and the serial correlation in firm time series observations.

5.3.4. Measuring Firm Volatility

The study employs two main measures of volatility: the accounting (sd_ROA) and market measures (Idio_Volt). The details of the calculation of these variables are discussed in Chapter 4 section 4.3.2. In short, sd_ROA is the standard deviation of ROA minus average industry ROA measured in five-year overlapping periods. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across

all firms in the same four-digit NAICS industry and from the country in which the company is registered. Idio_volt is the firm's idiosyncratic volatility measured as the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML).

5.3.5. Main Control Variables

A set of main control variables is identified based on previous literature. Specifically, the control variables are Profitability, Size, Leverage, Sales Growth, Age, Big 4, GDP Growth, and Market Size. The definitions and the reason for the inclusion of these variables are discussed in Chapter 4 section 4.3.5. In addition, the analysis in this chapter control for Inflation and Regulatory Quality. Inflation is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. Regulatory quality is a country governance variable that measures the ability of government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is expressed as a percentile rank and indicates the country's rank among all countries with a rank of 0 corresponding to countries with the lowest regulatory quality and 100 to countries with the highest regulatory quality.

5.4. Empirical Results

5.4.1. Descriptive Statistics

The sample in Panel A for accounting volatility includes 2,722 companies with 13,918 firm-year observations. In Panel B for market volatility, the sample comprises 2,339 companies with 19,518 firm-year observations. Both of the panels cover the period of 2007 to 2016 from 42 countries. There are three countries that represent a significant fraction of observations in the sample: United States (22.98% in Panel A and 21.35% in Panel B), Japan (14.15% in Panel A, 14.92% in Panel B), and Australia (9.97% in Panel A and 11.51% in Panel B). The distribution

of observations is intuitive since these countries are developed nations with a high number of publicly-listed corporations.[52]

Table 5.2 reports the descriptive statistics for the dependent, independent and main control variables used in the regression analysis for the main samples. The second part of the table presents the firm characteristics for ethically compliance firms in all screening stages. The first two rows present the descriptive figures of the main dependent variables followed by the dummy variables for ethically-compliant firms and main control variables. The descriptive figures for the main sample show that, on average, almost half of the sample size is ethically-compliant firms and the number gradually drop corresponding with the screening stages. The descriptive results for both panels are generally identical; in both panels only a small portion of firms experience profit. In Panel A, the sample indicates an average of 53% of sales growth and 62% are audited by big 4 auditors. For Panel B, the sample indicates an average 32% of sales growth and 67% are audited by big 4 auditors. In addition, a majority of the firms in the sample come from countries with good governance and have a high regulatory quality with an average score of over 80%.

In the descriptive for ethical screening stages, ethically-compliant firms based on stage 1- majority (ES1-Majority) screening show that firms categorised under this category have comparable accounting and market volatility, but subject to slightly higher profitability, and lower leverage and sales growth compared to the sample. These figures are comparable for stage 1- stringent (ES1-Stringent). For stage 2 (both ES2- Majority and ES2-Stringent), ethically-compliant firms indicate low accounting and market volatility, and also lower profitability, leverage and sales growth compared to the full sample and the previous screening

[52] Appendix B.5 reports the distribution of samples comprising the number of firms and observations according to the countries.

stage. Ethically-compliant firms in the comprehensive screening criteria demonstrate lower volatility, leverage, and sales growth compared to the previous stage and the overall sample. However, these firms indicate higher assets size and comparable average profitability. The results for descriptive statistics reveal that the ethically-compliant firms based on the comprehensive criteria are likely to have stable earning, larger assets, and lower leverage. These findings provide a primary indication of the efficiency of the comprehensive screening criteria for screening high performing firms.

The number of firms and observations for ethically-compliant firms is displayed at the heading of each screening stages. In stage 1: the basic religious screening, a high number of firms passed from the total sample with around 56% to 65% in Panel A and 62% to 70% in Panel B. The number of ethically-compliant firms slightly decreased as the screening process became more intense and stringent. In stage 2: the basic and earnings quality screening, more than half of the companies in the sample were unable to pass. The number of ethically-compliant firms in this stage is around 38% to 48% in Panel A and 46% to 56% in Panel B. For stage 3, the comprehensive ethical screening that covers religious, earnings quality and ethical screening, at least 19% of the firms are ethically-compliant firms. Specifically, after applying a comprehensive screening methodology, in Panel A, 684 (25%) are ethically-compliant according to the majority benchmark, and 518 (19%) are ethically-compliant according to the stringent benchmark. In Panel B, the ethically-compliant firms consisted of 728 (31%) for the majority benchmark and 592 (25%) for the stringent benchmark.

Table 5.2: Descriptive Statistics for the overall sample and for each ethical screening stages.

Full Sample	**Panel A: Accounting Volatility (Firms = 2722, Obs. = 13,916)**			**Panel B: Market Volatility (Firms = 2339, Obs. = 19,518)**		
	Mean	**Median**	**Std. Dev.**	**Mean**	**Median**	**Std. Dev.**
sd_ROA	0.0623	0.0313	0.1558			
Idio_volt				0.7292	0.6271	0.3973
ES1-Majority	0.4937	0.0000	0.5000	0.5015	1.0000	0.5000
ES1-Stringent	0.3881	0.0000	0.4873	0.3991	0.0000	0.4897
ES2-Majority	0.2084	0.0000	0.4062	0.1940	0.0000	0.3955
ES2-Stringent	0.1586	0.0000	0.3654	0.1479	0.0000	0.3550
ES3-Majority	0.0905	0.0000	0.2870	0.0873	0.0000	0.2823
ES3-Stringent	0.0706	0.0000	0.2561	0.0667	0.0000	0.2495
Profitability	0.0268	0.0076	0.2193	0.0180	0.0038	0.2761
Size	15.0902	15.2165	1.7850	15.2240	15.3638	1.7666
Leverage	0.2430	0.2273	0.1925	0.2475	0.2333	0.1934
Sales growth	0.5352	0.1224	6.2349	0.3225	0.0557	4.8630
Age	3.3577	3.4657	1.0733	3.5132	3.5835	0.9499
Big 4	0.6269	1.0000	0.4836	0.6715	1.0000	0.4697
GDP growth	0.0003	0.0000	0.0047	0.0008	0.0000	0.0173
Market size	139.5244	99.4164	205.7111	117.4267	95.1436	136.1503
Inflation	2.5911	2.3210	2.4276	2.3531	1.8201	2.4247
Regulatory quality	84.2984	90.9091	15.6876	83.2776	87.6777	16.1371
Ethical Screening Stages	**Panel A:Accounting Uncertainty**			**Panel B: Market Uncertainty**		
	Mean	**Median**	**Std. Dev.**	**Mean**	**Median**	**Std. Dev.**
ES1 -Majority: Religious	**Firms = 1788, Obs. = 6872**			**Firms = 1645, Obs. = 9789**		
sd_ROA	0.0638	0.0337	0.1679			
Idio_volt				0.7129	0.6219	0.3687
Profitability	0.0399	0.0107	0.2366	0.0317	0.0066	0.2457
Size	15.1770	15.2278	1.7011	15.2764	15.3356	1.7082
Leverage	0.1663	0.1771	0.1013	0.1692	0.1823	0.1014
Sales growth	0.4733	0.1246	5.4539	0.3316	0.0550	5.6796
Age	3.4539	3.5835	1.0534	3.5801	3.6889	0.9540
Big 4	0.6388	1.0000	0.4804	0.6842	1.0000	0.4648
ES1 -Stringent: Religious	**Firms = 1309, Obs. = 5401**			**Firms = 1460, Obs. = 7790**		
sd_ROA	0.0677	0.0348	0.1842			
Idio_volt				0.7144	0.6186	0.3798
Profitability	0.0408	0.0105	0.2451	0.0321	0.0056	0.2582
Size	15.2737	15.3216	1.7472	15.3704	15.4370	1.7522
Leverage	0.1737	0.1861	0.1000	0.1772	0.1931	0.1001
Sales growth	0.5325	0.1225	6.0826	0.3777	0.0510	6.3323
Age	3.4260	3.5264	1.0565	3.5544	3.6376	0.9626
Big 4	0.6478	1.0000	0.4777	0.6910	1.0000	0.4621
ES2 -Majority: Religious + EQ	**Firms = 1309, Obs. = 2901**			**Firms = 1315, Obs. = 3787**		
sd_ROA	0.0529	0.0308	0.0965			
Idio_volt				0.6771	0.6037	0.3307
Profitability	0.0194	0.0069	0.1895	0.0201	0.0040	0.1997
Size	15.2100	15.2058	1.6181	15.3333	15.3434	1.6321
Leverage	0.1642	0.1736	0.0996	0.1656	0.1763	0.0999
Sales growth	0.3025	0.1148	3.4468	0.1676	0.0609	2.8698

Age	3.4019	3.5264	1.0848	3.5808	3.6636	0.9572
Big 4	0.6618	1.0000	0.4732	0.7045	1.0000	0.4563
ES2 -Stringent: Religious + EQ	**Firms = 1041, Obs. = 2208**			**Firms = 1082, Obs. = 2286**		
sd_ROA	0.0542	0.0310	0.0955			
Idio_volt				0.6727	0.5941	0.3373
Profitability	0.0144	0.0051	0.1877	0.0166	0.0015	0.2072
Size	15.3221	15.3153	1.6524	15.4552	15.4641	1.6713
Leverage	0.1734	0.1842	0.0989	0.1764	0.1889	0.0983
Sales growth	0.3233	0.1103	3.8747	0.1829	0.0565	3.2818
Age	3.3708	3.4657	1.0974	3.5640	3.6109	0.9711
Big 4	0.6639	1.0000	0.4725	0.7024	1.0000	0.4573
ES3 -Majority: Religious+EQ+ESG	**Firms = 684, Obs. = 1260**			**Firms = 728, Obs. = 1704**		
sd_ROA	0.0382	0.0272	0.0383			
Idio_volt				0.5904	0.5369	0.2491
Profitability	0.0238	0.0076	0.1677	0.0264	0.0058	0.1866
Size	16.1043	16.0412	1.2844	16.0787	16.0280	1.3487
Leverage	0.1788	0.1855	0.0904	0.1768	0.1861	0.0923
Sales growth	0.1137	0.0962	0.2177	0.0793	0.0607	0.2055
Age	3.7543	3.9512	0.9771	3.8214	3.9890	0.9189
Big 4	0.7492	1.0000	0.4336	0.7670	1.0000	0.4229
ES3 -Stringent: Religious+EQ+ESG	**Firms = 518, Obs. = 982**			**Firms = 592, Obs. = 1302**		
sd_ROA	0.0390	0.0271	0.0406			
Idio_volt				0.5853	0.5284	0.2541
Profitability	0.0201	0.0049	0.1545	0.0246	0.0035	0.1890
Size	16.2230	16.1928	1.2974	16.2206	16.1851	1.3716
Leverage	0.1890	0.1982	0.0881	0.1883	0.2007	0.0894
Sales growth	0.1099	0.0933	0.2140	0.0754	0.0565	0.2086
Age	3.7343	3.9318	1.0029	3.8030	3.9703	0.9519
Big 4	0.7485	1.0000	0.4341	0.7611	1.0000	0.4266

This table reports the descriptive statistics for the main dependent and independent variables. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

Overall, the fraction of ethically-compliant firms from the total number of firms in the sample are significant for empirical estimations. However, this percentage is based on the number of ethically compliance firms to the number of firms in the full sample. The percentage of observation in each screening stage to the total observation is much lower than this which is from 7% to 49% (refer to the mean value of ES1 to ES3 in the descriptive table). This is because the screening process is conducted based on the annual accounting data, and the list of firms that managed to pass the screening criteria are varied according to their current performance. Thus, to overcome a potential bias in the estimation, this study run an additional test using a matching sample derived from the propensity score matching method.

Table 5.3 reports the Pearson correlation coefficient matrix for the test and main control variables for Panel A and Panel B. The results indicate that ethically-compliant firms for stage 1 report a mixed result: ethically-compliant firms are insignificant or positively significant in affecting accounting volatility and are negatively correlated with market volatility. As the screening criteria become more stringent, the correlation between ethically-compliant firms and the measure of firm volatility is consistent, which conforms to our hypotheses. The results provide a primary insight that firms with higher levels of ethical practices are expected to experience stable accounting and market returns. However, the multivariate analysis using 2SLS that tackle the endogeneity issue is likely to provide more reliable inferences about this relationship. The correlation of Size, Big 4 and Age are negatively associated with firm volatility, indicating consistent results with previous literature. All of the control variables except GDP growth show a significant correlation with the dependent variable, thus indicating that these variables are vital to be included in the model. In sum, the correlation coefficient among independent variables are within tolerable limits and reject the likelihood of having multicollinearity.

Table 5.3: Correlation Matrix

PANEL A: Accounting Volatility

	sd_ROA	**ES1-Majority**	**ES1-Stringent**	**ES2-Majority**	**ES2-Stringent**	**ES3-Majority**	**ES3-Stringent**	**Profitability**	**Size**	**Leverage**	**Sales growth**
sd_ROA	1.0000										
ES1-Majority	0.0092	1.0000									
ES1-Stringent	0.0275*	0.8063*	1.0000								
ES2-Majority	-0.0312*	0.5196*	0.3928*	1.0000							
ES2-Stringent	-0.0226*	0.4397*	0.5453*	0.8462*	1.0000						
ES3-Majority	-0.0488*	0.3195*	0.2533*	0.6148*	0.5360*	1.0000					
ES3-Stringent	-0.0413*	0.2790*	0.3460*	0.5369*	0.6345*	0.8733*	1.0000				
Profitability	0.0278*	0.0590*	0.0507*	-0.0172*	-0.0246*	-0.0043	-0.0085	1.0000			
Size	-0.2351*	0.0480*	0.0819*	0.0344*	0.0564*	0.1792*	0.1748*	-0.0802*	1.0000		
Leverage	-0.0809*	-0.3937*	-0.2867*	-0.2102*	-0.1571*	-0.1053*	-0.0774*	-0.0814*	0.2589*	1.0000	
Sales growth	0.0460*	-0.0098	-0.0003	-0.0192*	-0.0148	-0.0213*	-0.0188*	0.0225*	-0.1129*	-0.0248*	1.0000
Age	-0.0925*	0.0885*	0.0506*	0.0211*	0.0053	0.1166*	0.0967*	-0.0358*	0.3187*	0.0407*	-0.0811*
Big 4	-0.0064	0.0244*	0.0345*	0.0371*	0.0333*	0.0798*	0.0693*	0.0158	0.0501*	-0.0028	-0.0190*
GDP growth	-0.0111	-0.0036	0.0041	-0.0121	-0.0051	-0.0083	-0.0036	-0.0031	0.0044	0.0040	-0.0001
Market size	-0.0207*	-0.0579*	-0.0491*	-0.0284*	-0.0231*	-0.0507*	-0.0440*	-0.0001	-0.0796*	-0.0462*	0.0100
Inflation	0.0342*	-0.0281*	0.0192*	-0.0001	0.0218*	-0.0397*	-0.0263*	0.0417*	-0.1422*	0.0084	0.0101
Regulatory quality	0.0688*	0.0265*	0.0165	0.0173*	0.0096	0.0568*	0.0484*	0.0643*	-0.0984*	-0.0575*	0.0334*

	Age	**Big 4**	**GDP growth**	**Market size**	**Inflation**	**Regulatory quality**
Age	1.0000					
Big 4	-0.0189*	1.0000				
GDP growth	-0.0224*	-0.0214*	1.0000			
Market size	-0.1674*	0.1232*	-0.0134	1.0000		
Inflation	-0.1432*	-0.1077*	0.0718*	0.0364*	1.0000	
Regulatory quality	-0.0034	0.3050*	-0.0821*	0.2408*	-0.5300*	1.0000

PANEL B: Market Volatility

	Idio_volt	**ES1-Majority**	**ES1-Stringent**	**ES2-Majority**	**ES2-Stringent**	**ES3-Majority**	**ES3-Stringent**	**Profitability**	**Size**	**Leverage**	**Sales growth**
Idio_volt	1.0000										
ES1-Majority	-0.0410*	1.0000									
ES1-Stringent	-0.0303*	0.8125*	1.0000								
ES2-Majority	-0.0643*	0.4891*	0.3637*	1.0000							
ES2-Stringent	-0.0592*	0.4153*	0.5111*	0.8490*	1.0000						
ES3-Majority	-0.1081*	0.3083*	0.2305*	0.6304*	0.5369*	1.0000					
ES3-Stringent	-0.0968*	0.2665*	0.3280*	0.5449*	0.6418*	0.8644*	1.0000				
Profitability	-0.0218*	0.0495*	0.0415*	0.0036	-0.0022	0.0094	0.0063	1.0000			
Size	-0.4496*	0.0298*	0.0676*	0.0304*	0.0545*	0.1496*	0.1508*	-0.0348*	1.0000		
Leverage	-0.0145*	-0.4061*	-0.2964*	-0.2078*	-0.1533*	-0.1131*	-0.0818*	-0.1107*	0.2642*	1.0000	
Sales growth	0.0775*	0.0019	0.0093	-0.0156*	-0.0120	-0.0155*	-0.0136	0.0277*	-0.0923*	-0.0340*	1.0000
Age	-0.2477*	0.0706*	0.0353*	0.0349*	0.0223*	0.1004*	0.0816*	-0.0325*	0.2864*	0.0448*	-0.0554*
Big 4	-0.1135*	0.0272*	0.0339*	0.0345*	0.0274*	0.0629*	0.0510*	0.0120	0.0621*	0.0029	-0.0103
GDP growth	-0.0050	-0.0047	-0.0034	-0.0109	-0.0058	-0.0126	-0.0100	-0.0102	0.0028	0.0054	-0.0027
Market size	-0.0467*	-0.0451*	-0.0327*	-0.0121	-0.0087	-0.0251*	-0.0231*	-0.0084	0.0019	-0.0241*	0.0168*
Inflation	0.1624*	-0.0369*	0.0067	-0.0146*	0.0066	-0.0276*	-0.0164*	0.0293*	-0.1311*	0.0132	0.0200*
Regulatory quality	0.0166*	0.0521*	0.0378*	0.0353*	0.0264*	0.0567*	0.0489*	0.0586*	-0.1012*	-0.0712*	0.0271*

	Age	**Big 4**	**GDP growth**	**Market size**	**Inflation**	**Regulatory quality**
Age	1.0000					
Big 4	0.0114	1.0000				
GDP growth	-0.0147*	-0.0202*	1.0000			
Market size	-0.0243*	0.1266*	-0.0121	1.0000		
Inflation	-0.1435*	-0.1557*	0.0244*	0.0303*	1.0000	
Regulatory quality	0.0370*	0.2986*	-0.0462*	0.1952*	-0.5974*	1.0000

This table reports the Pearson correlation matrix for the test and the main control variables. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

5.4.2. Main Results

In this section, the study runs a multivariate analysis to test whether ethically-compliant firms that are compliant with religious screening and are characterised by high ethical standards will have a significant impact on firm volatility. The analysis uses two measures of firm volatility: (1) standard deviation of adjusted ROA (sd_ROA) and (2) Idiosyncratic volatility (Idio_volt) derived from the standard error of a market model. Both of these measures represent the volatility or instability of firm returns. Ethical-compliance variables are the dummy variables that are equal to 1 if the firm passed the screening criteria and 0 otherwise. This measure is represented by three stages: (1) Stage 1-Religious, (2) Stage 2-Religious + EQ (earnings quality), and (3) Stage 3- Religious + EQ + ESG. Stage 3 is the comprehensive screening that covers religious, earnings quality, ethical industries, and ESG performance. In addition, the screening criteria are divided into two types: the majority and the stringent criteria. As explained in 5.3.1.1 above, the difference between the majority and the stringent criteria is only in the first stage of the religious screening. The objective of including two types of criteria is to capture the impact of different religious screening requirements as this stage encompasses a very diverse methodology. As evidenced by the previous empirical research on the impact of ethics on firm risk and returns, it is expected that ethically-compliant firms will demonstrate lower volatility and the level of stability in the returns will increase as the ethical standard becomes higher.

5.4.2.1. Comprehensive Ethical Screening and Accounting Volatility

The findings for the accounting volatility analysis are reported in Table 5.4. Model 1 until 3 report the results for each screening stage for the majority criteria, and model 4 until 6 show the results for the stringent criteria. The results for comprehensive ethical screening support hypothesis 1, which indicate lower accounting volatility for ethically-compliant firms with

high earnings quality and ESG performance. Overall, all of the models report that the coefficients of ethically-compliant firms in all screening stages were negative and significant with accounting volatility. These results indicate that firms with high ethical standards are subject to lower volatility in their accounting returns. The findings support the previous research that reports a lower risk for ethically-compliant firms (Alaoui *et al.*, 2016; Ashraf and Khawaja, 2016).

The negative coefficient of ethically-compliant firms increases as the screening requirements become more intense. In model 1, ethically-compliant firms based on stage 1 screening report a negative coefficient of -0.0221, and this is significant at 1%. In stage 2 (model 2), the negative coefficient increased to -0.0342. Finally, in stage 3, the comprehensive screening, the negative coefficient further increased to -0.0366. This increasing pattern is also similar to the stringent screening criteria (model 4-6). These findings are consistent with our expectation that higher ethical practices lead to better stability, which supports hypothesis 2. The results suggest positive evidence that ethically-compliant firms derived from the three-level comprehensive screening show less volatility in their accounting returns. These results are consistent with previous studies that established lower risk for highly ethically-compliant firms (Mishra and Modi, 2013; Gregory, Tharyan and Whittaker, 2014; Sassen, Hinze and Hardeck, 2016; Lins, Servaes and Tamayo, 2017).

Table 5.4: Ethical screening and accounting volatility

Panel A: Accounting Volatility	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0221***					
	(0.0061)					
Stage 2: Religious + EQ		-0.0342***				
		(0.0093)				
Stage 3: Religious + EQ + ESG			-0.0366***			
			(0.0105)			
Stringent Screening						
Stage 1: Religious				-0.0144**		
				(0.0058)		
Stage 2: Religious + EQ					-0.0267***	
					(0.0092)	
Stage 3: Religious + EQ + ESG						-0.0333***
						(0.0110)
Profitability	-0.0365*	-0.0381*	-0.0370*	-0.0373*	-0.0384*	-0.0373*
	(0.0207)	(0.0210)	(0.0209)	(0.0209)	(0.0211)	(0.0209)
Size	-0.0162***	-0.0164***	-0.0158***	-0.0163***	-0.0165***	-0.0161***
	(0.0017)	(0.0017)	(0.0018)	(0.0017)	(0.0017)	(0.0018)
Leverage	-0.0242*	-0.0180	-0.0090	-0.0124	-0.0108	-0.0064
	(0.0142)	(0.0133)	(0.0112)	(0.0126)	(0.0121)	(0.0109)
Sales Growth	-0.00001	-0.00001	0.00002	0.000003	-0.000002	0.00001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Age	-0.0010	-0.0016	-0.0011	-0.0014	-0.0017	-0.0013
	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)
Big 4	-0.0070	-0.0062	-0.0061	-0.0070	-0.0070	-0.0066
	(0.0043)	(0.0043)	(0.0043)	(0.0043)	(0.0043)	(0.0043)
GDP Growth	-0.255**	-0.287**	-0.267**	-0.245**	-0.265**	-0.257**
	(0.122)	(0.122)	(0.123)	(0.119)	(0.120)	(0.122)

Market Size	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***
	(0.000007)	(0.000007)	(0.000007)	(0.000007)	(0.000007)	(0.000007)
Inflation	0.00321***	0.00341***	0.00342***	0.00336***	0.00343***	0.00339***
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Regulatory Quality	0.0009***	0.0009***	0.0010***	0.0009***	0.0009***	0.0009***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Intercept	0.245***	0.240***	0.220***	0.240***	0.238***	0.225***
	(0.0281)	(0.0274)	(0.0286)	(0.0274)	(0.0272)	(0.0286)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	13918	13918	13918	13918	13918	13918
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8781***	0.9490***	1.0001***	0.9157***	0.9859***	1.0409***
	(0.0092)	(0.0195)	(0.0327)	(0.0093)	(0.0215)	(0.0369)
Partial R^2 of excluded instruments	0.2995	0.1559	0.133	0.2921	0.174	0.1387
F-test of excluded instruments	3557.98	1815.94	806.074	4330.78	1646.47	709.735
Wooldridge's (1995) score test (p-values)	0.0005	0.0006	0.001	0.001	0.0053	0.0024

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The standard deviation is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

The control variables of Profitability, Size, GDP growth, Market size, Inflation, and Regulatory Quality show a consistently significant relationship with sd_ROA. Profitability and Size lead to lower accounting volatility. The results reflect that bigger firms with high profit are likely to contribute to lower volatility. For country variables, GDP growth and Market size show a negative coefficient indicating intuitive results that a stable economy with higher development in the private sector will influence lower volatility. In contrast, high inflation is likely to disturb firm stability as evidenced by the positive coefficient of inflation in all models.

The findings for the measure of country governance are interesting as Regulatory Quality indicates a positive coefficient in all models, suggesting that the better the quality of regulation for the private sector, the higher the volatility. The possible explanation for this relationship is that a country with good governance is a safe country. Therefore, firms in these countries are willing to engage in more active and high-risk investments. Therefore, the positive relationship between Regulatory Quality and sd_ROA might be the result of firms' risky and active investment strategies in these countries.

Finally, to further verify the relevance of the IV, the study computes the partial R^2 and the F-statistics on the instrument in the first stage regression. The results indicate that the instruments are highly correlated with the endogenous variable, with F-statistics between 709.74 and 4330.78 and a partial R^2 between 0.13 and 0.29. According to Staiger & Stock (1997), the rule of thumb suggests that an F-statistics below 10 is a sign of a weak instrument. The results confirm that the coefficient estimators do not suffer from the bias of having a weak instrument. The p-value of the Wooldridge's (1995) score test is less than 0.05 in all of the models which confirm the existence of endogeneity and the relevance of using a 2SLS estimation procedure.

5.4.2.2. Comprehensive Ethical Screening and Market Volatility

Table 5.5 reports the primary results for market volatility analysis for different screening stages. The majority criteria are reported in model 1-3, and the stringent criteria are in model 4-6. Ethically-compliant firms based on the comprehensive screening show lower market volatility in both the majority and stringent criteria (model 3 and model 6). The findings are consistent with the previous literature that report lower total and idiosyncratic volatility for companies with high ESG performance (Mishra and Modi, 2013; Sassen, Hinze and Hardeck, 2016). In a comparison between different screening stages, the results for market volatility present a slight difference as compared to accounting volatility. Stage 1 Religious screening shows a negative relationship (-0.0292) with Idio_volt and a significant 10% for the majority criteria. Similar to the above, the negative coefficient increase in Stage 2 (-0.119) and a further increase in Stage 3 (-0.137) are significant at 1%.

However, for the stringent criteria, the coefficient of ethically-compliant firms measured by Stage 1 is insignificant, thus indicating some inconsistent results for the basic screening. For Stage 2 of the stringent criteria, the result is consistent in that ethically-compliant firms lead to lower market volatility with a negative coefficient of -0.119 and significant at 1%. The negative coefficient also increased to -0.149 in Stage 3, the comprehensive screening. The finding for market analysis depicts a similar trend which is consistent with the accounting analysis, except for Stage 1. The inconsistent result for Stage 1 suggests some weakness in the basic religious screening and the additional layer in the comprehensive screening is vital. In overall, the results provide clear and uniform evidence that the comprehensive ethical screening provides a more efficient methodology. Thus, firms that are screened using this methodology demonstrate lower volatility for both accounting and market measures.

Table 5.5: Ethical screening and market volatility

Panel B: Market Volatility	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Basic religious	-0.0292*					
	(0.0177)					
Stage 2: Religious + Earnings Quality		-0.119***				
		(0.0293)				
Stage 3: Religious + Earnings Quality + ESG			-0.137***			
			(0.0413)			
Stringent Screening						
Stage 1: Basic religious				-0.0284		
				(0.0175)		
Stage 2: Religious + Earnings Quality					-0.119***	
					(0.0313)	
Stage 3: Religious + Earnings Quality + ESG						-0.149***
						(0.0476)
Profitability	-0.107***	-0.109***	-0.108***	-0.108***	-0.110***	-0.108***
	(0.0232)	(0.0232)	(0.0231)	(0.0232)	(0.0235)	(0.0232)
Size	-0.0839***	-0.0828***	-0.0809***	-0.0836***	-0.0824***	-0.0810***
	(0.00344)	(0.00341)	(0.00367)	(0.00348)	(0.00344)	(0.00368)
Leverage	0.235***	0.212***	0.239***	0.243***	0.226***	0.244***
	(0.0357)	(0.0327)	(0.0309)	(0.0330)	(0.0312)	(0.0303)
Sales Growth	0.0013*	0.0012*	0.0013**	0.0013**	0.0013*	0.0013**
	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Age	-0.0404***	-0.0405***	-0.0393***	-0.0408***	-0.0410***	-0.0400***
	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0047)
Big 4	-0.0379***	-0.0352***	-0.0346***	-0.0380***	-0.0369***	-0.0359***
	(0.0092)	(0.0092)	(0.0093)	(0.0093)	(0.0093)	(0.0093)
GDP Growth	-0.126	-0.144	-0.130	-0.127	-0.133	-0.127
	(0.0903)	(0.0931)	(0.0929)	(0.0900)	(0.0912)	(0.0923)

Market Size	0.000002	-0.000002	-0.000006	0.000002	-0.000002	-0.000005
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Inflation	0.0051***	0.0058***	0.0061***	0.0055***	0.0063***	0.0062***
	(0.0019)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)
Regulatory Quality	-0.0002	-0.00008	0.00003	-0.0002	-0.00004	0.00003
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	2.006***	1.995***	1.927***	1.995***	1.978***	1.929***
	(0.0755)	(0.0773)	(0.0805)	(0.0756)	(0.0776)	(0.0810)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19518	19518	19518	19518	19518	19518
First Stage Regressions:						
Ethically-compliant firms industry-country average	0.8769***	0.8913***	0.9182***	0.9229***	0.9175***	0.9364***
	(0.0080)	(0.0173)	(0.0277)	(0.0078)	(0.0192)	(0.0315)
Partial R^2 of excluded instruments	0.3003	0.1354	0.1139	0.2991	0.1504	0.1162
F-test of excluded instruments	3951.54	2564.01	1074.58	5214.57	2299.71	953.059
Wooldridge's (1995) score test (p-values)	0.3083	0.0001	0.0016	0.1847	0.0002	0.0023

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

In this market model, all firm-level control variables report a significant influence to Idio_volt with expected signs. Profitability, Size, Age, and Big 4 indicate a negative influence on Idio_volt. As explained in the above, it is expected that experienced firms with high profit, stable resources, and better audit quality to have lower volatility. Leverage and Sales growth, on the other hand, are positive with Idio_volt which is consistent with the conventional financial theory that high debt will lead to high financial volatility. Sales growth, reflecting the level of firm investment activity, is thus likely to have a positive relationship with market volatility.

As above, the study also tests the relevance of the IV in the market model. The results of the first stage regression indicate that our position stands and that the IV is valid. The p-value of Wooldridge's (1995) score test confirms that the estimations are endogenous and the relevance of using 2SLS estimation, except for model 1 and 3 (ethical screening stage 1). Even though the model is not endogenous, the 2SLS estimator will still provide an efficient estimator. The disparity in the results might be due to the unobservable heterogeneity and selection bias in the sample. This study tackled this issue using a propensity score matching research design explained in the next subsection.

5.4.2.3. Comprehensive Ethical Screening: Matched Sample

The descriptive statistics in 5.4.1 show that the average number of firms categorised as ethically-compliant firms in the sample is quite small, especially in the comprehensive screening stage. Therefore, to correct the estimation of the treatment effect (ethical screening criteria) for unobservable heterogeneity and sample selection bias, this study additionally constructs matched pair samples using the propensity score matched pairs research technique. The matched pairs samples in every screening stage were constructed on the basis of observable firm-level characteristics. This full-dimensional matching approach is more robust as it will

relax the assumptions in the classical OLS estimation (Hooghiemstra, Kuang and Qin, 2015). Matched sample approach able to disentangle ethical from small company effects, and help to eliminate the effect of specific characteristics in ethical investment funds' portfolios (Mallin, Saadouni and Briston, 1995).

In the first step, the study runs a probit model in which the dependent variable is the indicator of ethically-compliant firms. The idea of this method is to match firms that pass the screening criteria with firms that have the closest propensity to being classified as ethically-compliant firms but did not actually pass the screening criteria. This method will remove the heterogeneity bias between the ethically-compliant firms and the non-ethically compliant firms, which is the major causing factor for a potential of endogeneity in the estimation (see 5.3.3). As there are six ethical screening categories and two tested outcomes (accounting and market volatility), the study constructs twelve matched pair samples for the regression analysis. More specifically, the dependent variables are the six indicators of ethically-compliant firms: ES1, ES2, and ES3 for the majority and stringent benchmark. The regressors are the variables that are hypothesised to be associated with the screening stages (the treatment) and firm volatility (the outcome). These include profitability, leverage, sales growth, firm age, big 4, and also liquidity and interest ratio. The liquidity ratio is defined as a total liquid asset (cash plus debtor) divided by total assets while interest ratio is the ratio of interest-bearing security (proxied by cash and short-term investment) to total assets. Leverage, liquidity, and interest ratio are included in the model as these are the main variables for the screening criteria (see 5.3.1.1) and the other firm-level variables are likely to have a significant association with the treatment and the outcome of our analysis.

The study then predicts the propensity scores based on the above-mentioned firm-level characteristics and uses a nearest-neighbour matching approach with a caliper constraint to

construct matched pairs. Following (Hooghiemstra, Kuang and Qin, 2015), the analysis uses a maximum caliper difference of 0.01 and removes the dissimilar matched pairs to acquire better control for potentially confounding factors. The final sample in panel A for the comprehensive screening stage includes 1,197 (majority benchmark) and 933 (stringent-benchmark) matched pairs, and the sample for panel B covers 1,625 (majority benchmark) and 1,240 (stringent-benchmark) matched pairs. Next, the study runs a multivariate analysis to compare firm volatility between the ethically and non-ethically compliant firms using the matched sample. Prior to the final estimation, the study conducts endogeneity tests using Wooldridge's (1995) score test and confirms that there is no endogeneity in the estimation using the matched sample. This factor verifies that the propensity matching procedure has tackled the potential endogeneity which might be derived from unobserved heterogeneity and selection bias in the sample. Thus, the analysis employs OLS regression and the results are presented in Table 5.6.

The findings for both Panel A and Panel B show that firms which are categorised as ethically-compliant based on comprehensive screening demonstrate lower accounting and market volatility (with robust p-values between 0.05 to 0.01). The results for other screening stages are not significant, and the findings are consistent for the majority and the stringent criteria. These findings support the main hypothesis and provide robust evidence of the efficiency and reliability of the comprehensive screening framework as compared to the current screening practices. The findings also verify that the primary estimations are valid and do not suffer from heterogeneity and selection bias.

Table 5.6: Ethical screening and accounting and market uncertainty using the matched sample.

Panel A: Accounting Uncertainty	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Basic religious	-0.0012					
	(0.0043)					
Stage 2: Religious + Earnings Quality		-0.0027				
		(0.0031)				
Stage 3: Religious + Earnings Quality + ESG			-0.0076***			
			(0.0023)			
Stringent Screening						
Stage 1: Basic religious				0.0066		
				(0.0047)		
Stage 2: Religious + Earnings Quality					-0.0034	
					(0.0038)	
Stage 3: Religious + Earnings Quality + ESG						-0.0054**
						(0.0025)
Profitability	0.00742	0.0225	-0.00787	-0.00537	0.0109	0.0145
	(0.0363)	(0.0222)	(0.0261)	(0.0212)	(0.0343)	(0.0106)
Size	-0.0115***	-0.0114***	-0.0049***	-0.0200***	-0.0127***	-0.0058***
	(0.0016)	(0.0013)	(0.0010)	(0.0014)	(0.0018)	(0.0012)
Leverage	-0.0066	-0.0492**	-0.0245*	-0.0410	-0.0489**	-0.0172
	(0.0349)	(0.0194)	(0.0125)	(0.0281)	(0.0197)	(0.0112)
Sales Growth	0.0004	-0.0005	0.0006	0.0008*	-0.0001	0.0012
	(0.0004)	(0.0005)	(0.0057)	(0.0004)	(0.0003)	(0.0033)
Age	-0.0023	-0.0019	-0.0016	-0.0019	0.00025	-0.0018
	(0.0024)	(0.0014)	(0.0013)	(0.0017)	(0.0020)	(0.0014)
Big 4	-0.0085*	-0.0049	0.0042	-0.0122**	-0.0080	0.0032
	(0.0045)	(0.0047)	(0.0028)	(0.0056)	(0.0061)	(0.0026)
GDP Growth	-0.406**	-0.159	-0.0674	-0.200	-0.175	-0.243**
	(0.173)	(0.122)	(0.120)	(0.126)	(0.128)	(0.106)
Market Size	-0.00004***	-0.00004***	-0.000002	-0.00003***	-0.00003***	-0.00003***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)

Inflation	0.0034***	0.0045***	0.0033***	0.0031***	0.0040***	0.0040***
	(0.0008)	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0007)
Regulatory Quality	0.0008***	0.0009***	0.0004***	0.0008***	0.0009***	0.0006***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Intercept	0.156***	0.161***	0.125***	0.151***	0.198***	0.108***
	(0.0320)	(0.0225)	(0.0295)	(0.0262)	(0.0313)	(0.0184)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4810	5456	2394	4876	4094	1866

Panel B: Market Uncertainty	(1)	(2)	(3)	(4)	(5)	(6)
	Idio_volt	Idio_volt	Idio_volt	Idio_volt	Idio_volt	Idio_volt
Majority Screening						
Stage 1: Basic religious	-0.0058					
	(0.0090)					
Stage 2: Religious + Earnings Quality		-0.0102				
		(0.0071)				
Stage 3: Religious + Earnings Quality + ESG			-0.0238***			
			(0.0078)			
Stringent Screening						
Stage 1: Basic religious				0.0128		
				(0.0085)		
Stage 2: Religious + Earnings Quality					-0.0093	
					(0.0084)	
Stage 3: Religious + Earnings Quality + ESG						-0.0267***
						(0.0091)
Profitability	-0.173***	-0.134***	-0.0670**	-0.148***	-0.147***	-0.0851**
	(0.0454)	(0.0297)	(0.0297)	(0.0313)	(0.0383)	(0.0337)
Size	-0.0777***	-0.0723***	-0.0543***	-0.0691***	-0.0737***	-0.0488***
	(0.0041)	(0.0038)	(0.0044)	(0.0041)	(0.0042)	(0.0045)
Leverage	0.243***	0.168***	0.186***	0.153***	0.129***	0.126**
	(0.042)	(0.0431)	(0.0492)	(0.0410)	(0.0476)	(0.0492)
Sales Growth	0.0025	0.0078***	0.0360*	0.0007	0.0046***	0.0217
	(0.0017)	(0.0024)	(0.0188)	(0.0011)	(0.0013)	(0.0160)

Age	-0.0310***	-0.0340***	-0.0339***	-0.0337***	-0.0304***	-0.0344***
	(0.0055)	(0.0054)	(0.0062)	(0.0057)	(0.0060)	(0.0067)
Big 4	-0.0228**	-0.0236**	-0.0297**	-0.0307***	-0.0279**	-0.0388***
	(0.0112)	(0.0111)	(0.0120)	(0.0108)	(0.0127)	(0.0131)
GDP Growth	-0.576***	-0.214	-0.753	-0.209	-0.424**	-2.005***
	(0.166)	(0.371)	(0.557)	(0.271)	(0.173)	(0.688)
Market Size	-0.00001	-0.00001	0.00002	-0.00098	-0.00002	-0.00003
	(0.00004)	(0.00005)	(0.00005)	(0.00004)	(0.00005)	(0.00005)
Inflation	0.0056**	0.0090***	0.0079***	0.0084***	0.0117***	0.0123***
	(0.0025)	(0.0026)	(0.0028)	(0.0025)	(0.0029)	(0.0032)
Regulatory Quality	-0.0004	0.0002	-0.0001	-0.0002	0.0005	0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0006)
Intercept	1.871***	1.769***	1.599***	1.715***	1.783***	1.460***
	(0.0993)	(0.0893)	(0.0999)	(0.0833)	(0.0957)	(0.124)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	6524	7218	3250	6802	5424	2480

This table reports OLS regression results for accounting and market volatility using the matched sample. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables for Panel A: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The dependent variables for Panel B: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

5.4.3. Robustness Tests

The study performs five additional robustness analyses to provide support to the primary results. The results of this section are reported in Appendix B.6 until Appendix B.18 in the last part of this chapter.

5.4.3.1. Alternative Measures of Accounting Volatility

ROA and ROE are two prominent measures of corporate performance. ROA is an indicator of how management is utilising its assets to generate returns. ROE, on the other hands, is used to measure how the shareholders' investments are generating returns. The main difference between the two is on the level of a firm's financial leverage. Debt increases firm's assets by increasing cash, but at the same time decreases firm's equity as shareholder equity equals assets minus total debts. With financial leverage, ROE will be higher than ROA, but, in the absence of leverage, ROA and ROE will be equal. In short, ROA evaluates the effectiveness of corporate management, while ROE gauges the corporate's operations. Thus, both of these measures are vital to evaluate different aspects of corporate performance.

In relation to the above, the study conducts a robust test by examining the accounting volatility of ethically-compliant firms in terms of the firm's operational performance measured by the standard deviations of ROE. The results presented in Appendix B.6 shows that ethically-compliant firms indicate negative coefficients in all screening stages. However, the trend of the coefficients is slightly different compared to the main results using the standard deviation of ROA. Ethically-compliant firms show a higher negative coefficient in the screening stage 2 as compared to stage 1, but the magnitude decrease in stage 3. This result is primarily due to the differences between ROA and ROE, as explained in the above. ESG activities such as environmentally friendly production procedures are closely related to firms' operations. In addition, ethically-compliant firms are mainly characterised with low debts, resulting in lower

ROE. These factors distort the relationship between comprehensive ethically-compliant firms and the volatility of ROE as ROE measures the effectiveness of corporate's operations and is affected by the level of debts. Despite this, ethically-compliant firms demonstrate lower volatility as compared to the non-ethically compliance firms. These results verify the main estimation and hypothesis 1.

5.4.3.2. Alternative Measures of Market Volatility

The study replicates the model in the primary analysis and exploits alternative measures of market volatility to support the main findings. The standard deviation of a company's weekly stock price (Total_volt) are the alternative measures of market volatility. Results reported in Appendix B.7 show that the relationship of ethically-compliant firms with volatility at all stages for market measures support the primary estimations. The results depict consistent negative coefficients with a similar trend where the negative coefficient increases as the screening criteria increases, thus maintaining the finding of the primary results and hypothesis 1 and 2.

5.4.3.3. The Impact of Countries with High Religiosity

The social norms theory and prior research predict that firms located in areas with high levels of religiosity are inclined to have high ethical values that lead to more stable returns. The literature clearly agrees that religion is a vital social mechanism that can strongly influence the decision and the act of individuals or a group in making economic decisions as well as social interactions (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015; Chircop *et al.*, 2017). The level of religiosity in a particular area is expected to influence corporate behaviour because religion is a part of social norms or the culture of a particular society. Religion is also the source of morality and ethics and can lead to fear of uncertainty. Therefore, it is vital to examine that the influence of ethically-compliant firms is not affected

by the culture maintained in the area surrounding the firms. To test this assumption, the study re-estimates the main model and control for countries with high religiosity.

The level of religiosity in a country is measured by the percentage of respondents who indicate that religion is important (or rather important to themselves) which is gathered from the World Value Survey. From this religiosity score, high religiosity is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise.[53] The results reported in Appendix B.8 and B.9 show that the results of all screening stages remain consistent even after controlling for countries with high levels of religiosity. High religiosity also indicates a significant negative relationship with market volatility, which is consistent with prior studies and the results for market analysis in chapter 4. Even though high religiosity is not significant in the accounting model, this variable serves as a control variable to test the sensitivity of the results. These findings clarify that the negative relationship between ethically-compliant firms and the measures of firm volatility are resilient towards the impact of the culture in the country where the firm is located.

5.4.3.4. The Impact of Types of Controlling Shareholders

The corporate governance theory states that controlling shareholders play an important role in influencing corporate performance. Shareholders can influence the firm by being involved in strategic corporate decisions and determining how management is monitored and compensated (Jensen and Meckling, 1976; Zou and Adams, 2008). This corporate governance system functions as a mechanism to reduce agency costs (Jensen and Meckling, 1976). Thus, the prior

[53] The literature suggests that religiosity is reverse causing firm performance. As such, the estimation uses an instrumental variable to tackle the possible endogeneity issue. The instrumental variable for high religiosity is religious democracy, defined as the percentage of respondents that indicate one of the essential components of a country's democracy is when the religious authorities have the power to interpret the law. This variable is also from WVS and transformed into a dummy variable using the same procedure as the high religiosity variable.

literature demonstrates that the monitoring behaviour is affected by the identity and the characteristics of the shareholders (Maury and Pajuste, 2005; Boubakri, Cosset and Saffar, 2013; Dong *et al.*, 2014). Different owners are likely to have different objectives and ways of exercising their power and rights (Zou and Adams, 2008; Hope, 2013). Therefore it is crucial to analyse the impact of shareholder types. Following this arguments, the study conducts an additional test involving the shareholder characteristics. The aim is to provide evidence that the impact of ethical screening is robust and is not affected by shareholder preferences.

The analysis includes various types of largest ultimate controlling shareholders as additional control variables. The result reported in Appendix B.10 and B.11 show that the ethically-compliant firms in all screening stages report a consistent coefficient in all models even after controlling for the types of ownership. However, the majority of screening criteria in the accounting model, the Stage 3 comprehensive ethical screening, exhibits a lower negative coefficient as compared to Stage 2 (refer to model 2 and model 3 in Table 6). These results are slightly different from the primary result that reports an increasing negative coefficient as the screening stages increases. The variance in these results could be caused by the difference in the sample due to the limitation of shareholder information. Despite this, the stringent criteria appear to have a comparably increasing negative coefficient similar to initial estimations. The findings in the stringent criteria sustain our position that volatility will reduce as the screening requirement becomes more intense and stringent. In sum, managerial ownership and institutional ownership show significant results and the direction of the coefficients are in line with the literature. Managerial ownership indicates lower volatility in all models. Stock ownership by management can increase their motivation to work to raise the value of the firm (Hermalin and Weisbach, 1991) and lead to stable returns. The percentage of institutional ownership also presents a consistent, negative coefficient in the market model.

5.4.3.5. The Impact of Investment Characteristic of Controlling Shareholders

Prior literature finds that companies controlled by diversified shareholders are reported to have higher volatility in their returns (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). The assumption is that the investment preferences of the controlling shareholders will influence the shareholders' controlling behaviour and the firm's investment policy. As such, the study examines whether the results hold after controlling for shareholder investment styles measured by the shareholder portfolio diversification. The aim is also to reduce endogeneity due to omitted variable. Shareholder portfolio diversification is defined as the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Appendix B.12 and B.13 report the estimation results that control for shareholder portfolio diversification. Shareholder portfolio diversification shows insignificant coefficient in this estimation, but, importantly, the results for ethically-compliant firms are comparable to the findings in the main analysis of this chapter (section 5.3.4). These findings strengthen the main position that the findings for ethically-compliance firms are not affected by the investment characteristics of the shareholders.

5.4.3.6. The Impact of the Financial Crisis

Ethically-compliant firms measured by the religious screening are found to provide higher stability during the recent 2008 financial crisis (Alam, 2010; Ho *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Alaoui *et al.*, 2016; Ashraf *et al.*, 2017). Prior literature also suggests comparable results for firms with high ESG performance (Lins, Servaes and Tamayo, 2017). The association between ethics and the financial crisis is indirectly explained in stakeholder and legitimacy theory. These theories state that ethical practices by corporations develop a form of 'trust' between the companies and their stakeholders. Lins, Servaes and Tamayo (2017)

explained that this form of trust is likely to be more vital and apparent in the period of low trust in the market, which can be witnessed during high volatility or the financial crisis.

The study tests this assumption and addresses the impact of the financial crisis on the primary analysis by conducting a separate analysis for the crisis periods (years 2007-2009). Specifically, the overall sample is divided into crisis periods (years 2007-2009) and post-crisis periods (years 2010-2016) and the study re-estimated the main model in both sample periods separately. Appendix B.14 and B.15 show that the crisis sample exhibits consistent results, where the coefficient of ethically-compliant firms remains significant and negative, similar to the full sample effect. These findings support the claim that corporations with high ethical standards are less severely affected by the financial crisis, which is comparable to prior literature and the above theoretical conjecture. In the findings for post-crisis periods (Appendix B.16 and B.17) also depict similar results to the crisis periods and the primary estimation.

5.5. Conclusion

This chapter examines the influence of comprehensive ethical screening on firm volatility defined as the volatility in return on assets and idiosyncratic volatility. Specifically, the study tries to fulfil three main objectives. First, to develop a comprehensive framework to be used in screening a global sample of firms for their ethical-compliance. Second, to examine whether the ethically-compliant firms based on this comprehensive screening criteria exhibit more stable returns compared to the non-compliance firms. Finally, to examine and compare the impact of screening intensity measured by the different stages of ethical screening to firm volatility.

This study developed a comprehensive ethical screening framework that comprises three main stages which are more intense and stringent than the existing religious and ethical screening procedure. The proposed comprehensive ethical framework is a combination of the

current religious and socially responsible criteria with an additional layer that accounts for the firm's earnings quality. The three-level comprehensive ethical screening is designed to capture a unique set of companies that are not only compliant with the major religious rules but also embrace high ethical standards. These unique, ethically-compliant firms are expected to provide more stable returns to investors and thus positively contribute to the economy and social well-being. This notion is apparently supported by the previous literature that examines the impact of ethics on firm performance.

In sum, the empirical results support the position that ethics leads to better firm performance in term of returns stability. The results suggest that the new proposed comprehensive ethical screening is more efficient than existing religious and ethical screening methodologies in screening for highly ethical and low-risk companies. The comparative analysis reveals that ethically-compliant firms exhibit lower performance volatility as the screening process becomes more intense and stringent. Ethically-compliant firms also report better performance during the crisis period, which is consistent with the theory and previous empirical findings. In the matched pair sample analysis, only ethically-compliant firms based on the comprehensive criteria demonstrate significant low volatility, while the other screening stages are insignificant. This findings strengthen the main hypothesis of this study, hence, support the reliability of the proposed comprehensive screening framework.

This pioneering study offers some policy implications for the industry. First, the application of this framework will increase the investment prospect of ethical and religious investors. Moreover, the integration of earnings quality and ESG standards in the screening of ethically-compliant firms will increase transparency, mitigating information asymmetry, and improve liquidity (Erragragui and Revelli, 2016). These positive effects are of great consequence not just to the investors but also to regulators as well as the industry.

CHAPTER 6

The Impact of Shareholder Country Religiosity on Agency Costs

Chapter 6 : The Impact of Shareholder Country Religiosity on Agency Costs

6.1. Introduction

The literature has established that religiosity stimulates individual traits such as honesty and work ethics that enhance economic outcomes (Barro and Mccleary, 2003) and firm performance (Grullon, Kanatas and Weston, 2009; Hilary and Hui, 2009; Dyreng, Mayew and Williams, 2012; Du, Jian and Lai, 2015). In addition to the numerous studies on the influence of religiosity on ethical and corporate behaviours, this chapter focus on the effect of religiosity on the agency costs of companies with different characteristics and cultural backgrounds. Du (2013) provides evidence that geographical religiosity reduces companies' agency costs in China. However, does the influence of religiosity persist in the global environment, and, if so, does the religiosity in the country of the controlling shareholders affect monitoring behaviour and act as a monitoring mechanism to reduce agency costs? These questions remain largely undiscovered. This research intends to clarify the issues by examining the influence of large shareholder country religiosity on companies' agency costs utilising a large global sample of 72 countries.

Agency theory maintains that corporate managers have personal objectives that are inconsistent with the main objective of the firm: maximization of shareholder value. Managers may have excessive salaries and bonuses, misuse the company's resources (such as excessive spending on entertainment), or divert cash resources to empire building (Jensen and Meckling, 1976). Therefore, corporate governance mechanisms such as auditing, formal control systems, budget restrictions, and the establishment of incentive compensation systems are designed to restrain unethical managerial behaviour and to protect the interests of shareholders. Although the prior literature has examined the effectiveness of controlling shareholders in providing the

disciplinary mechanism, the influence of geographical religiosity of the controlling shareholder as an agency costs monitoring device has been relatively unexplored.

This dimension of research was also motivated by the growing interest of the academic and business communities to explore the influence of shareholder characteristics on corporate behaviour. Jensen and Meckling (1976) argue that shareholders play a vital function in the corporate governance system by providing a mechanism to reduce agency costs. Shareholders have the power to appoint the management and determine how the management is monitored and compensated. Shareholders can also control the firm by establishing the companies' strategic business decisions (Jensen and Meckling, 1976; Zou and Adams, 2008). The shareholders' controlling behaviour, however, is affected by their characteristics. For instance, shareholders with diversified wealth appear to have a positive influence on the companies' risk profiles and performance (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). Thus, agency costs should be affected as a result of the monitoring behaviour of the religious, controlling shareholder. This research sets out to address this issue.

Studies of agency costs show the importance of shareholder characteristics in corporations. In the U.S., agency costs in small companies are found to be higher when firms are managed by outsiders but indicate lower agency cost with greater monitoring when managed by institutional owners (i.e., the banks) (Ang, Cole and Lin, 2000). Singh & Davidson III (2003) also found that managerial ownership reduces agency costs in large corporations in the U.S. Studies in Bangladesh (Rashid, 2016), Australia (Fleming, Heaney and Mccosker, 2005), and the UK (Florackis, 2011) reported comparable results in that agency costs were lower with managerial ownership. Despite the conclusive evidence, these studies, however, ignore the shareholders' individualities (i.e. the culture) and have only been carried out in limited countries.

Religiosity is expected to influence shareholder controlling behaviour and the firm's agency costs as it is a form of social norm and a source of moral and ethical values. Prior literature has provided extensive evidence on the influence of religiosity on corporate outcomes. Religiosity significantly reduces the volatility of firm accounting returns (Hilary and Hui, 2009) and also leads to lower market volatility (Callen and Fang, 2015; Blau, 2017). The influence of religiosity is also consistent in financial institutions (Kanagaretnam *et al.*, 2015; Adhikari and Agrawal, 2016; Chircop *et al.*, 2017). These papers indicate religiosity affects individual behaviour by establishing a sense of fear and anxiety towards uncertainty that leads to better stability in firm performance.

Moreover, religiosity shapes corporate ethical behaviour as it appeared to reduce earnings manipulation (Grullon, Kanatas and Weston, 2009; Dyreng, Mayew and Williams, 2012; Du, Jian and Lai, 2015). As such, firms located in religious areas exhibit lower audit fees (Leventis, Dedoulis and Abdelsalam, 2015). Religiosity is also a form of informal institution that is expected to provide an alternative controlling mechanism for corporations. Du (2013) noted this concern and demonstrate that firm religiosity in China (measured by the distance of firms to the nearest religious institution) was evidenced to alleviate agency costs effectively. Despite this evidence, the current literature, however, focuses on the religiosity of the firms' location and ignores the shareholder perspective. Most of the studies are also concentrated in one country, primarily in the United States. Little attention to date, however, has been accorded to agency cost reduction as an outcome of cultural influence, and, particularly, in the context of shareholder country religiosity.

To address the above issues, this research was designed to test, first, the impact of the geographical religiosity of the firms' ultimate, large controlling shareholder on the company's agency costs. Agency costs are measured in three ways: asset utilisation ratio (technical

efficiency), operating expense ratio (operating efficiency) and the interaction between a company's growth and its free cash flows (growth prospect). The analysis was conducted using an instrumental variable approach (two-stage least squares) to overcome the potential endogeneity issue as a result of reverse causality between religiosity and the measures of agency costs. Shareholder country religiosity is defined as the extent to which religion is an important element in the country where the shareholder is originated. In addition, we test whether the impact of shareholder country religiosity is changed in developed countries and in various geographical regions. We hypothesise that the level of religiosity where the shareholder is located will significantly influence firm agency costs. This assumption is largely built on the social norms theory. The theory holds that the actions of individuals are affected by the behavioural norms of groups that they are associated with. Thus, the behaviour and decision of shareholders and managers who are surrounded by religious individuals will be affected by the religious norms maintained by those in the population (Dyreng, Mayew and Williams, 2012).

We find robust evidence that companies controlled by shareholders based in countries with higher levels of religiosity exhibit lower agency costs measured by technical efficiency and operating efficiency. The results are also uniform when religiosity is measured from the perspective of companies' locations. Shareholder country religiosity, however, leads to lower growth opportunities as religious organisations are likely to have a conservative investment policy. This factor is not a limitation since this also implies a prudent investment strategy and more stable returns. Moreover, the impact of shareholder country religiosity in developed countries is higher for operating efficiency and also indicates some significant differences across regions. Overall, the findings support the assumption that religiosity is a form of social norm that can function as an alternative control mechanism to moderate unethical managerial behaviour.

The study contributes to the literature in a number of ways. First, this study that tests the impact of shareholder country religiosity on agency costs. Hence, it extends the research in corporate governance and provides evidence for the influence of social norms on shareholder monitoring characteristics and organisational performance. Second, the study takes into account the potential influence of secularisation and examines whether the impact of shareholder country religiosity is different in developed countries. Third, the analysis is conducted on a large, global dataset and conducts comparisons between different regions. The findings suggest that the influence of shareholder country religiosity is more pronounced in the region where a majority of countries are developing countries (Central Asia) compared to the regions where a majority of countries are developed countries (North America and Europe). In sum, the results imply the importance of religious norms in the global market.

The rest of the chapter is structured as follows: Section 6.2 discusses the underpinning theory and the development of hypotheses. Section 6.3 describes the sample selection procedure, the empirical model, and variable measurements. Empirical results for the descriptive and multivariate analyses are presented in Section 6.4, and Section 6.5 is the conclusion.

6.2. The Hypothesis

The agency theory assumed that managers are inclined to take actions based on their self-interest that deviates from the ultimate goals of the owners. This factor creates a moral hazard problem and additional costs to the owner which could deteriorate the firm value. The theory postulates that one of the active mechanism to reduce the costs resulting from the separation

of ownership and control is through shareholder monitoring. Hence, the theory suggests the importance of large controlling shareholders in monitoring managerial actions.[54]

Studies on the impact of ownership structure on agency costs reveal the importance of shareholder characteristics on firm monitoring. Corporations with higher managerial ownership demonstrate lower agency costs (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Fleming, Heaney and Mccosker, 2005; Florackis, 2011; Rashid, 2016) and this impact is persistent across multiple countries. Increasing ownership stake by the board of directors also helps to reduce agency costs (Mcknight and Weir, 2009). These findings are consistent with the theoretical argument that agency costs can be reduced by lessening the separation of ownership and control. Agency costs are also lower with greater monitoring by institutional owners (i.e., the banks) (Ang, Cole and Lin, 2000) and other corporate governance mechanisms (Henry, 2010).

A similar line of research suggests additional factors that can operate as a control mechanism to reduce agency costs. Doukas, Kim and Pantzalis (2000) reported that security analysis acts as a monitor to reduce agency costs in companies with different investment characteristics. The finding is also consistent with UK listed firms (Doukas, McKnight and Pantzalis, 2005). Agency costs are also found to be affected by the culture surrounding the firms. Du, Jian and Lai (2015) show that the merchant guild culture in China is significantly associated with lower agency costs. Importantly, religion as one of the cultural elements also displays a negative relationship with agency costs in China (Du, 2013). These findings support the influence of social norms on individual behaviour as it is able to restrain managers from unethical activities and eventually reduce agency costs.

[54] Section 4.2.1 explains the important of large controlling shareholders for corporate control.

The theoretical and empirical studies report conclusive evidence on the influence of large controlling shareholders on corporate performance. Firm agency costs are significantly affected by shareholder characteristics and the social norms surrounding the firm. Hence, it is likely that the social norms factors that shape the shareholders' characteristics will have significant consequences on the agency costs of the firm.

In a nutshell, the social norms theory predicts that the individual's actions will be influenced by the religious norms in a local geographical area regardless of their religious adherence. Religiosity[55] as a form of social norms acts as an everyday code of conducts that influence an individual's behaviour which is the shareholder in this case (Festré, 2010). This code of conducts forms a social pressure in the form of approval (disapproval) to the one that complies (violate) the norms. Individuals largely exhibit social preferences and hold intrinsic and extrinsic motivations to comply with the norms. The social norms perspective of religion anticipated religion to have a vital influence on individual behaviour. Managers that are controlled by the shareholders located in more religious societies will act for the benefit of the corporation and avoid the self-serving bias. Moreover, religion has been regarded as one of the primary foundations of moral and ethical behaviour. Weaver and Agle (2002) note that religion has a direct influence on individual ethical behaviour in organisations.[56] Thus, the study predicts that religion can operate as an external control mechanism that can influence agency costs as a result of the separation of ownership and control.

Hence, as corporations are controlled by the shareholder, this study hypothesises that the level of religiosity where the shareholders are located can have a significant influence on their characteristics, thus affecting monitoring behaviour. This study connects shareholder

[55] Section 4.2.2 provide more detail discussion on the influence of religion on corporate behavior is in
[56] Section 4.2.3 provide more detail discussion regarding the theoretical relationship between social norms, individual, and corporate behavior.

religiosity and agency costs based on the framework that links ethics towards shareholder value (Donker, Poff and Zahir, 2008). As one of the source of ethical values, the religiosity of the controlling shareholder influence corporate performance by two means. First, by affecting market response (gaining social acceptance), and second by influencing the internal corporate behaviour which creates responsible management. Responsible management with a high ethical commitment towards the society and the corporation will demonstrate lower self-serving behaviour, which contributes to agency costs. Finally, it is vital to note the potential influence of secularisation in the society that could weaken the impact of religiosity, especially in the developed countries.

Agency costs in this study are measured using three approaches. The first is the technical efficiency ratio defined as the ratio of a company's sales to total assets (AUR). This variable measures the management efficiency in utilising the firm's assets to generate sales. A high ratio implies significant sales are generated from the total assets which suggest effective investment decisions and low agency costs. Therefore hypothesis H1 can be constructed as follows:

H1: Firms controlled by large shareholders that are based in highly religious countries are likely to have a positive relationship with the technical efficiency ratio.

The second measure of agency costs represents operating efficiency, defined as the ratio of operating expenses to total assets (OPR). This ratio indicates how efficiently the management monitors the company's operating costs. A lower ratio signifies that the operating costs are minimised and therefore imply lower agency costs. Hence, Hypothesis H2 is as follows:

H2: Firms controlled by large shareholders that are based in highly religious countries are likely to have a negative relationship with low operating efficiency.

The final measure of agency costs is a variable capturing a company's growth opportunity, which is defined as the interaction of a company's low growth with its free cash flows (TFCF). This variable represents a negative view of firm growth with a higher value indicating lower growth opportunity and vice versa. Company's low growth is identified from Tobin's q ratio which suggests that this variable also represents the market and long-term perspective of agency costs measures. Despite the above positive expectation in H1 and H2, religiosity also instils financial conservatism (Kanagaretnam *et al.*, 2015; Adhikari and Agrawal, 2016). Religion promotes absolute belief in God and inculcates a fear of uncertainty, especially in times of fiscal and other hardships (Hilary and Hui, 2009; Adhikari and Agrawal, 2016). This value leads to modesty in financial pursuit, and a religious person tends to prioritise spiritual engagement over monetary gains (Adhikari and Agrawal, 2016). The prior literature demonstrates consistent evidence that companies located in religious areas exhibit lower risk (Hilary and Hui, 2009; Noussair and Trautmann, 2013; Jiang *et al.*, 2015). The results are also consistent in the financial sector as banks headquartered in more religious areas reveal lower risk, evidenced by lower volatility in return, and are less affected during the financial crisis (Kanagaretnam *et al.*, 2015; Adhikari and Agrawal, 2016; Chircop *et al.*, 2017). Moreover, consistent with the low-risk low return hypothesis, the study hypothesises that shareholder country religiosity will lead to conservative investment policies and lower growth prospects. Therefore, H3 is formulated as follows:

H3: Firms controlled by shareholders that are based in highly religious countries are likely to exhibit lower growth.

6.3. Data and Methodology

6.3.1. Sample and Data Source

The study uses Orbis by the Bureau Van Dijk global database to construct the sample that covers 72 countries in the world for a period of ten years from 2007 to 2016. Orbis is the primary source of data covering accounting and ownership data for the global sample. The measure of shareholder country religiosity is obtained from the World Value Survey (WVS)[57]. For the country control variables, the economic and governance information is gathered from the World Bank Database. The initial global accounting data for all active and listed non-financial companies in Orbis from 2007 to 2016 consists of 48,073 firms with 480,730 observations from 146 countries. The sample with the available main variable (total assets) consists of 47,024 firms and 376,879 observations. The shareholder year data covers 32,061 firms with 163,849 observations. WVS on the other hands provides country-level information for a limited number of 80 countries. The sample only includes countries with at least two companies. After merging the accounting data with the shareholder-year data, the religiosity score and main control variables, the final sample includes an unbalanced panel data of 20,561 companies from 72 countries with 86,183 firm-year observations.

6.3.2. Empirical Model

This study analyses the influence of shareholder country religiosity on agency costs. Following Barro and Mccleary (2003), Blau (2015) and (Mcguire, Omer and Sharp, 2012), the two-stage least squares (2SLS) regression is employed in the analysis to address the potential endogeneity

[57] The World Values Surveys (WVS) is a non-profit and non-governmental international organization headquartered in Vienna, Austria. WVS is an international social survey organization with the main objective of exploring values and their impact on the social and political life of the international community. WVS conducted the social survey using a global network of social scientists led by an international team of scholars. The first surveys were carried out in 1981 and all the data is publicly available from www.worldvaluessurvey.org.

issue as a result of reverse causality between religiosity and the measures of agency costs.[58] The secularisation theory suggests that the more advanced the economy, the more likely it is for individuals to become less religious (Weber, 1930). As noted in Barro and Mccleary (2003), the theory also claims that when the economy is more developed, religion plays a lesser role in the country's political, social and legal decisions. This theory has assumed the possibility of a reverse causation effect from economic factors to the changes in religiosity.

In this study, agency costs are proxied using accounting efficiency and growth variables, which are a part of financial performance measures. Blau (2015) argues that financial variables are a part of economic development and therefore might lead to similar consequences. On the basis of these arguments, our agency costs measures will have a high probability of a reverse causality relationship with the level of shareholder country religiosity. Thus, the estimation uses an instrumental variable to overcome this issue. Following the method in Mccleary and Barro (2006)[59], the analysis uses a variable that implies a recognition of religious authorities in the country as an exogenous instrument for religiosity. Specifically, the instrumental variable for religiosity is religious democracy. This is a measure that captures the percentage of the citizens that recognise the power of religious authorities to interpret the laws as one of the essential characteristics of a democracy. In the context of shareholder country religiosity, religious democracy will refer to the percentage score in the country where the shareholder is located. Religious democracy also denotes the existence of freedom to practice religion in the country. In contrast to this, religiosity should be lower in countries that explicitly restrict religious practices such as communist countries (i.e. China, North Korea) (Barro and

[58] See section 4.3.1 in Chapter 4 for the justification of using pooled 2SLS estimation procedure.
[59] Mccleary & Barro (2006) use the state regulation of religion as the instrument for country religiosity. It is an indicator variable capturing whether or not a particular country has formally recognised religious authorities. Similar to this, religious democracy also denotes the recognition of religious authorities in the country.

Mccleary, 2003). Therefore, it is natural that religious democracy will have a positive effect on the level of religiosity in the country.

The study conducts a simple correlation analysis between shareholder's country religious democracy and the measure of shareholder country religiosity to determine the efficiency of this instrument. Shareholder religious democracy is positively correlated with Shareholder country religiosity (0.5809, significant at 1%). On the other hand, the correlation between Shareholder Religious Democracy and the measures of agency costs are all less than 0.03. These preliminary tests have indicated that the instrument is orthogonal to the dependent variables but is heavily correlated with the independent variables of interest. Thus, religious democracy meets the necessary conditions required for the identification of a valid instrument.

In particular, the relationship between shareholder country religiosity and the measure of agency costs is tested using the following procedure: in the first stage, the endogenous variable: Shareholder country religiosity is regressed on the instrument (Shareholder Religious Democracy) including the exogenous independent variables. The second stage uses the predicted value of shareholder country religiosity from the first stage regression as the independent variable of interest.

$$Agency\ Costs_{it} = \alpha_0 + \beta_1\ \widehat{Religiosity}_{it} + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (1)$$

Where:

Agency Costs = measures of firm agency costs

Religiosity = the predicted value of religiosity in the country where the controlling shareholder is based.

Controls = a list of identified firms and country observable determinants of agency costs

YearFE = year fixed effects

IndustryFE = industry (2 digits NAICS industry codes) fixed effects

A set of main control variables is identified based on previous literature which is comprised of Local ownership, Profitability, Size, Leverage, Sales growth, Big 4 auditors, GDP growth, Market size, and Corruption.[60]All tests use robust regressions and are clustered by the firm to exploit information in the cross-sectional and time-series nature of the data and to control for heteroskedasticity and the serial correlation in firm time series observations.

6.3.3. Shareholder country religiosity

The study measures shareholder country religiosity at the geographical level by utilising the main variable, which is the importance of religion in the country. This measure of religiosity is consistent with the prior literature (Mcguire, Omer and Sharp, 2012; Kanagaretnam *et al.*, 2015; Kanagaretnam, Lobo and Wang, 2015; Leventis, Dedoulis and Abdelsalam, 2015; Chen *et al.*, 2016). This variable represents the affective or the intrinsic element of religiosity (Mcguire, Omer and Sharp, 2012) which corresponds to a person's feelings and attitudes towards religion. The importance of religion implicitly represents the level of religious adherence and awareness of the society in the country. Specifically, religiosity is defined as the percentage of respondents in the country who indicate that religion is important or rather important to themselves. Hence, shareholder country religiosity is the percentage of religiosity

[60] Refer to section 4.3.5 in Chapter 4 for a detailed explanation of the inclusion of these variables.

in the country where the shareholder is based. Religiosity data is gathered over the two most recent WVS, WVS wave 5 (2005-2009) and WVS wave 6 (2010-2014), comparable to the sample period from 2007 to 2016.[61] The shareholder used throughout this research refers to the company's largest ultimate controlling shareholder with at least 5% of ownership stake captured through the pyramiding technique.[62]

6.3.4. Agency Costs Measures

Agency costs resulting from the separation of ownership and control are hidden and are difficult to be observed (Du *et al.*, 2017). Managers will conceal any unethical actions in the firm's financial statements. However, the theory points out that agency costs are derived from information asymmetry and results in firm's having high monitoring costs (Jensen and Meckling, 1976). Therefore, it is possible for researchers to derive the proxy for agency costs from the company's financial information using efficiency and performance measures. It is likely that firm's that suffer from high agency costs are less efficient and have low growth.

Following prior literature (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Du, 2013; Rashid, 2016), the study uses three measures of agency cost. The first measure of agency cost is asset utilisation ratio (AUR), defined as the ratio of a company's sales to total assets. This ratio indicates the efficiency of managers in utilising the firm's assets to generate sales: technical efficiency. A high ratio implies a high efficiency where a significant amount of sales or cash flows are generated from the total assets. A low ratio on the other hands suggests poor investment decisions or excessive perquisites by the management. Therefore, a higher asset turnover ratio indicates shareholders' value creation or lower agency costs. However,

[61] According to WVS, the next survey fieldwork for WVS wave 7 will be conducted worldwide from 2017 to 2018. Therefore the religiosity score for 2015 and 2016 will follow the most recent available WVS survey. Following Kanagaretnam, Lobo & Wang (2015), the religious score is matched with the firm-year financial data using the most recent available WVS survey according to countries.
[62] Refer to section 4.3.3 and 4.3.4 in Chapter 4 for details.

Mcknight and Weir (2009) argue that this measure of agency costs contains some drawbacks. Sales generation might not imply shareholder wealth if it comes from unprofitable projects. Cash flows derived from sales might be subject to expropriation activities by managers, and the level of productivity might vary between firms. Nevertheless, as suggested by the previous literature, this variable provides a useful indicator of agency costs, and the study additionally uses the second and third measure of agency costs to provide support to the findings.

The second measure of agency costs is operating expense ratio (OPR), defined as the ratio of operating expenses to sales. This variable captures the operating efficiency of the firm. It measures how efficiently the firm's management controls operating costs such as perquisite consumption and other direct agency costs (Ang, Cole and Lin, 2000). The operating expense ratio indicates a positive measure of agency costs where a company with a high (low) expense ratio is expected to have high (low) agency costs.

The third and final measure of agency cost represents the company's growth prospects. It is defined as the interaction of a company's growth opportunities with its free cash flows (TFCF). Growth opportunities is a dummy variable equal to 1 if the company's Tobin's q was less than 1 (indicating low performance or a poorly managed company) and is 0 otherwise. Tobin's q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. Mcknight and Weir (2009) note that firms with high growth prospects are likely to represent better-managed firms. These firms are likely to have lower free cash flows because the available cash will be invested in profitable projects. Sizeable free cash flows also suggest greater managerial discretion because holding free cash flows will reduce the ability of the capital market to observe management decisions. Based on this argument, the interaction of low growth

opportunities and free cash flows suggest a negative measure of agency costs. A company with low growth opportunities is expected to be subject to high agency costs and vice versa.

However, unlike the first two measures of agency costs that capture managerial efficiency, this variable, on the other hand, represents the investment behaviour of the firms. A firm with a prudent investment policy might retain higher free cash flows and be subject to lower growth, but, this is not an indication of unethical managerial behaviour or a poorly managed firm. Therefore, as explained in the above (section 6.2.3), the study expects that a firm that is controlled by a shareholder from the highly religious country is likely to have a conservative investment policy and is therefore subject to lower growth opportunity. This assumption is consistent with the conventional finance theory of low risk and low return hypothesis.

6.4. Empirical Results

6.4.1. Descriptive Statistics

The sample comprises 20,516 firms with 86,183 observations for the period of 2007-2016. This sample is an unbalanced panel that includes at least two companies from 72 countries. Five countries represent more than 5% of the overall sample: China (16.22%), Australia (10.66%), Republic of Korea (8.65%), India (7.06%), United States (6.30%), and the Russian Federation (5.11%). Twenty-two countries in the sample are the developed nations that cover more than one-third of the sample size. In particular, the developed countries include 32,924 firm-year observations which are 38.2 percent of the total observations.[63]

Table 6.1 reports the descriptive statistics for primary variables used in the regression analysis. The first three lines present the mean, median and the standard deviations of the dependent variables followed by shareholder country religiosity and the main control variables.

[63] The list of countries and the distribution of observations is presented in Appendix C.1.

The descriptive results show that religion is overall an essential cultural element amongst the global community; about 51% of the population recognises that religion is important in their life. The descriptive findings indicate that foreign owners control a significant fraction of companies (22%). This percentage implies that analysing the influence of shareholder country religiosity on corporate behaviour is vital. Overall, about 27% of firms are audited by a Big 4 auditor, 23% of firm-year observations report positive income, and the majority of the firms report more than a 50% of growth in sales.

Table 6.1: Descriptive statistics

Variables	Mean	Median	Std. Dev.
AUR	0.8804	0.7058	0.9360
OPR	2.1083	0.2622	26.0987
TFCF	0.0053	0.0000	0.6527
Shareholder country religiosity	0.5113	0.4180	0.2766
Local owner	0.7889	1.0000	0.4081
Profitability	0.2311	0.0064	48.6025
Size	11.8401	11.9415	2.4921
Leverage	1.5448	0.4776	38.1391
Sales growth	1.5475	0.0000	30.2294
Age	3.0929	3.0445	0.8306
Big 4	0.2719	0.0000	0.4449
GDP growth	0.0002	0.0000	0.0087
Market size	86.6225	73.2072	87.4924
Control of corruption	64.9714	68.2692	25.5519
Developed	0.3820	0.0000	0.4859

This table reports the descriptive statistics for the main dependent and independent variables. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. Earnings Quality is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank.

The descriptive for the religiosity score is discussed in Chapter 4 section 4.4.1. In short, Religiosity is mostly high in the MENA countries of Morocco (98.7%), Egypt (99.5%), and Jordan (99.6%). Religiosity, however, appears to be lower in communist countries such as China (27.1%) and Vietnam (32.4%) and also lower in developed countries such as the Netherlands (30.2%) and Norway (32.7%). These findings additionally verify the arguments in Barro & Mccleary (2003) and also secularisation theory. The level of religiosity in developed countries supports the secularisation theory as discussed above. The theory suggests that economic development causes religion to become less important in society. Hence, this strengthens the argument of reverse causation between religiosity and economic and financial development.

Table 6.2 presents the Pearson correlation coefficient for the test and the main control variables. The results indicate that shareholder country religiosity is positively correlated with asset utilisation ratio, negatively correlated with expense ratio, and has an insignificant association with growth opportunity. These preliminary results confirm our hypotheses. However, due to the possibility of reverse causality and the influence of other variables, a multivariate analysis using 2SLS that accounts for endogeneity will provide a more reliable inference about this association. Developed countries show a negative correlation with Shareholder country religiosity. This finding provides support to secularisation theory and how essential using 2SLS is in the analysis. Overall, the control variables are correlated with the measures of agency cost in a way that is consistent with theoretical expectations. The high number of the significant correlation between the control variables and the dependent variables indicates the importance of controlling for these variables in the multivariate analysis. The control of corruption shows a high correlation (75.59%) with developed countries. Therefore,

this variable will be excluded from the developed countries regression model to avoid bias from multicollinearity. For other control variables, the correlations are within acceptable limits.

Table 6.2: Correlation matrix

	AUR	**OPR**	**TFCF**	**Shareholder country religiosity**	**Local owner**	**Profitability**	**Size**
AUR	1.0000						
OPR	-0.0679*	1.0000					
TFCF	0.0125*	-0.0827*	1.0000				
Shareholder country religiosity	0.0411*	-0.0176*	0.0046	1.0000			
Local owner	-0.0213*	-0.0058	-0.0037	0.0039	1.0000		
Profitability	-0.0100*	-0.0112*	0.0118*	0.0178*	0.0027	1.0000	
Size	-0.0695*	-0.1101*	0.0500*	-0.1326*	-0.0547*	0.0315*	1.0000
Leverage	0.0132*	0.0882*	-0.0392*	0.0064	-0.0089*	-0.0873*	-0.1110*
Sales growth	0.0224*	-0.0026	-0.0016	-0.0010	-0.0056	0.0051	-0.0078*
Age	0.0479*	-0.0450*	0.0277*	0.1353*	-0.0217*	-0.0020	0.2018*
Big 4	0.0294*	0.0000	0.0066	0.0698*	-0.1448*	0.0185*	0.2954*
GDP growth	0.0041	-0.0013	0.0007	0.0128*	-0.0054	-0.0001	0.0033
Market size	-0.0115*	0.0108*	-0.0033	0.0853*	-0.0340*	-0.0030	0.0384*
Control of corruption	0.0268*	0.0809*	-0.0263*	-0.0248*	-0.0890*	-0.0090*	-0.1069*
Developed	0.0602*	0.0894*	-0.0278*	-0.0908*	-0.1219*	-0.0086*	-0.1221*
	Leverage	**Sales growth**	**Age**	**Big 4**	**GDP growth**	**Market size**	**Control of corruption**
Leverage	1.000						
Sales growth	-0.001	1.000					
Age	-0.0088*	-0.0082*	1.000				
Big 4	-0.0155*	-0.006	0.0770*	1.000			
GDP growth	-0.001	0.000	0.007	0.0086*	1.000		
Market size	0.006	0.001	-0.0402*	0.2064*	-0.004	1.000	
Control of corruption	0.0155*	0.005	-0.1039*	0.3117*	-0.0081*	0.3307*	1.000
Developed	0.0230*	0.003	-0.0549*	0.2905*	-0.007	0.1046*	0.7559*

This table reports the Pearson correlation matrix for the test and the main control variables. * stand for statistical significance at the 5% level. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. Earnings Quality is the country rank earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank.

6.4.2. Main Results

6.4.2.1. Religiosity and Agency Costs

The study examines the impact of shareholder country religiosity on different measures of agency cost. Religiosity is measured as the percentage of respondents in the country who indicate religion is important to their life. Thus, shareholder country religiosity is the level of religiosity in the country where the shareholder is located. Previous research has established that religion is a form of social norm and a source of moral and ethical values that can strongly influence the decisions and the acts of individuals (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam, Lobo and Wang, 2015). Literature in corporate governance has further demonstrated the importance of large controlling shareholders as a control mechanism to reduce agency costs resulting from the separation of ownership and control. Large controlling shareholders also appear to have a significant influence on corporate decisions (Faccio and Lang, 2002; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). Therefore, the study hypothesises that the level of religiosity of the shareholder's country will have a strong influence on shareholder characteristics and their monitoring behaviour and hence significantly affect the level of agency costs.

Table 6.3 presents the primary estimations using 2SLS. Model 1, model 2 and model 3 report the influence of shareholder country religiosity on the agency costs measured by the asset utilisation ratio (AUR), operating expense ratio (OPR), and low growth opportunity (TFCF) respectively. In the first model, the result shows that Shareholder country religiosity has a significant, positive impact on asset utilisation ratio after controlling for numerous firm-level and country-level variables. This result supports hypothesis 1 and implies that shareholder country religiosity significantly reduces agency costs measured by technical efficiency. This finding suggests that firms controlled by shareholders from religious country are more efficient

in managing their assets to generate sales. Thus, this implies that managers make efficient investment decisions that generate shareholder value and lead to lower agency costs.

Table 6.3: Regression results for religiosity and agency costs

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.0870**	-5.268***	0.0428***
	(0.0406)	(1.096)	(0.0141)
Local ownership	-0.0465***	-0.444	-0.0051
	(0.015)	(0.490)	(0.0046)
Profitability	-0.0001	0.0130	0.0001
	(0.00008)	(0.0121)	(0.0001)
Size	-0.0278***	-1.564***	0.0114***
	(0.0036)	(0.216)	(0.0035)
Leverage	0.0002	0.182	-0.0006
	(0.0004)	(0.158)	(0.0005)
Sales Growth	0.0007*	-0.0078***	-0.00002
	(0.0004)	(0.0022)	(0.00002)
Age	0.0319***	-1.257***	0.0109**
	(0.0089)	(0.390)	(0.0044)
Big 4	0.518***	-0.525	-0.0056*
	(0.0189)	(0.735)	(0.0031)
GDP Growth	0.243	2.890	0.0313
	(0.534)	(2.551)	(0.0416)
Market Size	-0.0001**	0.0016	-0.000001
	(0.0001)	(0.0015)	(0.00003)
Control of Corruption	0.0002	0.0912***	-0.0004***
	(0.0003)	(0.0160)	(0.0001)
Intercept	0.0184	2217.1***	-0.129***
	(0.0749)	(364.6)	(0.0408)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	79530	58532	86183
First Stage Regressions:			
Religious Democracy	1.1733***	1.2148***	1.1842***
	(0.0094)	(0.0103)	(0.0092)
Partial R^2 of excluded instruments	0.3372	0.3618	0.3447
F-test of excluded instruments	3799.64	3864.08	4044.19
Wooldridge's (1995) score test (p-values)	0.7826	0.0002	0.0381

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

In model 2, shareholder country religiosity shows a significant negative relationship with the expense ratio. The operating expense ratio is a positive measure of agency costs where a company with a high expense ratio is expected to have high agency costs and vice versa. Therefore, the result suggests that firms controlled by shareholders form religious country are more efficient in controlling the company's operating expenses such as perquisite consumption and other direct agency costs. This findings support hypothesis 2 and implies that shareholder country religiosity significantly reduces agency costs measured by operating efficiency.

The final measure of agency cost is the interaction between the company's free cash flow and its growth opportunities. Company growth opportunities is an indicator variable coded as 1 if Tobin's q is less than 1 (indicating low growth opportunities) and is 0 otherwise. This variable indicates that companies with high TFCF are subjected to low growth prospects. The third model in Table 6.3 shows a significant positive relationship between Shareholder country religiosity and TFCF. The results suggest that firms controlled by religious shareholders are inclined to have lower growth prospects, which is confirmed to hypothesis 3. As explained in the above (section 6.2.3), a firm that is controlled by shareholders in the highly religious country is expected to have a conservative investment policy and is therefore subject to lower growth opportunity. This is also consistent with the finance theory of low risk and low return relationship.

The models also report some company characteristics that represent crucial determinants of agency cost. In particular, Size, Sales Growth, Age, and Big 4 report a significant relationship with agency costs. Bigger companies, as measured by Size, indicate higher agency costs for asset utilisation but lower agency costs measured by operating efficiency. Big corporations also tend to have lower growth prospects. These findings are as expected as the agency conflict should be higher in large corporations with more complex

business structures. However, at the same time, larger companies may have lower operating costs because of larger production scales. Higher sales growth leads to lower agency costs measured by both asset utilisation and operating efficiency. Age shows higher asset utilisation efficiency and higher operating efficiency but lower growth prospects. This indicates that firms with greater experience are likely to have lower agency costs measured by efficiency ratios but also tend to have a conservative investment policy, which is similar to the influence of religiosity. As expected, firms audited by the big four audit companies show lower agency costs in both efficiency measure (AUR) and growth prospects. Finally, for country variables, market size and control of corruption show a significant relationship with agency costs.

In sum, the findings in model 1 and 2 are comparable to Du (2016) and denote that religiosity can operate as an alternative control mechanism to moderate managerial unethical behaviour. Religiosity also leads to a more conservative or prudent investment policy that reduces the company's growth prospects but is likely to provide stable returns. This assumption is supported in prior studies as firms located in more religious areas were found to have less volatile returns (Hilary and Hui, 2009; Noussair and Trautmann, 2013; Jiang *et al.*, 2015). The finding is also consistent with chapter 3 that provides evidence of a negative relationship between shareholder country religiosity and the volatility of firm returns. The study provides a pioneering finding that religiosity can additionally have an indirect impact on the company agency costs by controlling shareholders.

6.4.2.2. Religiosity and Agency Costs in Developed Countries

This study anticipates that religiosity has a strong influence on individual characteristics, including shareholder monitoring behaviour, and this factor can significantly affect firm agency costs. Secularisation theory, on the other hand, suggests that the more advanced the economy, the more likely it is for individuals to become less religious. Prior literature also

suggests that religiosity is lower in urban areas (Mcguire, Omer and Sharp, 2012). These arguments assume that the level of religiosity should be lower in developed countries and reduce the impact of shareholder country religiosity on agency costs. This study performs a test that accounts for the influence of developed countries to justify this assumption. The estimation identifies the list of developed countries and generates a dummy variable named Developed, which is equal to 1 if the country is categorised as a developed country[64] and zero otherwise. To test whether the influence of shareholder country religiosity is different in the developed nations, we interact the Developed variable with Shareholder country religiosity. The estimation model is as follows:

$$Agency\ Costs_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \beta_2 (\widehat{Religiosity}_{it} \times Developed_i) + \beta_3 Developed_i + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (2)$$

Developed countries represent a significant number of observations in the sample that might influence the results. The developed countries consist of 32,924 firm-year observations which are more than one-third of the sample size. The findings reported in Table 6.4 show that the coefficient of Shareholder country religiosity remains consistent with the above primary estimation. In model 1, the coefficient of developed and the interaction between developed and shareholder religiosity are insignificant. This result shows that the influence of religiosity in developed countries remains unchanged, and that development has no significant influence on the company's asset utilisation or technical efficiency. In model 2, the coefficient of developed countries shows a significant positive sign, suggesting lower operating efficiency for

[64] As presented in Table 1, the developed countries in the sample are Australia, Austria, Belgium, Bermuda, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, the United Kingdom, and the United States. Source: CIA World Factbook 2017. These developed countries have a GDP per capita above $15,000 and HDI (Human Development Index) scores above 0.76 in 2015.

companies in developed countries. This factor might be influenced by higher operating costs (i.e., employees' salary) in developed countries. However, the interaction between shareholder country religiosity and the dummy of developed countries show a significant negative sign which indicates lower agency costs. The result suggests that religiosity attenuate the influence of development and leads to higher operating efficiency in the developed countries.

Finally, in model 3, developed shows a significant negative sign indicating higher growth prospects for companies in developed countries. The result for TFCF suggests that company growth is affected by the country's economic conditions. It is likely that advanced economies with more business opportunities and greater technological advancement will offer higher growth opportunities for corporations. Then again, the interaction between shareholder country religiosity and developed is insignificant. The result shows that the positive influence of religiosity on low growth prospect is comparable in the developed countries. Thus, support the primary estimation in 6.2.1, and provide some evidence that religiosity which is naturally based on conservative investment policies might distort the company's growth prospects. These findings suggest that religiosity stimulates company's operating efficiency in the developed countries, but the influence of religiosity are comparable for the company's technical efficiency and growth prospects. The findings in overall suggest that economic development does not interfere with the influence of religiosity on the company's efficiency. Hence, secularisation has no significant influence on the measures of efficiency.

Table 6.4: Regression results for religiosity and agency costs in developed countries

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.141***	-4.811***	0.0475***
	(0.0499)	(1.217)	(0.0125)
Shareholder country religiosity * Developed	-0.0077	-4.471*	-0.0076
	(0.0973)	(2.708)	(0.0175)
Developed	0.0828	6.950***	-0.0188**
	(0.0515)	(2.024)	(0.0081)
Local ownership	-0.0417***	-0.290	-0.0061
	(0.0147)	(0.480)	(0.0048)
Profitability	-0.0001	0.0131	0.0001
	(0.0001)	(0.0119)	(0.0001)
Size	-0.0249***	-1.542***	0.0115***
	(0.0037)	(0.222)	(0.0034)
Leverage	0.0002	0.181	-0.0006
	(0.0004)	(0.157)	(0.0005)
Sales Growth	0.0007*	-0.0079***	-0.00002
	(0.0004)	(0.0022)	(0.00002)
Age	0.0269***	-1.471***	0.0114***
	(0.0091)	(0.416)	(0.0042)
Big 4	0.489***	-0.632	-0.0057**
	(0.0195)	(0.802)	(0.0028)
GDP Growth	0.248	2.031	0.0315
	(0.534)	(2.480)	(0.0410)
Market Size	-0.0001**	0.0084***	-0.00003
	(0.00005)	(0.0018)	(0.00003)
Intercept	-0.0331	2220.5***	-0.153***
	(0.0765)	(364.5)	(0.0405)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	79594	58586	86252
First Stage Regressions 1:			
Religion Democracy	1.0968***	1.1393***	1.1069***
	(0.0119)	(0.0133)	(0.0119)
Partial R2 of excluded instruments	0.2869	0.2946	0.291
First Stage Regressions 2:			
Religion Democracy*Developed	1.0750***	1.0856***	1.1068***
	(0.0087)	(0.0091)	(0.0085)
Partial R2 of excluded instruments	0.3898	0.4362	0.3856
Wooldridge's (1995) score test (p-values)	0.4405	0.0000	0.0017

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Developed* is a dummy variable equal to 1 if the country is categorised as developed countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, South Africa, Spain, Switzerland, Turkey, United Kingdom, and the United States. *Shareholder country religiosity*Developed* is the interaction between the two variables. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Religious Democracy* is the instrumental variable defined as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates which are computed using the robust method and clustered by firm.

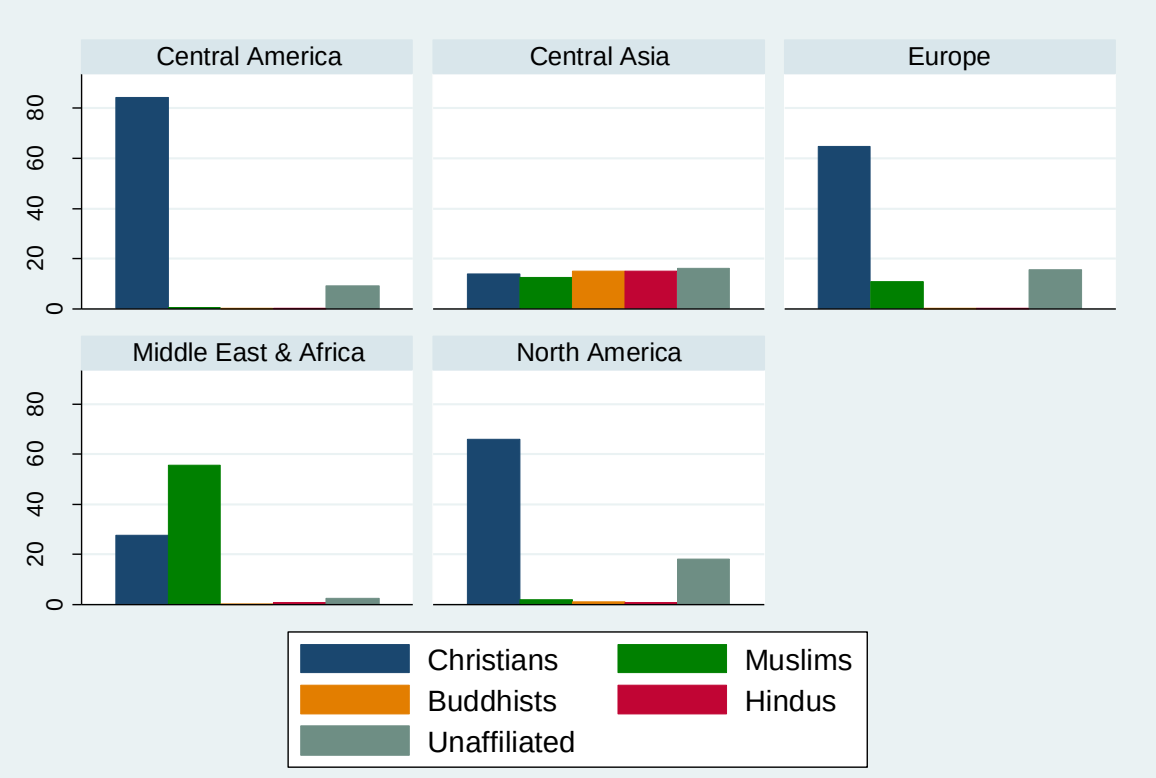
6.4.2.3. Religiosity and Agency Costs: Regional Analysis

Thus far, the findings have provided consistent results on the impact of shareholder country religiosity on agency costs. However, as each geographical region exhibits a different culture and economic condition, it is possible that the influence of religiosity is different between regions. To analyse this concern, the analysis identifies five significant regions in the sample which are North America, Central America, Europe, the Middle East, and Central Asia, and generates dummy variables equal to 1 if the firm is located in the respective region and 0 otherwise. The study interacts the shareholder country religiosity variable with the dummy variable indicating the region of the companies to examine whether the result varies according to the geographic location of the firms. The model for this analysis is as follows:

$$Agency\ Costs_{it} = \alpha_0 + \beta_1 \widehat{Religiosity}_{it} + \beta_2\ (\widehat{Religiosity}_{it} \times Region_i) + \beta_3 Region_i + \sum_{i=1}^{n} \beta_i\ Culture_{it} + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE\ \ + \varepsilon_{it} \quad (3)$$

To tackle the influence of regional cultural differences, the above model includes additional cultural variables according to region. As explained in Chapter 4, section 4.4.2.3 one of the most noticeable issues regarding regional cultural differences is about the distribution of religious groups in the region. Figure 6.1 shows that North America, Central America, and Europe are dominated by Christians, while the average of Muslims is higher in the Middle East and Africa. Central Asia is the most unique and diverse region with an almost equal average number of all major religious groups including Buddhists and Hindus.

Figure 6.1: The average percentage of religious group in the sample by regions.



Data source: The Association of Religious Archive (ARDA)

Thus, three major religious groups in the sample are Christians, Muslims, and the Unaffiliated, while Buddhist and Hindus are only significant in Central Asia. Moreover, besides the percentage of religious denominations, the above model also takes into account the cultural preference of people in the country that is likely to have a significant effect on the company's efficiency. The study uses Hofstede's uncertainty avoidance index (UAI) that captures the extent to which members in society feel uncomfortable with uncertainty. This variable is likely to influence the company's efficiency because cultures with high UAI dislike ambiguity which can lead to low risk-taking behaviour and conservative working behaviour. This factor is prone to have a higher influence in the regional analysis. Hence, in specific, the model in (4) controls for four main cultural variables which include the percentage of

Christians, Muslims, Unaffiliated and also UAI in all regions and additionally controls for the percentage of Buddhists and Hindus in Central Asia.[65]

Table 6.5 presents the summary of findings for the regional analysis for North America, Central America, Europe, the Middle East and Africa, and Central Asia.[66] Shareholder country religiosity demonstrates consistent results for all regions except for asset utilisation in Central Asia. In North America, the coefficient of the interaction term is insignificant in all models which suggest that the influence of religiosity in North America has no significant difference compared to the global sample. For Central America, the influence of shareholder country religiosity is weakened for operating efficiency and low growth prospects. In Europe, the impact of shareholder religiosity is attenuated in all measures of agency costs. While in the Middle East and Africa, the impact of shareholder religiosity is only weakened for operating efficiency.

Finally, Central Asia demonstrates interesting findings compared to the other regions. In model 1, the coefficient of shareholder country religiosity suggests low technical efficiency. However, the interaction term is positively significant, and the magnitude of the coefficient is higher than the religiosity variable. The difference between the magnitudes of both coefficients suggests that shareholder religiosity leads to higher technical efficiency which is inconsistent with the main findings. The findings suggest that Central Asia demonstrates a highly significant influence in the model which might be due to the unique and diverse cultural and religious background in the region. This factor might be a potential interest for future studies. On the other hand, the findings for operating efficiency in Central Asia are comparable with Central America, Europe and the Middle East and Africa. In general, shareholder country

[65] Data for the percentage of religious group in the country were gathered from The Association of Religious Archive (ARDA). ARDA covers information about various religious variables for more than 200 countries from 1900 to 2015, therefore, the sample for this analysis covers for only nine years (2006-2015).
[66] Refer to table Appendix C.1 and C.2 for the full results.

religiosity reports a consistent coefficient with all measures of agency costs, but the impact of shareholder country religiosity is marginally different between regions.

Table 6.5: Summary of the regression results for religiosity and agency costs: a regional analysis

	(1) AUR	(2) OPR	(3) TFCF
North America			
Shareholder country religiosity	0.340*** (0.117)	-12.63*** (3.488)	0.0810** (0.0322)
Shareholder country religiosity * North America	0.483 (1.005)	-1.268 (7.685)	-0.0565 (0.0607)
North America	-0.161 (0.611)	4.528 (6.860)	-0.0301 (0.0516)
Central America			
Shareholder country religiosity	0.319*** (0.123)	-13.51*** (3.562)	0.108** (0.0430)
Shareholder country religiosity * Central America	-0.223 (0.157)	8.216*** (3.152)	-0.0852** (0.0404)
Central America	-0.0955 (0.110)	-5.765** (2.317)	0.0474* (0.0252)
Europe			
Shareholder country religiosity	0.351*** (0.132)	-16.09*** (3.727)	0.127*** (0.0469)
Shareholder country religiosity * Europe	-0.250** (0.0983)	13.56*** (3.190)	-0.0959*** (0.0262)
Europe	0.252*** (0.0598)	-10.43*** (2.463)	0.0793*** (0.0199)
Middle East & Africa			
Shareholder country religiosity	0.262** (0.132)	-15.00*** (3.906)	0.133*** (0.0384)
Shareholder country religiosity * Middle East & Africa	0.128 (0.160)	8.952** (3.552)	-0.293 (0.272)
Middle East & Africa	-0.108 (0.130)	-6.670** (3.004)	0.265 (0.248)
Central Asia			
Shareholder country religiosity	-0.227*** (0.0874)	-10.41*** (3.166)	0.0691* (0.0365)
Shareholder country religiosity * Central Asia	0.528*** (0.0873)	6.024*** (2.262)	-0.0017 (0.0140)
Central America	-0.701*** (0.0746)	-11.12*** (2.510)	0.0494*** (0.0190)

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *North America, Central America, Europe, Middle East & Africa, and Central Asia* are the dummy variables which equal to 1 for company located in the respective regions and 0 otherwise. Christians, Muslims, Buddhists and Hindus are the percentage of Christians, Muslims, Buddhists, and Hindus population in the country. Unaffiliated is the percentage of population with no religious affiliation in the country.

6.4.4.4. Religiosity and Agency Costs: The Influence of Cultural Distance

The central issue in this study is to analyse the influence of shareholder norms on firm behaviour. Social norms theory suggests that individuals will undertake actions in ways that correspond to the behavioural norms of groups that they are associated with. Therefore, the behaviour and the decisions of shareholders who are surrounded by a religious population are expected to be influenced by the religious norms maintained by those in the population. The study predicts that shareholders coming from a religious country will maintain high religious values which will affect their monitoring behaviour. Thus, as religiosity was found to moderate firm and individual ethical behaviour, the study hypothesises that shareholder country religiosity will have a comparable outcome and lead to lower agency costs. The results thus far have supported this assumption.

To recap, shareholder country religiosity is defined as the level of religiosity in a country where the major shareholder is located. By this definition, the measure of shareholder country religiosity is only different from the company's geographical religiosity if the company is controlled by a foreign owner. Moreover, the difference in the norms of a foreign shareholder and a company will create 'cultural distance'. In addition to religiosity, a foreign controlling shareholder is likely to maintain most of his or her cultural values which is expected to influence corporate behaviour. Hence, it is important to take into account the influence of cultural distance and further confirm that the influence of religiosity is directed by the controlling shareholder and is not biased toward the geographical location of the firm.

Base on the above arguments, this study perform a test to further verify the significant influence of shareholder norms on firm behaviour. Following Manev and Stevenson (2001), this section introduces two variables that identify cultural distance. The first variable is an indicator of country difference, which is foreign ownership (Foreign), defined as a dummy

variable equal to 1 if the country of origin of the largest controlling shareholder is different from the firm and 0 otherwise. The analysis interacts Foreign with the measure of shareholder country religiosity to test whether shareholder origin strengthens or reduces the influence of religiosity on agency costs. The second variable which is 'Cultural Distance' is measured as Euclidean distance.[67] As firm efficiency is largely affected by their investment policies, the study used three of Hofstede's dimensions of national culture that are reported to have a significant influence on corporate risky behaviour (Ashraf, Zheng and Arshad, 2016). In particular, the measure of cultural distance is constructed using uncertainty avoidance (UAI), power distance (PDI), and individualism (IDV).[68] The model of the analysis is as follows:

$$
\begin{aligned}
Agency\ Costs_{it} \\
&= \alpha_0 + \beta_1\ \widehat{Religiosity}_{it} + \beta_2(\widehat{Religiosity}_{it} \times Foreign_i) + \beta_3 Foreign_i \\
&+ \beta_4 Culture\ Distance_i + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE \\
&+ \varepsilon_{it}
\end{aligned}
\tag{4}
$$

[67] As in Chapter 4 section 4.4.2.4, $CD_{ij} = \sqrt{\sum_{k=1}^{3}(D_{ik} - D_{jk})^2}$; Where CD_{ij} is the cultural distance between the controlling shareholder i and the firm j and D_{ik} and D_{jk} are the indices for the k-th dimension in i's and j's national culture.

[68] UAI is the degree to which the members of a society feel unpleasant with uncertainty and ambiguity. PDI is an index that measure the extent to which the less powerful members of a society accept and expect an unequal distribution of power. People in societies with high PDI accept a hierarchical order in which everybody has a place without demanding further justification. IDV is the culture that individuals are expected to take care of only themselves and their immediate families.

Table 6.6: Regression results for religiosity and agency costs: the influence of cultural distance

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.129***	-1.477***	0.0358**
	(0.0392)	(0.0997)	(0.0147)
Shareholder country religiosity * Foreign Owner	0.206**	-1.578***	0.0463**
	(0.0841)	(0.381)	(0.0224)
Foreign Owner	0.0640	-0.641***	0.0395*
	(0.0470)	(0.239)	(0.0228)
Culture Distance	0.0012***	-0.0007	-0.0002
	(0.0004)	(0.0021)	(0.0002)
Profitability	0.0093***	-0.141***	0.0061*
	(0.0021)	(0.0230)	(0.0032)
Size	-0.0184***	-0.368***	0.0070***
	(0.0029)	(0.0163)	(0.0022)
Leverage	0.0630***	0.342***	-0.0456*
	(0.0095)	(0.0834)	(0.0262)
Sales Growth	0.0067***	-0.0584***	0.0007
	(0.0024)	(0.0129)	(0.0005)
Age	0.0713***	-0.200***	0.0134**
	(0.0074)	(0.0298)	(0.0052)
Big 4	0.106***	0.0911	-0.0041
	(0.0128)	(0.0569)	(0.0026)
GDP Growth	-0.437**	1.011*	0.0147
	(0.190)	(0.540)	(0.0571)
Market Size	-0.0003**	0.0007*	-0.00002
	(0.0001)	(0.0004)	(0.0001)
Control of Corruption	0.0004	0.0194***	-0.0004***
	(0.0003)	(0.0011)	(0.0001)
Intercept	0.574***	5.115***	-0.0639***
	(0.0644)	(0.278)	(0.0197)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	69326	50641	75801
First Stage Regressions 1:			
Religious Democracy	1.1340***	1.1683***	1.1420***
	(0.0222)	(0.0230)	(0.0218)
Partial R2 of excluded instruments	0.3289	0.3493	0.3365
First Stage Regressions 2:			
Religious Democracy*Foreign	1.2976***	1.2926***	1.2859***
	(0.0180)	(0.0190)	(0.0173)
Partial R2 of excluded instruments	0.3838	0.3845	0.3824
Wooldridge's (1995) score test (p-values)	0.1282	0.0000	0.0183

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Foreign* is a dummy variable equal to 1 if the company's largest ultimate shareholders is based in a different country as the company and 0 otherwise. *Shareholder country religiosity*Foreign* is the interaction between the two variables. *Cultural Distance* is calculated as Euclidean distance: $CD_{ij} = \sqrt{\sum_{k=1}^{3}(D_{ik} - D_{jk})^2}$; Where CD_{ij} is the cultural distance between the controlling shareholder i and the firm j, D_{ik} and D_{jk} are the indices for the k-th dimension in i's and j's national culture. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Religious Democracy* is the instrumental variable define as the percentage of respondent the that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates which are computed using the robust method and clustered by firm.

The results presented in Table 6.6 show that the coefficient of shareholder country religiosity remains significant and the interaction term (Shareholder country religiosity*Foreign) is significant in all models with a comparable sign. The findings indicate that foreign ownership strengthens the influence of religiosity on agency costs. Comparable with the main findings, foreign religious controlling shareholder leads to lower agency costs in technical efficiency and operating efficiency but is subject to lower growth prospects. Cultural distance shows a significant positive impact in model 1 which suggest that higher culture distance contributes to lower agency costs measured by technical efficiency. This finding supports the advantage of foreign controlling shareholders. Overall, the results show that the origin and social norms of the controlling shareholder play an essential role in determining the firm's agency costs. The analysis also reports some evidence on the influence of culture distance on firm behaviour.

6.4.4.5. Additional Robustness Analysis

The study conducts seven additional robustness tests to provide support for the results. The results of the analysis are reported in Appendix C.4 to Appendix C.13 below.

Minimising the influence of extreme value; the descriptive analysis suggests high standard deviations for operating efficiency and some control variable such as profitability, leverage, sales growth, and market size. This factor is mainly influenced by the extensive coverage of the sample that includes a large number of firms with various business nature from different countries. Thus, there is a possibility that the results are affected by some extreme values in the observation. The study uses the winsorising technique to eliminate the extreme values in the variables with high standard deviations and re-estimate the primary model. The results in Appendix C.4 demonstrate that the influence of shareholder country religiosity on measures of agency costs are consistent with the main analysis. The coefficient of some

variables in this test shows marginal changes. Shareholder country religiosity indicates higher magnitude in model 1 and 3 for asset utilisation and growth prospects, but lower magnitude in model 2 for operating efficiency. For control variables, local ownership, profitability, leverage and big4 show significant influence on agency costs in most of the models. Importantly, the influence of the main variable in all models is consistent which reject the possibility that the findings are biased as a result of outliers in the sample.

Geographical religiosity; the second robustness test examines the influence of religiosity on a larger global sample and defines religiosity based on the geographical location of the firms. Prior literature reports consistent evidence that the geographical religiosity or level of religiosity where the firm is located significantly influences corporate behaviour. Therefore, this study intends to clarify the issue as more than 70 percent of the firms are owned by local shareholders. The findings in Appendix C.5 show that geographical religiosity reports consistent evidence for shareholder country religiosity affecting agency costs. These findings clearly suggest that firms located in a more religious area are likely to have lower agency costs, measured by asset utilisation and operating efficiency, which is consistent with Du (2016). This test strengthens the theoretical assumption of social norms and the importance of religiosity in affecting corporate behaviour. The findings indicate that religiosity as a form of social norm is able to affect corporate behaviour both directly (by geographical religiosity) and indirectly (by shareholder country religiosity).

Control for earnings quality; a firm's earnings quality can provide an indication of unethical managerial behaviour. Therefore, it is likely that firms with lower earnings quality have higher agency costs. This study tested this assumption by adding the company earnings quality score as an additional control variable in the main model. Appendix C.6 reports that the association between Shareholder country religiosity and the agency cost measures remain

consistent. This indicates that the results hold after controlling for Earnings quality and the influence of Earnings Quality on agency costs corresponds to the assumption. Earnings Quality also shows a positive coefficient with TFCF, thus confirming our assumption that TFCF is also an indication of a prudent investment policy that is likely to provide stable returns for firms.

Low versus high external monitoring; prior studies argue that if religiosity is a significant mechanism for corporate control, it is likely that the impact of religion is more vital for companies with low external monitoring (Ghoul *et al.*, 2012; Mcguire, Omer and Sharp, 2012). This argument is built on the notion of religious norms as an alternative, external monitoring institution. Following Mcguire, Omer and Sharp (2012), this study tests this assumption and uses the percentage of institutional ownership as a proxy for external monitoring. Firms above (below) the median percentage of institutional ownership in the sample are defined as having high (low) external monitoring. Appendix C.7 compares the results of the impact of shareholder country religiosity on agency costs for firms in high and low external monitoring. The findings indicate a robust and consistent association between shareholder country religiosity and the measures of agency costs for the sample of low external monitoring. For AUR, Shareholder country religiosity is insignificant in the high external monitoring sample but reports a positive coefficient in the low external monitoring sample. For OPR, Shareholder country religiosity is negative and significant in both samples, but the coefficient of Shareholder country religiosity is higher in the sample of low external monitoring. These findings indicate that Shareholder country religiosity leads to higher asset utilisation and operating efficiency, especially for firms with low external monitoring. For the TFCF, Shareholder country religiosity is insignificant for firms with high external monitoring but lead to a conservative investment policy for firms with low external monitoring. The results

support the above argument, thus indicating that religious norms can alternatively serve as an external governance mechanism for companies with low external monitoring.

Control for ownership types; the prior studies in ownership structure argue that firm behaviour is influenced by the identity of the shareholders (Maury and Pajuste, 2005; Boubakri, Cosset and Saffar, 2013; Dong *et al.*, 2014). Various types of shareholder are likely to have different objectives, business strategies and ways to exercise their monitoring role (Zou and Adams, 2008). Therefore, it is vital to analyse whether the impact of Shareholder country religiosity to agency costs is affected by the percentage of ownership structure. Following this argument, the study conducted a test and included the percentage of ownership stake for various types of largest ultimate owners as additional control variables. The result reported in Appendix C.8 shows that the influence of shareholder country religiosity is consistent in all models even after the inclusion of the types of ownership. In general, the ownership types display some significant coefficients which are consistent with the theory.

The influence of financial crisis; the study takes into account the influence of the financial crisis on the main findings and re-estimates the main model by removing the crisis periods (years 2007-2008) from the sample. The objective is to test whether the influence of shareholder country religiosity is consistent during periods of low financial volatility. Appendix C.9 shows that the non-crisis sample exhibits consistent results, where the coefficient of shareholder country religiosity remains significant with similar directions in all models, which is consistent with the full sample effect. These findings support the assumption that the influence of religious shareholders is significant and is not due to the short-term influence of the financial crisis.

Seventh, the study tests the assumption in Faccio, Marchica and Mura (2011). The paper argues that the investment preferences of the controlling shareholder will influence the

shareholder's controlling behaviour and thus affect the companies' outcome. Faccio, Marchica and Mura (2011) provide evidence that large controlling shareholders with diversified portfolios positively affect the firm's risk behaviour. Companies controlled by shareholders with diversified portfolios are likely to have more active investment policies and take higher risks as compared to companies controlled by non-diversified shareholders. Shareholder diversification indicates a critical variable that can influence the volatility of firm returns. Therefore, we test whether the results hold after controlling for shareholder portfolio diversification. Portfolio diversification is measured by the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Appendix C.10 reports that the results remain consistent and support the primary estimations.

The influence of other formal and informal institutions; the findings in this paper support the assumption that religion can operate as an alternative informal control mechanism that able to restrain unethical managerial behaviour. This test intended to examine the influence of other formal and informal institutions on the estimation. The primary estimation use control of corruption to control for the level of governance in the country where the firm operates. In total, there are six indicators developed by the World Governance Indicator (WGI) that measure the effectiveness of formal institutions in governing the economic and social interactions in the country. These factors could have a direct and indirect effect on firm behaviour. In particular, the measures of a country's governance are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law, and control of corruption. As the main model has already controlled for control of corruption, this estimation additionally controls for other five measures of country governance to test the sensitivity of our estimation. A correlation test reveals that these governance indicators are highly correlated with each other (between 80 and 95 percent). As such, the

analysis is conducted separately to avoid multicollinearity. The model in this section also controls for another informal factor that could potentially influence the impact of religiosity. To be precise, the model control for religious diversity in the country calculated using six major religious groups, which are Christian, Muslim, Buddhist, Hindu, other religion, and unaffiliated. [69] The calculation of religious diversity is based on a modified version of the Herfindahl-Hirschman Index, that is widely used to measure the degree of concentration of human and organizations, such as market concentration. Religion diversity scores range from 0 to 1 and are inverted so that higher scores indicate higher religious diversity. Results in Appendix C.11 shows that after controlling for other country governance and religion diversity, the findings remain consistent in all models.

Higher percentage of ownership; Large shareholders in this paper are defined as shareholders holding at least 5% of voting rights. However, there is no consensus in the literature on defining large shareholder. Some might argue that 5% of shareholding is low, and does not represent a significant percentage of a controlling shareholder. Therefore, to strengthen the argument, this section re-estimate the main model and define the largest controlling shareholders at a higher percentage. Large shareholder in this test is defined as the ultimate shareholder owning at least 10% of the ownership stake. Thus, shareholder religiosity 10 is the religiosity of the largest controlling shareholder that hold a minimum of 10% shares.

[69] $RDI = \frac{1-\sum_{i=0}^{n} R^2}{1-(\frac{1}{n})}$; Where, RDI refers to the religious diversity index, R is the percentage of religion in each group, and n is the number of religious group. Methodology source: Pew Research Center.

The results in Appendix C.12 demonstrate that shareholder religiosity remains significant with consistent sign in all estimations. The findings support our main position.

Shareholder religiosity versus local religiosity; Prior literature reports consistent evidence that the geographical religiosity or the level of religiosity where the firm is located significantly influence corporate behaviour. Therefore, it is vital to examine whether shareholder religiosity is affected by the level of religiosity in the country. In this robustness analysis, the study test the impact of shareholder religiosity by controlling the level of religiosity in the country where the firm is located (local religiosity). Local religiosity is defined as a dummy variable equal to 1 if the firm is located in a country with high religiosity and 0 otherwise. High religiosity is measured as when a religiosity score is above the median score in the sample. This variable identifies whether the firm is located in a high or low religious country. This model also controls for other cultural factors that could influence the degree of religiosity. In particular, the culture variables in this model include the percentage of three main religious groups (Christians, Muslims, and Unaffiliated), and also Hofstede's uncertainty avoidance index. The findings in Appendix C.13 show that shareholder religiosity remains significant even after controlling for high local religiosity and other cultural variables. The findings indicate that shareholder religiosity plays of great consequence in influencing firms' agency costs. Local religiosity, on the other hands, is only significant in affecting OPR and TFCF, and the direction of the coefficients are similar to shareholder religiosity. These findings clearly verified our main estimation, which demonstrates that firms controlled by religious shareholders are likely to have lower agency costs, measured by asset utilisation and operating efficiency. This test strengthens the theoretical assumption and the importance of shareholder religiosity in affecting corporate behaviour.

6.5. Conclusion

This study examines the influence of shareholder country religiosity on the agency costs using a global data set of up to 86,183 firm-year observations between 2007 and 2016 in 72 countries. Shareholder country religiosity is defined as the importance of religion in the shareholder's country of origin, and agency costs are measured by asset utilisation ratio, operating expense ratio and company growth prospects. The estimations employ an instrumental variable approach to account for the presence of endogeneity. The theory suggests that religiosity as a form of social norm and a source of moral and ethical value will influence individual characteristics and decisions. Prior literature also provides support that firms located in highly religious areas are prone to having high ethical values and conservative investment policies. Therefore, the study predicts that the level of religiosity in a particular area will influence shareholder characteristics and, thus, will affect their monitoring behaviour that will result in lower agency costs.

The analysis provides robust evidence of lower agency costs measured by technical efficiency and operating efficiency for companies controlled by shareholders from a religious country. Consistent with the theoretical assumption, companies controlled by shareholders located in the religious country also indicate lower growth prospects as a result of prudent investment policies. The results are consistent with a test for geographical religiosity. These findings support the view that religion, as a set of social norms, is able to shape individual behaviour and prevent unethical activities. The impact of religiosity on agency costs for firms located in developed countries is higher for operating efficiency but insignificant in the other measures. The findings suggest that economic development and the potential of secularisation in the society do not significantly interfere with the influence of religiosity on the company's efficiency. The analysis further shows that the findings are consistent in regional analysis.

Moreover, the association between religiosity and agency cost is significant and stronger for firms with lower external monitoring. The results remain consistent after conducting several additional robust analyses.

The results denote important policy implications. The negative relationship between shareholder country religiosity and agency costs strengthens the association between social norms and individual ethical behaviour. The findings support the theory that understanding the exogenous environment is vital to interpreting the agency costs-governance relationship (Mcknight and Weir, 2009). These meaningful insights indicate that the characteristic of the controlling shareholder can significantly influence corporate behaviour, which is vital to the corporate governance literature. Moreover, the findings support the assumption that religion can operate as an alternative, informal control mechanism to restrain unethical managerial behaviour. This information is crucial to the industry, including managers, the board of directors, regulators, and investors (as it helps them with portfolio investment decisions).

CHAPTER 7

Comprehensive Ethical Screening and Agency Costs

Chapter 7 : Comprehensive Ethical Screening and Agency Cost

7.1. Introduction

Ethics is a central issue in a firm's agency relationship. The moral hazard of managers pursuing self-interest has driven the urge for a better governance mechanism, particularly following the recent global financial crisis. Although an increasing body of evidence has generated a wealth of insight into the performance of ethical funds and indices, prior studies have been silent on how ethical screens can give an indication of the firm's agency issue. Does being socially ethical reflect the internal managerial behaviour? As of 2011, more than fifty academic studies provide evidence that the financial performance of ethical investment funds is mostly similar to their conventional counterparts (Capelle-Blancard and Mojon, 2014). Hence, the efficiency of current ethical screening standards is questionable. This study attempts to fill that void.

Using a global sample of 23,790 firm-year observations over the 2007–2016 period, the study analyses the agency costs of ethically-compliant firms. This research identifies a list of ethically-compliant firms using a three-stage ethical screening framework. This comprehensive framework integrates the current religious screening criteria and two additional ethical stages, namely earnings quality and ESG (environmental, social, and governance) performance. Agency costs are proxied by asset utilisation ratio (technical efficiency), operating expense ratio (operating efficiency) and the interaction between a company's growth and its free cash flows (growth prospects).

The study finds that ethically-compliant firms screened using the comprehensive ethical standard are subject to lower agency costs. Companies with high ethical standards report lower agency costs in the efficiency measures and also distort the positive relationship to low growth. The sensitivity test using match samples derived from a propensity score research design strengthen our main findings. In this test, ethically-compliant firms using the

comprehensive framework report higher technical and operating efficiency and demonstrate higher growth prospects. The results indicate that the comprehensive ethical screening is able to identify firms with high internal ethical conduct that bridges the gap of information asymmetry. Moreover, these types of firms also display high external ethical practices through their environmental, social and governance (ESG) performance. The findings help shed light on debates in two strands of the literature.

The first strand of research examines the extent to which highly ethically-compliant firms are associated with agency costs. The theoretical relationship between ethical practices and lower agency costs is supported by stakeholder and legitimacy theory (Suchman, 1995; Freeman, 2001). The theories propose that ethical programs will encourage companies to establish trust and long-term relationships with their stakeholders which, in return, will result in a good reputation and a higher performance. This notion is comparable to the good management view of Waddock and Graves (1997) and Carroll (1979). Prior studies demonstrate higher performance for firms with high ethical practices, measured by ESG performance (Mishra and Modi, 2013; Gregory, Tharyan and Whittaker, 2014; Sassen, Hinze and Hardeck, 2016; Lins, Servaes and Tamayo, 2017). However, the majority of the previous research examined the influence of ethical practices on profit-based outcomes. Although corporate performance is a crucial variable in evaluating firms, this factor may not reflect most of the channels through which firms benefit from ethical practices (Attig *et al.*, 2014).

Agency costs were found to be lower in corporations with higher ownership by the managers and the board of directors (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Fleming, Heaney and Mccosker, 2005; Mcknight and Weir, 2009; Florackis, 2011; Rashid, 2016). These studies focus mainly on the direct governance mechanism being used to overcome the agency issue. This emphasis is understandable as corporate governance

represents the fundamental approach to mitigate agency conflicts. However, there are other means that may affect agency costs that should receive greater attention in the literature. For instance, Du (2013) provides evidence that agency costs are attenuated by the level of religiosity surrounding the firms. Attig *et al.*, (2014) and Bhandari and Javakhadze (2017) demonstrate that ESG performance reduces information asymmetry and decreases internal cash-flows, thus leading to efficient investment policies. Therefore, it is curtailed to examine the influence of ethical practice in a broader sense.

The second component of the research investigates the economic relevance of integrating additional ethical values with the current religious framework. To date, the literature is unable to provide conclusive evidence on the performance of current ethical investments. The performance of ethical funds is either similar or lower as compared to conventional funds (Abdelsalam *et al.*, 2014). Ethical investments are mostly defined from a single viewpoint. This is either from the perspective of Shariah-compliant equities (Alam, 2010; Jawadi, Jawadi and Louhichi, 2014; Arshad, Aun and Rizvi, 2016; Nasr *et al.*, 2016; Ashraf *et al.*, 2017; Umar, 2017) or socially responsible funds (Renneboog, Ter and Zhang, 2008; Lee *et al.*, 2010; Humphrey and Lee, 2011; Capelle-Blancard and Mojon, 2014; Trinks and Scholtens, 2017). Erragragui and Revelli (2016) show that religiously-compliant equities with high, socially responsible performance show higher performance than SRIs (socially responsible investment) alone. However, as mentioned in the above, the analysis is based on profit-based outcomes and ignores the earnings quality criteria.

The efficiency of the current screening process has stimulated numerous debates. The most contentious issue is the inconsistency of the current framework. Currently, there are more than 34 prominent Shariah screening users in the world (Ho, 2015). Ashraf and Khawaja (2016) find that different Shariah standards affect index portfolio composition and return performance.

This factor might negatively influence the development of ethical funds. (Alsaadi, Ebrahim and Jaafar (2016) find that religiously-compliant firms indicate a positive relationship with earnings manipulation. Firms with a high degree of ESG score, on the other hand, are less likely to manage earnings. These findings strengthen the view that the current Shariah screening procedure does not entirely correspond to primary Islamic principles, i.e. the Maqasid (objective) of the Shariah.

Moreover, unlike socially responsible funds, the current screening standards exclude the intrinsic Shariah values of equity, justice and fairness (Naughton and Naughton, 2000; Abdelsalam *et al.*, 2014). The current screening process focuses on negative screening and is less transparent (Derigs and Marzban, 2008; Ho, 2015). As a result, firms categorised as Shariah-compliant have no intention of conducting business in a Shariah-compliant manner (Alsaadi, Ebrahim and Jaafar, 2016). Therefore, prior literature consistently points out the need for the harmonisation of Shariah screening standards and the integration of ethical and social responsibility elements into the current screening criteria (Naughton and Naughton, 2000; Abdelsalam *et al.*, 2014; Alsaadi, Ebrahim and Jaafar, 2016; Ashraf and Khawaja, 2016).

The study contributes to the literature by providing pioneering evidence on the influence of ethical practice on agency costs. As most research focuses on profit based performance, this research demonstrates that ethical practice and socially ethical programs can provide a potential solution to reduce the owner-manager agency conflict. This finding suggests that future research needs to integrate ethical elements to explain the determinants of corporate behaviour. At the macro level, regulatory authorities should encourage corporate ethical investments by providing more incentives for them to engage in ethical programs. This factor can boost the country's economic growth and social wellbeing.

The study also justifies the significance of a comprehensive ethical screening. The new screening framework is more transparent and is able to reduce information asymmetry by indicating the firm's internal and external ethical practices. The comprehensive framework incorporates the intrinsic values of religion which helps religious investors engage in socially responsible investment without coming into conflict with their religious views. The comprehensive framework enables investors and fund managers to identify well-performing ethical stocks.

The rest of the chapter is structured as follows: Section 7.2 discusses the underpinning theory and hypothesis development. Section 7.3 describes the sample selection procedure, the empirical model, and the variable measurements. Empirical results for the descriptive and multivariate analysis are presented in Section 7.4, Section 7.5 concludes the chapter, and finally, section 7.6 presents the results for the robust analysis.

7.2. Theory and Hypothesis Development

This study intended to examine the agency costs of ethically-compliant firms screened using a three-level screening criteria. In agency theory, the separation of ownership and control raises conflicts when the agent is believed to not consistently act in the best interests of the principal. Agents are assumed to have a self-interest that causes a divergence between their interests and the goals of their principals (Jensen and Meckling, 1976). This issue has resulted in moral hazard problems among agents (managers) that could deteriorate the value of the principals (shareholders). The focal issue in this theory is the existence of information asymmetry between absentee owners and managers who are in charge of the day-to-day running of the firm (Fama & Jensen, 1983; Conheady et al., 2014).

Accordingly, the study argues that the comprehensive ethical screening framework that incorporates religious, earnings quality and ESG screening will increase corporate

transparency and is thus expected to reduce information asymmetry and agency costs. Thus, based on the design of the screening framework, there are two channels that are expected to contribute to lower agency costs for ethically-compliant firms. These are the social norms channel and the ethical channel.[70]

7.2.1. The Social Norms Channel

The intention of corporations in being socially responsible is mainly to safeguard the continuity of their business. By gaining 'legitimacy' from society, corporations can maintain stable earnings, persistence, and, more importantly, a respectable image. This is because audiences are more likely to support legitimate organisations and perceived them as more worthy, meaningful, predictable, and trustworthy (Suchman, 1995). The society as a whole plays a vital role in determining the legitimacy of corporate actions. This theoretical argument recognises the influence of social norms on corporate behaviour and financial performance.

Sinful firms fundamentally suffer from a negative image due to social stigma (Devers *et al.*, 2009). Based on the notion of social stigma, the sinful firms will encounter a greater risk of being neglected in the stock market because their products or services are likely to be rejected by some part of the society (Hong and Kacperczyk, 2009). For instance, even though the alcohol industry engages in legal, economic practices of production and consumption, its products are perceived as harmful in society. Although previous studies reported some evidence that sinful firms outperform ethical firms[71], they have a high risk of being neglected in the stock market because investors intend to avoid stocks that perceived to be violating the socially acceptable rules (Oh, Bae and Kim, 2017). In addition, Liston (2016) reported that a

[70] The social norms and ethical channel are bullied on the legitimacy and stakeholder theory respectively as discussed in 5.2.1.

[71] Some prior studies reported that sinful firms offer greater dividends, outperform the market, more resilient during the recession, stable earnings, and have higher quality of financial reporting (Oh, Bae and Kim, 2017).

major limitation of the prior studies is that they do not take into account the possible relationship between social sentiment, particularly investors and sin stock returns. After controlling for the role of investor sentiment, Liston (2016) found that the abnormal returns for sin stocks found in previous studies disappear. The results demonstrate that investor sentiment has a significant impact on the sin stocks' conditional volatility. Fauver and McDonald (2014) found that sin stocks have an 8% lower market value in countries where the society is strongly against the product and services of such industries. Al-Khazali *et al.*, (2017) and Mazouz, Mohamed and Saadouni (2016) report a connection between social norms, investor attitudes, and the performance of ethically-compliant investments. They suggested that ethical-based investor invests only in ethically-compliant equities and excludes conventional equities in their portfolio despite the economic advantages of sinful stocks. The findings further verified that investor sentiment and attitudes is shaped by the social norms, and this factor affect the financial performance and the efficiency of the firms.

From this perspective, the operation of non-ethically compliant firms which do not conform to societal preferences is perceived as harmful in society and violate social norms. The first requirement in the comprehensive screening is to exclude companies that are involved in unethical industries and companies with high financial risk (high leverage, interest income, and liquidity). This benchmark is developed according to religious norms and thus conforms to basic social values. The second and the third benchmark focus on the ethical practice of earnings quality and ESG performance and will further confirm the social values and encourage social acceptance or legitimacy. Hence, as society is more likely to support legitimate organisations, these ethical practices will contribute to corporate performance and efficiency.

It is clear that the definition of unethical or 'sin' practices in the first stage is according to Shariah and not based on all other religions. But, the Shariah compliant investment is a

unique market on its own. These types of equity investment attract a specific investors who are mostly concern about the compliant aspects of the companies that they invested in. As explained in the above, ethical-based investor invests only in ethically-compliant equities despite the financial returns of sinful stocks. Currently, there are more than 134 Shariah screening users globally, which is not only based in the Muslim countries. For instance, even the U.K. and the U.S. as primary western developed nations have multiple Shariah screening users (i.e., Dow Jones Islamic Market (DJIM), S&P Islamic Index, FTSE Islamic Index Series, HS50 Shariah Index, Yassar Limited, and etc.).[72] Moreover, the definition of uncompliant industries in this stage is also the conventional definition of sin firms.[73] Therefore, this screening criteria can be regarded as a universal ethical standard which is not exclusively the norms of Muslim countries.

Du *et al.* (2017) and Du (2013) support a direct relationship between social norms and lower agency costs. Du *et al.* (2017) show that the merchant guild culture in China is significantly associated with lower agency costs. Importantly, religion as one of the cultural elements also displays a negative relationship with agency costs (Du, 2013). Therefore, the study predicts that the corporations that conform to the social values which are identified by the comprehensive screening criteria are likely to receive social legitimacy. This factor will boost firm efficiency and thus contribute to lower agency costs.

7.2.2. The Ethical Channel

The corporations are bounded by the ethical and moral obligations to act in response to the rights of individuals or groups that are affected by a firm's business activities. These individuals or group or the stakeholders are vital to the survival and success of the corporation.

[72] See Appendix B.1 for details
[73] See Oh, Bae and Kim, (2017) page 646.

Each stakeholders has a right to be included in determining corporate decisions based on the concept of the "fiduciary relationship" or trust. For instance, in return for utilising natural resources, the corporation is expected to run their business without harming the environment as this is the right of the local community.

In response to the above theory, there are two competing views on the extent to which ethical practices (mainly ESG) affect agency costs. The first view suggests that ESG activities are associated with agency costs that may deteriorate shareholder value. Based on the argument that the only responsibility of corporations is to make money and maximise shareholder wealth, ESG performance can be seen as another form of agency cost (Bhandari and Javakhadze, 2017). By engaging in ESG activities, firms will increase their operating costs and weaken their competitive position as the available funds should be invested in other profitable projects. ESG activities may also imply that managers have self-serving behaviour to gain legitimacy for their own benefit to the detriment of the shareholders (Attig *et al.*, 2014).

The second view, on the other hand, is based on the good management hypothesis of Waddock and Graves (1997) and Carroll (1979) and is supported by stakeholder theory. This alternative view posits that ESG activities enhance relationships with key stakeholders, and thus, in return, firms will benefit from the support provided by these groups. The benefits of ethical performance will result in tangible and intangible benefits (Attig *et al.*, 2014; Karim, Suh and Tang, 2016). By protecting the environment through energy reduction, companies will gain financial benefit from cost reduction. This will be translated into the efficient use of resources and higher earnings. The intangible benefit, on the other hand, can come from an increase in reputation, employee motivation and customer loyalty. Through ethical programs, corporations establish trust and bonds with their stakeholders and develop a reputation and long-term firm value. This view suggests that ESG improves companies' competitive positions,

efficient use of resources and, in turn, their financial performance while also lowering agency costs.

In support of the above arguments, Karim, Suh and Tang (2016) find a positive market reaction on the first day after the announcement of the list of ethically-compliant firms. The markets also indicate positive reaction for stocks that are added to the Islamic index and negatively to stocks that are removed from the index (Mazouz, Mohamed and Saadouni, 2019). Similarly, firms that engage in ESG show positive market responses and a higher, long-term expected growth rate (Gregory, Tharyan and Whittaker, 2014). The findings suggest that investors perceive firms' compliance to ethics as investment opportunity and a source of value creation. Companies with high ESG performance also indicate lower total and idiosyncratic risk (Mishra and Modi, 2013; Sassen, Hinze and Hardeck, 2016). During the 2008 financial crisis, high-ESG firms were four to seven percentage points higher in terms of profitability, growth, and sales compared to firms with low ESG (Lins, Servaes and Tamayo, 2017). These studies provide empirical evidence on the positive impact of ethics on firm short-term and long-term performance. Therefore, this study is inclined to the good management view, and it is expected that highly ethically-compliant firms will exhibit lower agency costs.

7.2.3. Comprehensive Ethical Screening and Agency Costs

The comprehensive screening framework reveals the firm's financial positions, earnings quality, and ESG performance. These factors improve information and increase transparency in the market which, in turn, reduces information asymmetry (Bhandari and Javakhadze, 2017). Compliance to the screening criteria signals organizational commitment towards their stakeholders. This factor contributes to the intrinsic and extrinsic channel for corporate performance. Corporations that conform to the social values and exhibit high ethical standards will develop a responsible working environment and gain a positive market response. These

intrinsic and extrinsic factors will contribute to the short and long-term organizational performance identified by the market and accounting variables.[74]

In addition, it is important to note that the ESG performance might incur high operating costs to the firms that are likely to be more apparent in the short-term.[75] In keeping with this view and the above theories and empirical evidence, the study expects that ethically-compliant firms should exhibit lower agency costs in terms of managerial efficiency. Erragragui and Revelli (2016) demonstrate that combining ESG screens on Shariah-compliant stocks results in greater portfolio performance as compared to SRI portfolio alone. Ferrell, Liang and Renneboog (2016) report that ethical practices attenuate the negative consequences of managerial entrenchment with firm value. Thus, this study hypothesises that ethical activities moderate agency costs.

The first measure of agency cost uses the asset utilisation ratio (AUR). This ratio displays the technical efficiency of the firms by scaling the amount of sales generated from the total available assets. A high ratio suggests an effective investment decision and low agency costs. Therefore hypothesis H1 can be constructed as follows:

H1: Ethically-compliant firms screened using the comprehensive ethical screening are likely to have low agency costs measured by technical efficiency ratio.

Secondly, agency costs are measured using the operating efficiency ratio, which is defined as the ratio of operating expenses to total assets (OPR). This variable demonstrates the management's efficiency in monitoring the company's operating expenses. A lower ratio

[74] This paper use three measures of agency costs. OPR and AUR are the measures of technical and operating efficiency respectively. These variables are derived from accounting information which reflect the accounting measurement. The market measure of agency costs is TFCF, calculated as the interaction between the firm's Tobin's q and free cash flows. See section 7.3.4 for details.

[75] The study reports some evidence that ESG slightly decreases the firm's operating efficiency (discussed in section 7.4.2.2)

indicates minimal operating expenses to generate sales, which imply higher operating efficiency and lower agency costs. Hence, Hypothesis H2 is as follows:

H2: Ethically-compliant firms screened using the comprehensive ethical screening are likely to have low agency costs measured by operating efficiency ratio.

The third and final measure of agency costs identifies the company's growth prospects. This variable indicates a negative view of firm growth prospects defined as the interaction of a company's low growth opportunity (Tobin-q less than 1) with its free cash flows. A higher (lower) value indicates a lower (higher) growth opportunity. Even though this variable has been suggested in the literature as a proxy for agency cost (Doukas, Kim and Pantzalis, 2000; Doukas, McKnight and Pantzalis, 2005; Mcknight and Weir, 2009; Rashid, 2016), this research argues that this variable also represents the investment behaviour of the firms. A firm with a conservative investment policy (or low risk-taking firms) might retain higher free cash flows and are affected by lower growth. However, this does not necessarily indicate unethical managerial behaviour or a poorly managed firm.

The literature provides evidence that ethically-compliant firms are subject to low risk (Alam, 2010; Ho *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Alaoui *et al.*, 2016; Ashraf and Khawaja, 2016; Ashraf *et al.*, 2017). In respect to these empirical findings, there is a high probability that ethically-compliant firms practice conservative investment policies. Ethically-compliant firms are limited to specific industries which are characterised by lower debt, low liquidity, low-interest income, and high ethics measured by earnings quality and ESG performance. It is intuitive that these characteristics will limit the firm's investment prospects and interfere with the firm's cash flows and growth opportunities. Therefore, consistent with the conventional finance theory of low risk and low return, it is likely that ethically-compliant firms will have lower growth opportunities, thus having a positive relationship with TFCF.

However, it is important to take into account the impact of ESG elements in the comprehensive ethical screening. Prior research provides evidence that firms with high ESG performance invest more efficiently. Specifically, ESG performance moderates the investment-cash flow sensitivity (Attig *et al.*, 2014; Bhandari and Javakhadze, 2017; Samet and Jarboui, 2017b, 2017a). These findings indicate that ESG performance reduces market friction and improves firm access to financial capital through lower information asymmetry and lower agency costs. Therefore based on this empirical evidence and as supported by the good management hypothesis, it is likely that the ESG components in the comprehensive ethical screening will alleviate the positive relationship between ethically-compliant firms and TFCF (low growth). The study holds with this view. Therefore, H3 is formulated as follows:

H3: The ESG components in the comprehensive ethical screening are likely to distort a firm's sensitivity to growth opportunities.

7.3. Data and Methodology

7.3.1. Sample and Data

The sample is constructed using the Thomson Reuters Asset4 (Asset4) global database which covers 43 countries in the world for a period of ten years from 2007 to 2016. The Asset4 sample is gathered from the Thomson Reuters Datastream which includes ESG scores and accounting information. For the screening procedure, information for companies' business segments are gathered from Orbis by Bureau van Dijk, and earnings quality are gathered from Thomson Reuters Eikon. The study collects information from the World Bank database for the countries' economic and governance measures as the sample covers a multi-country analysis.

As explained in 5.3.2 in Chapter 5, the original Asset4 global data for all active and inactive listed firms from 2007 to 2016 consists of 5,060 firms with 49,280 observations. After excluding financial firms with NAICS industry codes from 5200 to 5399, the initial sample of

non-financial firms consists of 4,323 firms with 41,959 observations. The sample is restricted to firms with available data for total assets, total debts, earnings before interest and tax (EBIT), receivables, cash and cash equivalence, and short-term investments. These are the accounting information required for the basic religious screening: the financial composition screening. This process has reduced the sample to 4,041 firms with 34,701 observations. Finally, each country should have at least two companies to be included in the sample. After merging the screened companies with the measures of agency cost and the main control variables, the final sample includes 2,820 companies from 43 countries with 23,790 firm-year observations.

7.3.2. Comprehensive Ethical Screening

The detailed explanation for the construction of the comprehensive ethical screening framework is in 5.3.1 in Chapter 5. The summary of the screening stages and the criteria are presented in Table 7.1 below:

Table 7.1: Summary of Comprehensive Ethical Screening Criteria

Stages/ Types	**Description**	**Stage 1: Basic Religious**	**Stage 2: Religious + EQ**	**Stage 3: Religious + EQ + Ethics**
Religious industries	Excludes: Tobacco, poultry, meat and food-related production, alcohol, arms, film, music, broadcasting, conventional financial services, real estate, leasing companies, media & advertising-related, entertainment, amusement and recreation, gambling, hotels and motels, restaurant & bar.	✓	✓	✓
Financial ratios	1. Debt to total asset (majority: <33%; stringent: <33%) 2. Receivable + Cash to total assets (majority: 50%; stringent: <33%) 3. Cash + interest-bearing securities to total assets (majority: <33%; stringent: <30%) 4. Income from non-permissible segments to total revenue (majority: <5%; stringent: <5%)	✓	✓	✓
Earnings quality	Earnings quality score above 50% for accruals and cash flow components.		✓	✓
Ethical industries	Additionally excludes fossil and nuclear			✓
ESG	ESG overall score Above 50%			✓

In short, the comprehensive ethical screening is divided into three main stages. Stage 1 is the religious screening; stage 2 is earnings quality screening; and stage 3 is the environmental, social and governance (ESG) screening. Ethically-compliant firms are identified by dummy variables: 1 if the company passed the screening criteria and 0 otherwise.

7.3.3. Empirical Model

This study analyses the impact of ethical screening on firm agency costs. The objective is to test whether ethically-compliant firms derived from the comprehensive ethical screening indicate lower or higher agency costs as compared to firms with low ethical performance. As explained in section 7.3.2 above, the study identifies the ethically-compliant firms by filtering firms according to the identified religious screening criteria, earnings quality screening and ESG screening.

As a result of this screening process, the ethically-compliant firms belong to specific industries and are characterised by lower debt, low liquidity, low-interest income, high earnings quality and high ESG performance. All of these factors can appear simultaneously with agency problems as they are formed by corporate choices (Ferrell, Liang and Renneboog, 2016). Importantly, the ESG components in the comprehensive ethical framework can be argued to be a form of agency cost to the corporation. Based on the view that the only responsibility of corporations is to make money, engaging in ESG activities may be seen as a costly diversion of a firm's limited resources (Attig *et al.*, 2014; Bhandari and Javakhadze, 2017). ESG activities may also signal managerial self-serving behaviour in that they may be concerned with enhancing their own philanthropic reputation at the shareholders' expense (Attig *et al.*, 2014). This view suggests that ESG activities are a manifestation of agency costs that may weaken a firm's competitive position and are contradictory to the objective of maximising shareholder value.

Therefore, a direct analysis of ethically-compliant firms and agency costs will generate a biased inference. To account for the endogeneity issue, the analysis is conducted using an instrumental variable approach, i.e. the two-stage least squares (2SLS) approach. The instrumental variable (IV) is extracted by the exogenous component of ethically-compliant firms that captures the natural trend of ethically-compliant firms across all firms involving similar types of activities and location. Following (Faccio, Marchica and Mura, 2011), the instrument (IV) for ethically-compliant firms is the fraction of ethically-compliant firms to all firms in the same country and industry. These variables capture the country-industry effect which is not directly related to agency costs. To assess the relevance of the IV, a simple correlation analysis between the ethically-compliant firms' variables and the instruments was conducted. The IVs are positively correlated with the ethically-compliant firms' variables with a correlation from 0.40 to 0.61 and are significant at 5 percent. The correlation between the IVs and the measures of agency cost, on the other hand, are negative with mostly insignificant correlation of less than 0.15. These initial tests have indicated that the instrument is orthogonal to the dependent variables but is heavily correlated with the independent variables of interest. As such, the IV meets the essential conditions required for the identification of a valid instrument.

In particular, the relationship between ethically-compliant firms and the measure of agency costs is tested using the following procedure. In the first stage, the endogenous variable which is the ethically-compliant variables is regressed on the instrument including the exogenous independent variable. The second stage uses the predicted value of ethically-compliant firms from the first stage regression as the independent variable of interest.

$$Agency\ Costs_{it} = \alpha_0 + \beta_1 \widehat{EthicalFirms}_{it} + \sum_{i=1}^{n} \beta_i\ Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (1)$$

Where:

Agency Costs = measures of agency costs.

Ethical firms = predicted value of ethical compliance firms.

Controls = a list of the identified firms and country observable determinants of agency costs.

YearFE = year fixed effects.

IndustryFE = industry (2 digit NAICS industry codes) fixed effects.

All tests use robust regressions and are clustered by the firm to exploit information in the cross-sectional and time-series nature of the data and to control for heteroskedasticity and the serial correlation in firm time series observations.

7.3.4. Variable Measurements

As in 6.3.4 of Chapter 6, agency costs are measured in three ways following prior literature (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Du, 2013; Rashid, 2016). Firstly, agency costs are measured by the asset utilisation ratio (AUR) defined as the ratio of a company's sales to total assets. This ratio represents technical efficiency, measuring how efficiently managers utilise company assets to generate sales. A low ratio suggests poor investment choices or an indication of excessive perquisites by management. The higher ratio on the other hands indicates shareholder value creation and lower agency costs. The second proxy for agency costs captures the operating efficiency of the firm defined as the ratio of operating expenses to sales: operating expense ratio (OPR). This variable measures how efficiently the firm's management controls operating costs such as perquisite consumption and

other direct agency costs (Ang, Cole and Lin, 2000). OPR indicates a positive measure of agency cost where a company with a high operating expense ratio is expected to have high agency costs and vice versa.

The final measure of agency cost signifies the company's growth prospects, which is defined as the interaction of a company's growth opportunities with its free cash flows (TFCF).[76] TFCF implies a negative measure of agency cost. A company with low growth opportunities is expected to have high agency costs and vice versa. However, TFCF can also represent the investment behaviour of the firms. A firm with a prudent investment policy might appear to have higher free cash flows and be subject to lower growth, which may not relate to unethical managerial behaviour or a poorly managed firm. The empirical evidence suggests that the current ethically-compliant firms mostly display low risk (Alam, 2010; Ho *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Alaoui *et al.*, 2016; Ashraf and Khawaja, 2016; Ashraf *et al.*, 2017). These empirical evidences suggest that it is likely for ethically-compliant firms to have a conservative investment policy. Consistent with the conventional finance theory of low risk and low return, the ethically-compliant firms are inclined to have a high probability of lower growth opportunity. However, based on the argument in Attig *et al.*, (2014) and Bhandari and Javakhadze (2017) and supported by the good governance hypothesis, it is likely that the ESG components in the comprehensive ethical screening will distort the positive relationship between ethically-compliant firms and TFCF (low growth). Therefore, this study holds to this view.

[76] The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company) and is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets.

The main control variables are identified based on prior literature.[77] These variables include; (1) Profitability: the ratio of EBIT to total assets (ROA). (2) Size: natural logarithm of total firm assets where total assets are the sum of fixed and current assets. (3) Leverage: the ratio of total debt (current and noncurrent liabilities) to total assets. (4) Sales growth: the annual growth rate of sales. (5) Age: natural logarithm of (1 + the number of years since incorporation). (6) Big 4: dummy variable equal to 1 if the firm's auditor is one of the big four audit companies (Deloitte, Price Waterhouse, Ernst & Young, and KPMG). (7) GDP growth: annual change in the estimated GDP of a given country at constant 2005 prices. (8) Market size: equity market capitalization of listed firms in the country as a percentage of total GDP. (9) Inflation: consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. (10) Regulatory quality: country governance variable expressed in a percentile rank (1-100) that measures the ability of the government to formulate and implement sound policies and regulations for private sector development.

7.4. Empirical Results

7.4.1. Descriptive Statistics

The sample comprises 2,820 firms with 23,790 observations for the period of 2007 to 2016 in 43 countries. Overall, three countries represent a significant fraction of observations in the sample: United States (25.42%), Japan (12.3%), and Australia (10.13%). The sample distributions imply that these countries represent a high number of corporations with available information for ESG performance. Hence, this might signal effective country governance and regulatory support that promotes firm disclosure and ESG activities.[78]

[77] See section Chapter 4 section 4.3.5 and Chapter 5 section 5.3.5 for a detailed explanation of the inclusion of these variables.
[78] Appendix D.1 reports the number of firms and observations for each country covered in the analysis

The descriptive statistics (mean, median, and standard deviations) for the measure of agency cost, ethically-compliant firms and the main control variables are presented in Table 7.2. In Panel A, the first two rows present the descriptive of the agency cost variables followed by the dummy variables for ethically-compliant firms, firm control variables and finally country control variables. The descriptive information for agency costs reports that, on average, firms indicate a relatively high technical efficiency (AUR) with about 86% of sales being generated from total assets. Operating efficiency (OPR) shows a high average ratio of 1.4577, indicating inefficiency as the average operating costs are 45.77% higher than the total sales. Moreover, the median OPR is positive (0.29), implying that more than half of the sample experiences operating inefficiency. TFCF shows a low mean value because it is an interaction variable between the low growth dummy and free cash flows. Ethically-compliant firms, on average, cover about 50% of the sample size and the number gradually drops according to the screening stages. The descriptive results also indicate an average 36% sales growth and 69% of the sample are audited by the big four audit companies. For country variables, the mean of regulatory quality is about 84%, and the median is 88%, indicating a majority of the firms in the sample come from countries with good governance systems.

Panel B of Table 7.2 presents the descriptive statistics for the firms categorised as ethical compliance based on each screening stages for the majority and stringent benchmark. Compared to the full sample, ethically-compliant firms based on stage 1 (ES1-Majority) show higher average AUR, OPR, TFCF, and size, but, lower profitability, leverage, and sales growth. These differences are mostly comparable with the stringent benchmark (ES1-Stringent), except that ES1-Stringent report slightly lower AUR, and higher profitability, and sales growth. In stage 2 (ES2-Majority and ES2-Stringent), ethically-compliant firms report higher AUR, TFCF, profitability, size, and lower leverage and sales growth. The only difference between

ES2-Majority and ES2-Stringent in this stage is in the average OPR; ES2-Majority show lower OPR, whereas ES2-Stringent report a higher value. In the comprehensive criteria, both the majority and the stringent benchmark indicate comparable characteristics. Ethically-compliant firms based on the comprehensive screening criteria demonstrate higher AUR, OPR, TFCF, profitability, size, but lower leverage, and sales growth. The findings reveal that comprehensive ethical compliance firms are characterised by higher technical efficiency, stable earnings, larger size, and lower debts, but also subject to lower sales growth as compared to the full sample. These findings provide an initial view of the characteristics of ethically-compliant firms, and the impact of the screening criteria.

The number of firms satisfying the screening criteria to the total number of firms in the sample is relatively significant at the basic stage, but the compliance of firms gradually decreases as the screening process becomes more intense. In particular, for stage 1 which is developed based on the current, basic religious screening, a large number of firms manage to pass: 70% (1986 firms) for the majority benchmark and 68% (1768 firms) in the stringent benchmark. In stage 2, the earnings quality criterion is added to the framework. As a result, about half of the firms are omitted in this step with 57% (1621 firms) passing the majority benchmark and 48% (1344 firms) being in the stringent benchmark. Finally, stage 3 integrates ethical industries and ESG performance to derive the comprehensive ethical framework. This ultimate step has reduced the number of ethically-compliant firms to 30% (844 firms) for the majority benchmark and 24% (690 firms) for the stringent benchmark.

In sum, the percentage of ethically-compliant firms from the total number of firms in each stage is significant to derive empirical inferences. However, the percentage of observation in each screening stage to the total observation is much lower, which is from 6% to 49% (refer to the mean value of ES1 to ES3 in the descriptive table). This is because the screening process

is conducted yearly using the annual accounting data. Therefore, the list of firms that satisfied the screening criteria are varied according to their current accounting performance. To overcome a potential bias in the estimation, this study constructs a matching sample using a propensity score matching method and run a sensitivity test on the matched sample.

Table 7.2: Descriptive Statistics

Panel A: Descriptive Statistics for the Overall Sample

Variables	Observation	Mean	Median	Std. Dev.
AUR	23790	0.8673	0.7274	0.6735
OPR	15833	1.4577	0.2907	28.7045
TFCF	23614	0.0241	0.0000	0.0891
ES1-Majority	23797	0.4920	0.0000	0.4999
ES1-Stringent	23797	0.3929	0.0000	0.4884
ES2-Majority	23797	0.2087	0.0000	0.4064
ES2-Stringent	23797	0.1605	0.0000	0.3671
ES3-Majority	23797	0.0845	0.0000	0.2782
ES3-Stringent	23797	0.0650	0.0000	0.2465
Profitability	23797	-0.0007	0.0031	2.4852
Size	23797	15.1918	15.3131	1.7414
Leverage	23797	0.2539	0.2374	0.2069
Sales growth	23797	0.3629	0.0557	5.3940
Age	23797	3.4152	3.4657	1.0131
Big 4	23797	0.6921	1.0000	0.4617
GDP growth	23797	0.0008	0.0000	0.0169
Market size	23797	146.3563	100.7912	206.2312
Inflation	23797	2.3430	1.8214	2.3401
Regulatory quality	23797	84.1718	88.4615	15.7742

Panel B: Descriptive Statistics for Ethically-compliant Firms

Variables	Obs.	Mean	Median	Std. Dev.	Obs.	Mean	Median	Std. Dev.
		Majority: Benchmark				Stringent Benchmark		
ES1: Religious		Firms = 1,984				Firms = 1,768		
AUR	11706	0.912	0.798	0.665	9350	0.847	0.720	0.650
OPR	7757	1.753	0.283	38.592	5985	2.153	0.288	43.921
TFCF	11633	0.026	0.000	0.082	9300	0.025	0.000	0.085
Profitability	11708	-0.005	0.006	3.527	9351	0.027	0.005	0.252
Size	11708	15.230	15.273	1.687	9351	15.316	15.351	1.729
Leverage	11708	0.170	0.182	0.102	9351	0.177	0.193	0.100
Sales growth	11708	0.329	0.054	5.282	9351	0.370	0.051	5.868
Age	11708	3.497	3.584	1.001	9351	3.476	3.555	1.006
Big 4	11708	0.702	1.000	0.457	9351	0.706	1.000	0.456

ES2: Religious + EQ		**Firms = 1,621**				**Firms = 1,344**		
AUR	4965	0.996	0.855	0.709	3819	0.920	0.771	0.678
OPR	3047	1.254	0.293	48.973	2269	1.566	0.301	56.750
TFCF	4936	0.025	0.000	0.073	3802	0.024	0.000	0.077
Profitability	4966	0.015	0.003	0.197	3819	0.011	0.001	0.205
Size	4966	15.277	15.270	1.614	3819	15.381	15.372	1.657
Leverage	4966	0.167	0.178	0.100	3819	0.177	0.189	0.099
Sales growth	4966	0.186	0.056	2.651	3819	0.196	0.052	2.964
Age	4966	3.458	3.526	1.024	3819	3.442	3.526	1.037
Big 4	4966	0.723	1.000	0.448	3819	0.718	1.000	0.450
ES3: Religious + EQ + ESG		**Firms = 844**				**Firms = 690**		
AUR	2011	1.064	0.913	0.644	1546	0.989	0.849	0.604
OPR	1291	1.485	0.301	26.899	965	1.879	0.308	31.106
TFCF	1999	0.032	0.000	0.056	1542	0.032	0.000	0.055
Profitability	2011	0.024	0.005	0.175	1546	0.021	0.003	0.175
Size	2011	16.037	15.963	1.326	1546	16.166	16.142	1.349
Leverage	2011	0.179	0.187	0.092	1546	0.190	0.201	0.089
Sales growth	2011	0.076	0.056	0.211	1546	0.071	0.053	0.206
Age	2011	3.772	3.951	0.948	1546	3.754	3.932	0.978
Big 4	2011	0.789	1.000	0.408	1546	0.782	1.000	0.413

This table reports the descriptive statistics for the main dependent and independent variables. The dependent variables: (1) AUR is the ratio of sales to total assets. (2) OPR is the ratio of operating expense to sales. (3) TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

Table 7.3 reports the Pearson correlation coefficient matrix for the test and main control variables. This test serves as a preliminary analysis of the association between ethically-compliant firms, and it also tests the collinearity between the independent variables. In general, the correlation between ethically-compliant firms and the measures of agency costs provide an initial indication of lower agency costs for comprehensive ethical compliance firms. Ethically-compliance firms based on the comprehensive criteria (ES3) show a significant positive relationship with technical efficiency (AUR). However, the correlation also reports some mix findings for operating efficiency and growth prospects (TFCF). Therefore, the study expects that the multivariate analysis using 2SLS that accounts for the endogeneity issue will provide more reliable inferences about this relationship. All of the control variables except GDP growth show a significant correlation with AUR, thus indicating that these variables are vital to be included in the model. In sum, the correlation coefficient among independent variables is within acceptable limits and rejects the likelihood of having multicollinearity.

Table 7.3: Correlation Matrix

	AUR	OPR	TFCF	ES1-Majority	ES1-Stringent	ES2-Majority	ES2-Stringent	ES3-Majority	ES3-Stringent
AUR	1.0000								
OPR	-0.0537*	1.0000							
TFCF	0.0619*	-0.0397*	1.0000						
ES1-Majority	0.0648*	0.0101	0.0169*	1.0000					
ES1-Stringent	-0.0244*	0.0189*	0.0089	0.8176*	1.0000				
ES2-Majority	0.0984*	-0.0035	0.0073	0.5218*	0.3955*	1.0000			
ES2-Stringent	0.0340*	0.0015	0.0011	0.4443*	0.5434*	0.8515*	1.0000		
ES3-Majority	0.0888*	0.0003	0.0273*	0.3087*	0.2338*	0.5917*	0.5035*	1.0000	
ES3-Stringent	0.0477*	0.0037	0.0243*	0.2679*	0.3276*	0.5133*	0.6029*	0.8676*	1.0000
Profitability	0.0104	-0.0165*	0.2431*	-0.0018	0.0091	0.0032	0.0021	0.0030	0.0023
Size	-0.0487*	-0.0785*	0.1933*	0.0214*	0.0575*	0.0249*	0.0474*	0.1475*	0.1475*
Leverage	-0.1239*	-0.0322*	0.0305*	-0.4000*	-0.2973*	-0.2155*	-0.1634*	-0.1102*	-0.0813*
Sales growth	-0.0442*	0.0190*	-0.0298*	-0.0061	0.0011	-0.0169*	-0.0136*	-0.0162*	-0.0143*
Age	0.1160*	-0.0363*	0.0711*	0.0800*	0.0486*	0.0220*	0.0117	0.1069*	0.0883*
Big 4	0.0272*	-0.0017	-0.0373*	0.0208*	0.0243*	0.0339*	0.0242*	0.0635*	0.0513*
GDP growth	-0.0020	-0.0019	0.0069	0.0042	0.0047	0.0115	0.0125	-0.0105	-0.0095
Market size	-0.0394*	-0.0083	-0.0079	-0.0566*	-0.0513*	-0.0167*	-0.0153*	-0.0456*	-0.0413*
Inflation	0.0530*	0.0000	0.0719*	-0.0306*	0.0060	-0.0123	0.0059	-0.0253*	-0.0143*
Regulatory quality	-0.0284*	0.0311*	-0.0972*	0.0375*	0.0271*	0.0283*	0.0218*	0.0448*	0.0382*

	Profitability	Size	Leverage	Sales growth	Age	Big 4	GDP growth	Market size	Inflation
Profitability	1.0000								
Size	0.0398*	1.0000							
Leverage	-0.0063	0.2316*	1.0000						
Sales growth	0.0039	-0.0936*	-0.0237*	1.0000					
Age	0.0037	0.2866*	0.0219*	-0.0692*	1.0000				
Big 4	0.0099	0.0669*	0.0081	-0.0189*	0.0134*	1.0000			
GDP growth	0.0006	0.0008	0.0014	-0.0026	0.0010	-0.0183*	1.0000		
Market size	0.0007	-0.0420*	-0.0368*	0.0059	-0.1469*	0.1179*	-0.0132*	1.0000	
Inflation	0.0028	-0.1294*	0.0025	0.0126	-0.1331*	-0.1545*	0.0217*	0.0650*	1.0000
Regulatory quality	-0.0004	-0.1071*	-0.0607*	0.0272*	-0.0065	0.2962*	-0.0418*	0.2523*	-0.5667*

This table reports the Pearson correlation matrix for the test and the main control variables. The dependent variables: (1) AUR is the ratio of sales to total assets. (2) OPR is the ratio of operating expense to sales. (3) TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

7.4.2. Main Results

This section presents the multivariate analysis of ethical screening and agency costs. The objective is to test whether ethically-compliant firms are subject to lower or higher agency costs as compared to the conventional firms. The analysis also compares the agency costs of ethically-compliant firms in three different stages. Ethically-compliant firms are identified as the dummy variable equal to 1 if the firm passes the screening criteria and 0 otherwise. This measure is conducted in three stages: (1) Stage 1-Religious screening, (2) Stage 2-Religious + EQ (earnings quality) screening, and (3) Stage 3- Religious + EQ + ESG screening. Stage 3 is the comprehensive ethical screening that integrates all of the identified screening requirements. The screening criteria in all stages are divided into two types: the majority and the stringent criteria.[79] Agency costs, on the other hand, are defined in three ways: (1) Asset utilisation ratio (AUR), (2) operating expense ratio (OPR), and (3) the growth prospects (TFCF). The first two measures imply managerial efficiency and the last measure represents the company's growth and investment policy. Based on the good management view and as supported by the stakeholder and legitimacy theory, ethical practices are expected to influence managerial behaviour, decrease information asymmetry, and increase efficiency in the use of company's resources. Therefore, the study expects that ethically-compliant firms will be subjected to lower agency costs, especially in the efficiency measures.

7.4.2.1. Comprehensive Ethical Screening and Asset Utilisation

Asset utilisation ratio (AUR) is a measure of technical efficiency that demonstrates the percentage of sales generated from total assets. The findings on the influence of ethical screening to AUR are reported in Table 7.4. The results for each screening stages for the

[79] As explained in 5.3.1.1 in Chapter 5, the difference between the majority and the stringent criteria is only in the first stage of the religious screening. The objective of including two types of criteria is to capture the impact of different religious screening requirements as this stage encompasses a very diverse methodology.

majority criteria are in model 1 to 3, and the results for the stringent criteria are in Model 4 to 6. The ethically-compliant firms screened using the comprehensive ethical screening (model 3 and 6) show a positive and significant relationship at 1% with AUR. The results show that ethically-compliant firms with high earnings quality and ESG performance demonstrate efficient asset utilisation. These results indicate that firms with high ethical standards are subject to lower agency costs, which is consistent with hypothesis 1. The findings support prior literature and the good management view of ethical practices. A higher technical efficiency for the comprehensive, ethically-compliant firms sustain the findings in Erragragui & Revelli (2016) that show higher performance for a portfolio with higher ethical standards (Shariah-compliant plus SRI standards). The findings are also consistent with previous literature that reports the positive influence of ethical practices on managerial behaviour (Ferrell et al. 2016).

Moreover, after comparing different screening stages, the results provide evidence of the effectiveness of the comprehensive screening framework. In the majority screening (model 1, 2 and 3), the positive coefficient of ethically-compliant firms increases as the screening requirements become more intense. In model 1, ethically-compliant firms based on stage 1 screening report a positive coefficient of 0.154. In stage 2 (model 2), the positive coefficient has increased to -0.417. And finally, in stage 3, the comprehensive screening, the positive coefficient further increases to -0.815 and all are significant at 1%. For the stringent criteria, model 4 and 5 are insignificant, but model 6 is positively significant at 1%, showing a meaningful improvement in the analysis. These findings imply that the comprehensive framework improves information transparency by revealing the company's financial positions, earnings quality, and the ESG performance to the market. These factors will reduce information asymmetry and translate into lower agency costs (Bhandari and Javakhadze, 2017).

Table 7.4: Ethical Screening and Asset Utilisation

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	0.154***					
	(0.0505)					
Stage 2: Religious + EQ		0.417***				
		(0.0804)				
Stage 3: Religious + EQ + ESG			0.815***			
			(0.129)			
Stringent Screening						
Stage 1: Religious				-0.0189		
				(0.0483)		
Stage 2: Religious + EQ					0.128	
					(0.0779)	
Stage 3: Religious + EQ + ESG						0.489***
						(0.136)
Profitability	0.0032**	0.0031**	0.0035**	0.00296**	0.0030**	0.0033**
	(0.0013)	(0.0014)	(0.0014)	(0.0012)	(0.0013)	(0.0013)
Size	-0.0316***	-0.0335***	-0.0497***	-0.0254***	-0.0289***	-0.0387***
	(0.0072)	(0.0070)	(0.0077)	(0.0075)	(0.0073)	(0.0079)
Leverage	-0.0961	-0.0589	-0.104**	-0.261***	-0.204***	-0.184***
	(0.0670)	(0.0559)	(0.0500)	(0.0622)	(0.0541)	(0.0502)
Sales Growth	-0.0033***	-0.0030***	-0.0034***	-0.0034***	-0.0033***	-0.0034***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Age	0.0592***	0.0629***	0.0519***	0.0627***	0.0629***	0.0585***
	(0.0106)	(0.0104)	(0.0105)	(0.0105)	(0.0104)	(0.0104)
Big 4	0.0745***	0.0657***	0.0541***	0.0758***	0.0747***	0.0681***
	(0.0204)	(0.0205)	(0.0203)	(0.0204)	(0.0204)	(0.0202)
GDP Growth	-0.148	-0.255	-0.109	-0.125	-0.160	-0.112
	(0.328)	(0.351)	(0.312)	(0.309)	(0.322)	(0.310)

Market Size	-0.0002**	-0.0002**	-0.0001*	-0.0002***	-0.0002***	-0.0001**
	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)
Inflation	0.0128**	0.0109**	0.0069	0.0144***	0.0125**	0.0097*
	(0.0054)	(0.0053)	(0.0054)	(0.0055)	(0.0054)	(0.0055)
Regulatory Quality	-0.0014	-0.0017*	-0.0026***	-0.0011	-0.0014	-0.0020**
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Intercept	1.016***	1.052***	1.472***	1.038***	1.062***	1.275***
	(0.169)	(0.169)	(0.174)	(0.166)	(0.168)	(0.177)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	23790	23790	23790	23790	23790	23790
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8820***	0.9319***	0.9153***	0.9248***	0.9573***	0.9292***
	(0.00946)	(0.0151)	(0.0246)	(0.00799)	(0.0163)	(0.0276)
Partial R^2 of excluded instruments	0.3005	0.1543	0.1172	0.2988	0.1682	0.1187
F-test of excluded instruments	4179.37	2975.54	1222.97	6052.76	2788.14	1060.88
Wooldridge's (1995) score test (p-values)	0.0067	0.0000	0.0000	0.5730	0.0876	0.0007

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

For control variables, Profitability, Age, Big 4 and Inflation show a positive relationship with AUR. Size, Leverage, Sales Growth, Market Size, and Regulatory Quality, on the other hand, display a negative influence on AUR. It is intuitive that firms to high profit, with greater experience and which are audited by the big four audit companies, will have higher technical efficiency. Despite the negative consequences of inflation to the firms and the economy, this variable might indicate a positive relationship with AUR because inflation also raises the sales figures. Inflation will force companies to increase their sales price, which contributes to the positive relationship to AUR. The company's Size is calculated by the natural logarithm of total assets. Therefore, using this measure, bigger companies are likely to have lower technical efficiency. The results also suggest that leverage decreases technical efficiency. The coefficients of sales growth, market size and regulatory quality are interesting. The findings suggest that firms with higher sales growth, located in countries with higher development in the private sector and higher governance, are inclined to have lower technical efficiency. Sales growth on its own without scaling it with total assets might not reflect firm performance or efficiency. The possible explanation for Market Size and Regulatory Quality is that these country factors might affect the firm's business policies, and, in this context, these factors have a negative influence on technical efficiency.

To provide additional support on the relevance of the IV, the study computes the partial R^2 and the F-statistics on the instrument in the first stage regression. The findings presented in the last four rows of Table 7.4 demonstrate that the instruments are highly correlated with the endogenous variable, with F-statistics between 1060.88 and 6052.76 and a partial R^2 between 0.11 and 0.30. The results confirm the relevance of the IV and that the coefficient estimators do not suffer from the bias of having a weak instrument.[80] The p-value of the Wooldridge's (1995) score test is less than 0.05 in most of the models, confirming the existence of

[80] Based on the rule of thumb as suggested by Staiger & Stock (1997), a sign of a weak instrument is an F-statistic below 10.

endogeneity and the relevance of using the 2SLS estimation procedure. Even though some of the models do not report a presence of endogeneity (insignificant p-value for Wooldridge (1995) score test), 2SLS will still provide an efficient and consistent estimation.

7.4.2.2. Comprehensive Ethical Screening and Operating Efficiency

Operating efficiency (OPR) measures the amount of operating expenses incurred by the firms relative to their total sales. The results on the influence of ethical screening to OPR are presented in Table 7.5. Similar to the above, model 1, 2 and 3 report the results for the majority screening criteria, and model 4 until 6 present results for the stringent criteria. The findings in model 3 and 6 for the ethically-compliant firms based on the comprehensive framework are negative at the 1% significant relationship with OPR. The results indicate that ethically-compliant firms with high earnings quality and ESG performance generate their sales with lower operating expenses. Thus, this implies a higher operating efficiency or lower agency costs for highly ethical compliance firms, which is consistent with hypothesis 2.

Comparable to section 7.4.2.1 above, OPR also signifies managerial efficiency in managing the firms. Therefore, the findings for OPR strengthen the position on the positive implications of ethical practices or the good management view. The findings denote that high ethical practices enhance firms' relationships with their primary stakeholders where, in return, the firms will gain from the tangible and intangible benefits provided by these groups (Attig *et al.*, 2014; Karim, Suh and Tang, 2016). The findings also support the positive performance of higher ethically-compliant firms (Erragragui and Revelli, 2016) and the positive impact of ethical practices on managerial behaviour Ferrell, Liang and Renneboog (2016).

The results for the comprehensive framework provide evidence on the importance of integrating additional ethical elements with the basic religious criteria. Despite this, the comprehensive screening framework might suggest a marginal opportunity cost to

corporations. In model 1 the ethically-compliant firms, based on the religious screening, report a negative coefficient of -2.406 with OPR and is significant at 1%. In model 2, the negative coefficient for stage 2 screening (religious + EQ) shows an increase to -4.547 and is also significant at 1%. However, in model 3 the ethically-compliant firms based on the comprehensive framework display a lower negative coefficient compared to the previous stage (-2.574) with a significant value of 10%. This pattern is similar to the stringent criteria in model 4 and 5. The results indicate a higher operating efficiency for ethically-compliant firms with the religious and earnings quality criteria (stage 2) but a slightly lower efficiency for firms with higher ESG performance.

The possible explanation for the decrease in the operating efficiency is because ESG activities incur additional costs to the firm. By engaging in more ethical programmes, firms need to forgo some of their limited resources that could otherwise have been invested in other profitable projects. This situation creates an opportunity cost to firms, and the impact is more noticeable in the short-term.[81] Nevertheless, ethically-compliant firms with high ESG performance demonstrate a higher efficiency compared to ethically-compliant firms based only on the religious criteria. Moreover, the positive impact of ethical performance explained in stakeholder and legitimacy theory (i.e. loyal customers, motivated employees, cost reduction) is expected to be more pronounced in the long term. Hence, this analysis supports the importance of integrating ESG components into the ethical screening framework.

[81] See discussion in section 7.2.3 and summary of the theoretical connection in Figure 7.1

Table 7.5: Ethical Screening and Operating Efficiency

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	-2.406***					
	(0.625)					
Stage 2: Religious + EQ		-4.547***				
Stage 3: Religious + EQ + ESG			-2.574*			
			(1.431)			
Stringent Screening						
Stage 1: Religious				-1.889***		
				(0.556)		
Stage 2: Religious + EQ					-5.194***	
					(1.347)	
Stage 3: Religious + EQ + ESG						-2.760*
						(1.618)
Profitability	-4.973***	-5.116***	-4.931***	-5.005***	-5.101***	-4.942***
	(1.187)	(1.212)	(1.193)	(1.197)	(1.206)	(1.195)
Size	-0.847***	-0.836***	-0.854***	-0.846***	-0.840***	-0.859***
	(0.155)	(0.156)	(0.165)	(0.156)	(0.155)	(0.167)
Leverage	-4.418**	-3.463**	-2.502*	-3.438**	-4.263**	-2.394*
	(1.780)	(1.538)	(1.446)	(1.559)	(1.703)	(1.394)
Sales Growth	0.0278	0.0256	0.0287	0.0292	0.0236	0.0287
	(0.0692)	(0.0696)	(0.0697)	(0.0693)	(0.0695)	(0.0697)
Age	-0.432**	-0.500**	-0.451**	-0.471**	-0.479**	-0.466**
	(0.206)	(0.212)	(0.204)	(0.209)	(0.210)	(0.206)
Big 4	-0.674	-0.658	-0.634	-0.699	-0.571	-0.661
	(0.530)	(0.528)	(0.530)	(0.531)	(0.524)	(0.531)
GDP Growth	0.160	0.741	-0.178	0.000552	1.164	-0.202
	(1.442)	(1.712)	(1.305)	(1.364)	(1.922)	(1.297)

Market Size	-0.0032***	-0.0032***	-0.0030***	-0.0031***	-0.0032***	-0.0030***
	(0.0009)	(0.0009)	(0.0009)	(0.0008)	(0.0009)	(0.0009)
Inflation	0.137**	0.174**	0.140**	0.157**	0.163**	0.141**
	(0.0673)	(0.0711)	(0.0706)	(0.0687)	(0.0707)	(0.0697)
Regulatory Quality	0.0709***	0.0743***	0.0708***	0.0716***	0.0736***	0.0708***
	(0.0205)	(0.0210)	(0.0213)	(0.0205)	(0.0210)	(0.0210)
Intercept	10.73***	9.537***	8.953***	10.04***	10.10***	9.035***
	(2.105)	(2.088)	(2.396)	(2.082)	(2.093)	(2.369)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	15833	15833	15833	15833	15833	15833
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.9125***	0.9503***	0.9598***	0.9454***	0.9283***	0.9846***
	(0.0092)	(0.0203)	(0.0300)	(0.0086)	(0.0183)	(0.0345)
Partial R^2 of excluded instruments	0.3443	0.1777	0.1386	0.3339	0.1601	0.142
F-test of excluded instruments	4007.95	2397.31	1011.56	5327.71	2800.74	851.683
Wooldridge's (1995) score test (p-values)	0.0024	0.0121	0.1084	0.0033	0.0039	0.1529

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

The control variables suggest that some variables provide significant determinants of firm operating efficiency. In short, Profitability, Size, Leverage, Age, and Market size positively contribute to higher efficiency, while Inflation and Regulatory quality decrease operating efficiency. As in the above, the study computes the partial R^2 and the F-statistics to provide support for the IV and Wooldridge's (1995) score test to verify the use of the 2SLS estimator. The results presented at the bottom of Table 7.5 indicates that our IV rejects the assumption of weak instruments and the p-value of the Wooldridge's (1995) score test is significant in most of the models.

7.4.2.3. Comprehensive Ethical Screening and Growth Prospects

The company's growth prospects is defined as the interaction between a company's low growths (Tobin-q less than 1) with its free cash flows (TFCF). A firm with low agency conflict is expected to have high growth with lower free cash flows because the available cash has been fully utilised in profitable investments (Mcknight and Weir, 2009). Based on this assumption, firms with low agency costs are expected to have a negative relationship with TFCF. However, the results presented in Table 7.6 contradict this view. Ethically-compliant firms screened using stage 1 and 2 for both the majority and the stringent criteria (model 1, 2, 4, and 5) display a positive and significant relationship with TFCF.

Relying on the above notion, the findings suggest that ethically-compliant firms based on the religious and earnings quality criteria are subject to low growth prospects, which might be an indication of higher agency costs. This study, however, argues that TFCF also signifies the investment policy of a firm. A low growth prospect measured by TFCF will suggest a conservative investment policy because these types of firms are inclined to have a lower Tobin-q as compared to high-risk taking firms. This condition might not provide a signal of unethical managerial behaviour or a poorly managed firm. Prior literature provides evidence that

ethically-compliant firms are inclined to have a conservative investment strategy (Alam, 2010; Ho *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Alaoui *et al.*, 2016; Ashraf and Khawaja, 2016; Ashraf *et al.*, 2017).

The characteristics of ethically-compliant firms offer a conceivable justification for their prudent investment behaviour. Ethically-compliant firms invest in limited industries characterised by low-risk capital structures and high earnings quality and ESG performance. These characteristics will restrain the company's investment and growth prospects. The results presented in model 1, 2, 4 and 5 of Table 7.6 are consistent with this argument. Moreover, this finding also supports the results in Chapter 5. In Chapter 5, ethically-compliant firms demonstrate lower volatility measured by the volatility of accounting returns and market returns. Hence, this sustains our arguments based on the conventional finance theory of low risk and low return.

Ethically-compliant firms based on the comprehensive framework in Model 3 and 6 show an insignificant relationship with TFCF. These relationships signify the influence of ESG elements in the comprehensive-ethical screening. The findings are consistent with the arguments that ESG performance attenuates investment-cash flow sensitivity (Attig *et al.*, 2014; Bhandari and Javakhadze, 2017; Samet and Jarboui, 2017b, 2017a). These findings propose marginal evidence that the ESG performance distorts the positive relationship between ethically-compliant firms and TFCF, which is consistent with hypothesis H3.

Table 7.6: Ethical Screening and Growth Prospects

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	0.0102***					
	(0.0035)					
Stage 2: Religious + EQ		0.0111**				
		(0.0050)				
Stage 3: Religious + EQ + ESG			-0.0045			
			(0.00801)			
Stringent Screening						
Stage 1: Religious				0.0118***		
				(0.0033)		
Stage 2: Religious + EQ					0.0119**	
					(0.0052)	
Stage 3: Religious + EQ + ESG						0.0035
						(0.0084)
Profitability	0.119***	0.119***	0.118***	0.119***	0.119***	0.118***
	(0.0158)	(0.0159)	(0.0158)	(0.0159)	(0.0159)	(0.0159)
Size	0.0094***	0.0096***	0.0099***	0.0092***	0.0095***	0.0097***
	(0.0008)	(0.0008)	(0.0009)	(0.0008)	(0.0008)	(0.0009)
Leverage	0.0019	-0.0035	-0.0100	0.0007	-0.0047	-0.0086
	(0.0078)	(0.0070)	(0.0067)	(0.0071)	(0.0067)	(0.0066)
Sales Growth	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Age	0.0022**	0.0024***	0.0025***	0.0023***	0.0024***	0.0023***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Big 4	-0.0013	-0.00152	-0.0011	-0.0013	-0.0014	-0.0013
	(0.0020)	(0.0020)	(0.0021)	(0.0020)	(0.0020)	(0.0020)
GDP Growth	0.0296	0.0275	0.0309	0.0298	0.0278	0.0311
	(0.0210)	(0.0216)	(0.0216)	(0.0213)	(0.0220)	(0.0216)

Market Size	0.00002***	0.00002***	0.00001***	0.00002***	0.00002***	0.00001***
	(0.000004)	(0.000004)	(0.000004)	(0.000004)	(0.000004)	(0.000004)
Inflation	0.0002	0.0002	0.0004	0.0001	0.0002	0.0003
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Regulatory Quality	-0.0005***	-0.0005***	-0.0005***	-0.0005***	-0.0005***	-0.0005***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Intercept	-0.0865***	-0.0846***	-0.0874***	-0.0826***	-0.0829***	-0.0832***
	(0.0177)	(0.0174)	(0.0183)	(0.0177)	(0.0175)	(0.0181)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	23614	23614	23614	23614	23614	23614
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8712***	0.9240***	0.9118***	0.9188***	0.9521***	0.9266***
	(0.00812)	(0.0149)	(0.0246)	(0.00749)	(0.0163)	(0.0278)
Partial R^2 of excluded instruments	0.2957	0.1515	0.1162	0.2963	0.1664	0.1179
F-test of excluded instruments	4433.88	2965.18	1208.12	6142.11	2765.97	1060.59
Wooldridge's (1995) score test (p-values)	0.0836	0.0146	0.8166	0.005	0.0055	0.407

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

In sum, based on the good management view, firms with high ethical performance indicate a probability of better growth prospects. These findings are consistent with Harjoto & Laksmana (2018) that show a significant influence of firm ethical practice on optimal risk by reducing excessive risk and risk avoidance behaviour. Therefore, the results support the efficiency and the rationale of integrating earnings quality and ESG components in the ethical screening framework. The empirical models in this section suggest that Profitability, Size, Age and Regulatory quality are the significant determinants of firm growth opportunity. The results for R^2 and the F-statistics, further support the above arguments that our IV rejects the assumption of weak instruments. The p-values of the Wooldridge's (1995) score test mostly support the justification of reverse causality and the importance of the 2SLS model.[82]

7.4.2.4. Comprehensive Ethical Screening and Agency Costs: Matching Sample Analysis

The results thus far have demonstrated that firms classified as ethically-compliant using the comprehensive framework are associated with higher technical and operating efficiency and are not linked to low growth prospects. However, the percentage of observation for ethically-compliant firms in the sample is relatively small, particularly for the comprehensive criteria. Therefore, to eliminate the possibility that the estimation suffers from unobservable heterogeneity and sample selection bias, this study constructs matched pairs samples in every screening stage using the propensity score matched pairs research technique. The matched pairs samples were constructed based on the factors that influence ethical compliance, firm efficiency, and other observable firm-level characteristics. This full-dimensional matching approach will correct the estimation of the treatment effect (ethical screening criteria) and is more robust compared to the OLS estimation (Hooghiemstra, Kuang and Qin, 2015).

[82] Some of the models in section 7.4.2.1., 7.4.2.2, and 7.4.2.3 report an insignificant result for the Wooldridge's (1995) score test. The results for these models suggest that the possibility of endogeneity is rejected. Despite this, analysis using 2SLS models will still provide a consistent estimation.

First, using the indicator of ethically-compliant firms as the dependent variable, the study estimates a probit model to match firms that are classified as ethically-compliant with firms that have the closest propensity to being classified as ethically-compliant firms but do not actually satisfy the screening requirements. This method intends to remove the heterogeneity bias between the ethically-compliant firms and the non-ethically compliant firms in the sample. This factor is one of the major causing factors for potential endogeneity in the estimation. The study constructs the matching sample in each screening stage for all measures of agency costs. Thus, there are eighteen matched pair samples for the regression analysis.

In particular, the dependent variable for each probit model is the indicator of ethically-compliant firms: ES1, ES2, and ES3 for the majority and stringent benchmark. The independent variables are the variables that are hypothesised to be associated with the screening stages (the treatment) and agency costs (the outcome). These include the firm-level control variables (profitability, leverage, sales growth, firm age, big 4), other main screening criteria (liquidity and interest ratio), and the measure of firm performance (ECNSCORE). In addition, the model for OPR controls for the influence of accounting quality (accruals and cash flow quality). The liquidity ratio is defined as the total liquid assets (cash plus debtor) divided by total assets while interest ratio is the ratio of interest-bearing security (proxied by cash and short-term investment) to total assets. ECNSCORE is the firm's overall economic performance measured by Asset4. The accruals and cash flow quality are the earnings quality measures from StarMine by Thomson Reuters Eikon.

After estimating the probit regression, the study then predicts the propensity scores and uses a nearest-neighbour matching approach with a caliper constraint to construct matched pairs. Following Hooghiemstra, Kuang and Qin (2015), the analysis uses a maximum caliper difference of 0.01 and removes the dissimilar matched pairs to acquire better control for

potentially confounding factors. Finally, the study runs a multivariate analysis using the matched pairs samples to compare between the efficiency of ethically-compliant firms and their conventional counterparts. This section employs OLS regression procedure as the propensity score match has removed the potential endogeneity of unobservable heterogeneity and sample selection bias.[83]

Table 7.7 reports the summary of results for the matching sample analysis (see Appendix D.1 until D.3 for the full results). Panel A presents the results for the first measure of agency costs. Ethically-compliant firms in the comprehensive stage (model 3 and 6) demonstrate a significant positive relationship with AUR. The results also report a significant positive coefficient in stage 2 of the screening framework (model 2 and 4). However, for stage 1, ethically-compliant firms based on the basic screening show an insignificant relationship with AUR. The findings indicate higher technical efficiency for ethically-compliant firms based on a more intensive criteria. Moreover, the findings show that the magnitude of the coefficients demonstrates a stronger positive relationship for the comprehensive framework. These results support the hypothesis and are comparable to the main findings.

Next, for operating efficiency (Panel B), only the comprehensive stage in both majority and stringent criteria report a significant negative relationship with OPR (model 3 and 6). Meanwhile, the other screening stages show an insignificant relationship with OPR. The findings demonstrate that comprehensive ethically-compliant firms show higher operating efficiency compared to their conventional counterparts. The results are in line with our hypothesis and support the efficiency of the comprehensive framework.

[83] The study conducted a preliminary regression test and performed Wooldridge's (1995) score test and confirmed that the model did not suffer from the presence of endogeneity.

Finally, in the growth prospects estimation (Panel C), the findings are different from the estimation using the full sample in section 7.4.2.3. In this estimation, ethically-compliant firms based on stage 1 and stage 2 report an insignificant relationship with low growth prospects (TFCF). Ethical firms using the comprehensive framework, on the other hand, indicate a significant negative association with TFCF. The negative relationship between ethically-compliant firms with TFCF in the comprehensive stage indicate that firms which are screened using a more ethically inclusive approach demonstrate lower agency costs. These findings support our hypothesis that the ESG components distort the investment-cash flow sensitivity (Attig *et al.*, 2014; Bhandari and Javakhadze, 2017; Samet and Jarboui, 2017b, 2017a). These findings strengthen the primary estimation and propose robust evidence of higher growth prospects for firms screened using the comprehensive framework.

In short, the findings using the matched pairs sample provide consistent results for the comprehensive framework and importantly support the hypotheses. The inconsistent findings for the other screening stages strengthen our argument that the current screening practices are insufficient and deviate from the intrinsic values of religion. Using the comprehensive framework, ethically-compliant firms demonstrate lower agency costs measured by higher technical efficiency, higher operating efficiency and higher growth prospects.

Table 7.7: Comprehensive Ethical Screening and Agency Costs: Matching Sample

Panel A: Regression results for asset utilisation ratio (AUR)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	-0.0031					
	(0.0310)					
Stage 2: Religious + EQ		0.0441**				
		(0.0210)				
Stage 3: Religious + EQ + ESG			0.0619***			
			(0.0227)			
Stringent Screening						
Stage 1: Religious				0.0007		
				(0.0258)		
Stage 2: Religious + EQ					0.0396*	
					(0.0217)	
Stage 3: Religious + EQ + ESG						0.0604**
						(0.0244)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5714	6660	3794	5960	5078	2932

Panel B: Regression results for Operating Efficiency (OPR)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	0.577					
	(0.578)					
Stage 2: Religious + EQ		-0.491				
		(0.550)				
Stage 3: Religious + EQ + ESG			-0.0313**			
			(0.0153)			
Stringent Screening						
Stage 1: Religious				0.596		
				(0.534)		
Stage 2: Religious + EQ					-0.760	
					(0.684)	

Stage 3: Religious + EQ + ESG						-0.0329**
						(0.0163)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	3746	2400	1548	3950	2064	1292

Panel C: Regression results for growth prospects (TFCF)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	-0.0011					
	(0.0021)					
Stage 2: Religious + EQ		0.0003				
		(0.0018)				
Stage 3: Religious + EQ + ESG			-0.0054***			
			(0.0020)			
Stringent Screening						
Stage 1: Religious				0.0004		
				(0.0021)		
Stage 2: Religious + EQ					-0.0036	
					(0.0023)	
Stage 3: Religious + EQ + ESG						-0.0060***
						(0.0022)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5686	6614	3772	5928	5052	2922

This table reports OLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. OPR is the ratio of operating expense to sales. TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening.

7.4.3. Robustness Tests

7.4.3.1. The Impact of Countries with High Religiosity

Prior literature argues that informal institutional arrangements such as culture and religion will give an important impact on formal systems like the law. These factors can function as an alternative, external control mechanism to the corporations. Religion, in particular, is expected to influence corporate behaviour as it is part of a social norm and is also the source of moral and ethical guides. Previous studies provide constructive evidence that religion, as a vital social mechanism, affects the decisions and the acts of individuals in making economic and social decisions (Kennedy and Lawton, 1998; Weaver and Agle, 2002; Kanagaretnam *et al.*, 2015; Chircop *et al.*, 2017). Following this argument, Du (2013) provides evidence that religion is significantly associated with lower agency costs in China. The agency costs in China are also moderated by the merchant guild culture (Du *et al.*, 2017).

Therefore, it is vital to examine that the agency costs of ethically-compliant firms are not affected by the level of religiosity in the area surrounding the firms. To test this assumption, the study re-estimates the main model and includes an additional control variable that measures high religiosity. The level of religiosity in a country is gathered from the World Value Survey[84]. Religiosity is identified by the percentage of respondents in the country who indicate that religion is important or is rather important to them. From this religiosity score, the study generated a high religiosity variable defined as a dummy variable equal to 1 if the religiosity

[84] World Value Survey (WVS) is an international social survey organization headquartered in Vienna, Austria with the aim of exploring values and their impact on social and political life. The Religiosity data is gathered over the two most recent WVS, WVS wave 5 (2005-2009) and WVS wave 6 (2010-2014) as the sample period between 2007 and 2016. The Religiosity score for 2015 and 2016 will follow the most recent available WVS survey as the next survey is yet to be conducted. The data is publicly accessible from www.worldvaluessurvey.org.

score in the country where the firm is located is above the median score in the sample and 0 otherwise.[85]

The results reported in Appendix D.5 until D.7 show that the results of all screening stages in all measures of agency costs remain consistent, even after controlling for countries with high levels of religiosity. These findings indicate that the efficiency of ethically-compliant firms is resilient towards the impact of culture in the country where the firm is located. The relationships between high religiosity and operating efficiency are significantly positive with AUR and negative with OPR which indicate higher technical and operating efficiency. The findings support the above arguments that religion can provide an alternative control mechanism to the firms which are consistent with Du (2013). In addition, high religiosity demonstrates a positive relationship with low growth (TFCF), thus conforming to our findings and arguments of the low-risk low-return hypothesis in section 7.4.2.3.

7.4.3.2. The Impact of Types of Controlling Shareholders

Corporate governance theory upholds the important role of controlling shareholders in the corporate governance system. Controlling shareholders functions as one vital mechanism to reduce agency conflicts (Jensen and Meckling, 1976). Shareholders can control the firm by being involved in strategic corporate decisions and determining how the management is monitored and compensated (Jensen and Meckling, 1976; Zou and Adams, 2008). For instance, the controlling shareholders have the right to replace managers who act in the opposite direction of the shareholder interests. Shareholder monitoring behaviour is influenced by their

[85] The literature suggests that religiosity is reverse causing firm performance. As such, the estimation uses an instrumental variable to tackle the possible endogeneity issue. The instrumental variable for high religiosity is religious democracy, defined as the percentage of respondents that indicate one of the essential components of a country's democracy is when the religious authorities have the power to interpret the law. This variable is also downloaded from WVS and transformed into a dummy variable using the same procedure as the high religiosity variable.

identity and characteristics (Maury and Pajuste, 2005; Boubakri, Cosset and Saffar, 2013; Dong *et al.*, 2014). Different objectives and characteristics are among the main contributing factors for the shareholder's diverse behaviour (Zou and Adams, 2008; Hope, 2013).

Prior studies find persistent results in multiple countries that corporations with higher managerial ownership demonstrate lower agency costs (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Fleming, Heaney and Mccosker, 2005; Florackis, 2011; Rashid, 2016). Comparably, agency costs are also lower with a higher ownership stake by the board of directors (Mcknight and Weir, 2009). Agency costs are reduced with effective corporate governance mechanisms (Henry, 2010) and higher monitoring by institutional owners (i.e. the banks) (Ang, Cole and Lin, 2000). The findings support the theoretical argument that agency costs can be moderated by lessening the separation of ownership and control and having better monitoring mechanisms.

Accordingly, it is crucial to take into account the impact of shareholder controlling behaviour on agency costs according to the shareholder's type. The objective is to provide evidence that the impact of ethical screening is robust and is not affected by shareholder preferences. To fulfil this aim, the analysis replicates the main model and includes the percentage of ownership for various types of largest, ultimate controlling shareholders as additional control variables. Specifically, the model additionally controls for the percentage of family ownership, institutional ownership, foreign ownership and managerial ownership.

The results reported in Table Appendix D.8 until D.10 show that the ethically-compliant firms in all screening stages report a consistent coefficient in all models, even after controlling for the types of ownership. Institutional ownership shows a significant positive relationship with AUR. These results are in line with the literature as agency costs are likely to

be lower in firms with higher institutional ownership (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Fleming, Heaney and Mccosker, 2005; Florackis, 2011; Rashid, 2016).

7.4.3.3. The Impact of Investment Characteristic of Controlling Shareholders

In addition to the above analysis, the study conducted another analysis that caters the vital influence of controlling shareholders to the corporate agency relationship. As the shareholders' actions are influenced by their characteristics, prior literature supports this view and provides evidence that the firm's investment policy is affected by the shareholder's investment portfolio. Companies controlled by diversified shareholders are reported to have more active investment strategies (Faccio, Marchica and Mura, 2011; Mishra, 2011; García-Kuhnert, Marchica and Mura, 2015). Following this line of research, the study examines whether the results hold after controlling for shareholder investment behaviour measured by shareholder portfolio diversification.

Shareholder portfolio diversification is defined as the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Appendix D.11 until D.13 reports the estimation results that controls for shareholder portfolio diversification. In sum, the results for ethically-compliant firms are comparable and support the main findings. The findings for shareholder diversification in AUR estimations show that companies controlled by diversified shareholders are likely to have higher efficiency in utilising company assets. Shareholder diversification also reported a significant negative relationship with TFCF, indicating higher growth prospects for companies with diversified shareholders. Thus, this strengthens the argument that TFCF is also a representation of a company's investment policy.

7.4.3.4. The Impact of Financial Crisis

Ethically-compliant firms measured by religious screening demonstrated lower price volatility during the recent financial crisis (Alam, 2010; Ho *et al.*, 2014; Jawadi, Jawadi and Louhichi, 2014; Alaoui *et al.*, 2016; Ashraf *et al.*, 2017). This finding is also comparable to firms with high ESG performance (Lins, Servaes and Tamayo, 2017). The empirical evidence suggests that the performance of ethically-compliant firms is sensitive to economic conditions. Firms with high ethical standards are inclined to show better performance during the financial crisis. Stakeholder and legitimacy theory advocate that corporations will benefit from ethical practices because these actions will develop a form of 'trust' of a fiduciary relationship between the companies and their stakeholders. Lins, Servaes and Tamayo (2017) justified that this form of relationship is likely to be more vital and visible in periods of low trust in the market, which can be witnessed during high volatility or the financial crisis.

This study addressed this issue and tested whether the agency cost of ethically-compliant firms is affected by crisis periods. The analysis re-estimated the main model by removing the crisis periods (years 2007-2008) from the sample. Appendix D.14 until D.16 shows that the sample exhibits consistent results, where the coefficient of ethical-compliance to agency cost measures are similar to the full sample effect. These findings provide evidence that the agency costs of the ethically-compliant firms are not sensitive to periods of low trust.

7.5. Conclusion

Using a global dataset of 43 countries comprising 23,790 firm-year observations over the 2007–2016 period, the study tests the impact of comprehensive ethical screening to agency costs. The aim is to uncover whether high ethical standards in publically listed companies will help to moderate the owner-manager agency conflict. The study also intends to justify the incorporation of additional levels in the current religious screening process.

Highly ethically-compliant firms in this study are identified by a screening procedure based on a comprehensive framework. The ethical screening framework employed in this study is more intense and stringent than the current religious and ethical screening criteria. The screening process involves three main stages: the integration of the current religious screening, earnings quality screenings, and ESG performance screening. This comprehensive framework reveals the firm's financial positions, earnings quality, and the ESG performance to the market. As these factors increase transparency and reduce information asymmetry, ethically-compliant firms are expected to have lower agency costs. This relationship is also supported by the stakeholder and legitimacy theory.

The empirical findings provide robust evidence that sustains the above position. Companies with high ethical practices report lower agency costs in efficiency measures. In particular, ethically-compliant firms based on the comprehensive screening process are significantly associated with efficient asset utilisation or higher technical efficiency. Comprehensive ethically-compliant firms also exhibit higher operating efficiency as compared to non-ethically-compliant firms. In the final measure, comprehensive ethically-compliant firms are found to have an insignificant relationship with company low growth prospects. These findings suggest some marginal evidence that the ESG component in the comprehensive framework distorts the positive relationship between ethically-compliant firms and low growth. These outcomes are verified in the analysis using match pair samples. In this robust analysis, ethically-complaint firms demonstrate consistent findings of higher efficiency and also significantly higher growth prospect. The findings strengthen our arguments and provide consistent results of lower agency costs for ethically-compliant firms using the comprehensive framework, and thus support the good management view.

The findings of other screening stages (stage 1: religious, and stage 2: religious + EQ) show mixed results. The coefficient of this screening stage is showing lower magnitude or insignificant. Hence, this results support the efficiency and effectiveness of the comprehensive framework. The findings in this study offer essential policy implications for academics and the industry, including practitioners, regulators, investors and portfolio managers alike.

CHAPTER 8

Conclusion

Chapter 8 : Conclusion

The predominant hypothesis of human behaviour in economics and finance presumes that people are largely motivated by their material self-interest. Despite the convenient simplification and the accurate empirical predictions of this hypothesis, there are evidence that some fundamental issues in economics, especially in the corporate environment, cannot be comprehended using the self-interest model. Fehr and Fischbacher (2002) provide evidence that reveals the essential of fairness and reciprocity in corporate transactions.[86] This evidence indicates that a substantial fraction of people are not motivated by self-interest but rather exhibit social preferences of mutual fairness. These norms demonstrate a fundamental impact in core economic issues including the corporations.

Driven by the above fundamental issue, this thesis fulfils three main objectives in response to the importance of social norms from the view of controlling shareholders and the contemporary challenges of ethical investment. The first aim is to examine the influence of shareholder country religiosity on corporate behaviour. The second is to develop a comprehensive ethical screening framework that integrates earnings quality and the ESG components. And finally, the third is to test the efficiency of this screening framework in relation to corporate behaviour. Four empirical papers have been derived from these three main objectives. The approach of the analysis is primarily from the perspective of social norms, which includes the aspect of religious norms and religious values (Maqasid al-Shariah).

The study defines corporate behaviour in two ways: firm volatility and agency cost. Volatility is measured by the volatility of firm accounting returns (standard deviation of return

[86] These include transaction involving bilateral negotiations, operational of markets and incentives, structure of property rights and contracts and for the laws regulating collective action and cooperation. See Fehr & Fischbacher (2002).

on assets) and firm-specific market returns (the firm idiosyncratic volatility derived from a market model). Agency costs are proxied by the efficiency ratios (asset utilisation ratio and operating expense ratio) and company growth prospect (this variable also indicates the company's investment policy). The relationship between ethics and firm behaviour is explained by integrating different theoretical views, namely the social norms, agency, legitimacy and stakeholder theories. This theoretical integration has led to a novel perspective of analysing corporate behaviour that considers societal issues in which the organisations operate as a source of ethical values.

8.1. Summary of the Main Findings

The first empirical paper (Chapter 4) tests whether the level of religiosity where the shareholders are based will have a significant influence on firm volatility. The social norms theory and prior empirical research predict that firms located in religious countries are prone to have high ethical values and stable returns. Base on this argument, religious norm is likely to influence the shareholders' characteristics and their monitoring behaviour which is expected to moderate corporate volatility. The findings provide robust evidence that supports this theoretical assumption. Companies controlled by shareholders based in religious countries display lower levels of volatility in both accounting and market measures. These findings support the notion of religious norms in restraining individual, unethical behaviours such as selfishness, greed, and earnings manipulation. As a result, companies with religious controlling shareholders demonstrate a prudent investment policy and stable returns. These results are robust in the analysis that controls for shareholder characteristics, cultural preferences, and crisis periods.

The study also conducts additional tests in relation to secularisation theory. The theory suggests that the influence of religiosity would be less significant as a result of modernity. The

results clarify this assumption and show that the impact of shareholder country religiosity is attenuated for companies located in developed countries. Moreover, the influence of religiosity is lower in most regions compared to the global sample. The analysis further shows that the negative impact of religiosity on firm volatility is higher for firms with foreign ownership. These findings verified that the influence of shareholder's religious norms on the volatility of the firm's returns.

In Chapter 5, the study develops and examines the influence of a comprehensive ethical screening on firm volatility. The new screening framework incorporates the earnings quality and the ESG performance with the current religious screening criteria. This framework is comprised of three main stages which are more intense and stringent than the existing religious and ethical screening standards. The three-level comprehensive ethical screening is designed corresponding to the intrinsic value of religion and the contemporary challenges of ethical investments. Ethically-compliant firms identified using this framework are expected to provide more stable returns to investors. Hence, this positively contributes to the economy and social well-being. This notion is supported by the stakeholder and legitimacy theory and previous literature that examines the impact of the ethical practice on firm performance.

The results are consistent with the theoretical view and demonstrate that the newly proposed framework is more effective than the existing religious and ethical screening methodologies in screening for companies with high-ethics and low-risk. Ethically-compliant firms indicate lower volatility as compared to firms with low ethical practices. The negative relationship between ethically-compliant firms and the measures of volatility also increases as the screening stages become more intense and stringent. Thus, this further supports the efficiency of the proposed comprehensive framework. The study additionally performs a sensitivity test using match pairs samples derived from propensity score matching. This method

of analysis intended to resolve the unobservable heterogeneity and selection bias in the sample. Findings from this analysis reveal that ethically-compliance firms identified by the comprehensive framework indicate lower volatility. While the other screening stages report inconsistent results. These findings further support the hypotheses and strengthen the primary analysis using the full sample. Moreover, ethically-compliant firms report lower volatility during crisis periods, which is consistent with the trust assumption and previous empirical findings.

The second part of the empirical chapters analyses corporate behaviour from the perspective of agency costs. Chapter 6 examines whether the agency costs are affected by the geographical religiosity of the controlling shareholders. As in Chapter 4, the theoretical assumption predicts that religious norms, as a source of moral and ethical value, will shape shareholder monitoring behaviour. Thus, this leads to the ability to restrain managerial self-serving behaviour leading to lower agency costs. The analysis provides robust evidence of lower agency costs using the efficiency measures for companies controlled by shareholders from religious countries. Companies controlled by shareholders surrounded by high religiosity also indicate prudent investment policies, and this has resulted in lower growth prospects. The results remain consistent after conducting several additional robust analysis including the developed countries analysis, regional analysis and external monitoring analysis.

The final empirical paper (Chapter 7) tests the impact of comprehensive ethical screening on agency costs. Similar to Chapter 5, highly ethically-compliant firms in this paper are identified by a screening procedure of the comprehensive framework. The earnings quality and the ESG elements in the comprehensive framework will increase screening transparency and reduce information asymmetry. These factors are expected to contribute to lower agency costs which are consistent with the good management hypothesis. The findings indicate that

ethically-compliant firms based on the comprehensive criteria demonstrate higher technical and operating efficiency. The findings for technical and operating efficiency are also comparable using the matched pairs samples. In the growth measure, comprehensive ethically-compliant firms are found to have an insignificant relationship with low growth in the initial test. However, in the multivariate analysis using matched pairs samples, comprehensive ethical compliance firms show a significant negative relationship with low growth prospects. The findings of the second test verify our assumption and demonstrate evidence of higher growth prospects and lower agency costs for ethically-compliant firms using the comprehensive framework. These findings also strengthen the argument of hypothesis three (H3) that the ethical criteria in the comprehensive framework interferes with the positive relationship between ethically-compliant firms and conservative investment policies.

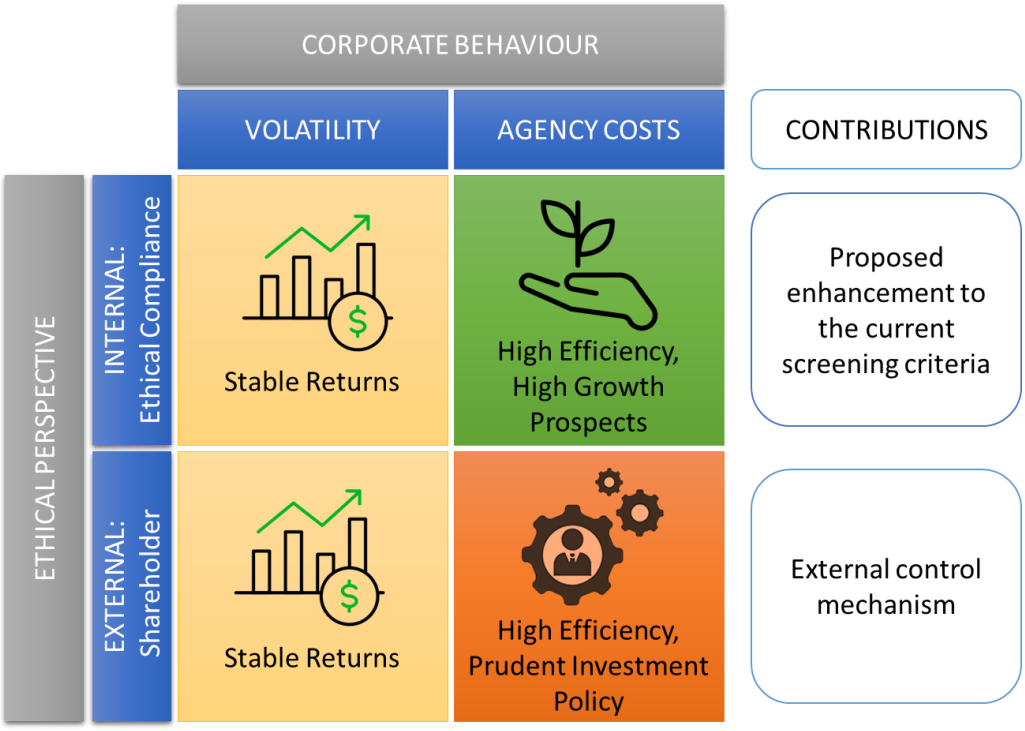
8.2. Contributions and Policy Implications

The overall findings and implications of the thesis can be summarised in Figure 8.1. The shareholder and the firm-level perspective of religiosity and ethics in this research demonstrate a positive influence on corporate behaviour. Both of these factors, lead to lower volatility and lower agency costs. Hence, the results contribute to two main implications. Firstly, the significance of religious norms as an external and informal institutional mechanism for corporate control. The research provides evidence that this factor is also vital from the view of controlling shareholders. Secondly, the efficiency and effectiveness of the proposed comprehensive framework in screening for companies with high ethical practices and financial performance. This finding provides a direct answer to the call for the enhancement and harmonisation of the current Shariah screening criteria.

These main findings support and strengthen the arguments in social norms theory and the connection between formal (the corporation) and informal institutions (the society). Thus,

agrees with the notion that people are not only driven by the material self-interest but also demonstrate social preferences, and their behaviour is significantly influenced by the surrounding norms. Consistent with Fehr and Fischbacher (2002), the results suggest that a substantial number of people exhibits social preferences as they are not only concern about the material resources allocated to them but also concern about the material resources allocated to relevant agents (stakeholders). Importantly, these factors lead to the ethical practice of prudent investment behaviour and social responsibility program which demonstrate positive impacts on corporations. The findings in this pioneering study offer essential policy implications for those in academia and the industry including practitioners, regulators, investors and portfolio managers alike.

Figure 8.1: The summary matrix of the thesis' findings and contributions



Source: Author

For academics and researchers, future studies should account for ethical practices such as earnings quality and ESG performance and also social norms as a salient determinant of

corporate outcomes. The results of the analysis of shareholder country religiosity provide preliminary insights into how the behaviour of the local society may affect firm behaviour and influence organisational performance. The negative relationship between shareholder country religiosity and stock volatility strengthen the theoretical view of the association between social norms and asset price. Moreover, the findings support the argument that religion can operate as an informal control mechanism that can influence shareholder control behaviour and be able to restrain unethical managerial behaviour, thus reducing agency costs. This evidence supports the theory that understanding the exogenous environment is vital to interpreting the agency costs-governance relationship (Mcknight and Weir, 2009). Therefore, researchers need to consider factors beyond financial characteristics when analysing the instability of asset price (Stulz and Williamson, 2003; Kumar, Page and Spalt, 2011; Callen and Fang, 2015; Blau, 2017), and firm efficiency.

For practitioners and regulators, the findings demonstrate that the integration of earnings quality and ESG standards increase firm performance, transparency, and mitigate information asymmetry. Therefore, an effective way to foster country economic development is to encourage firm growth by providing them with the incentives to invest in ethical activities and protect the interests of their stakeholders. Regulatory authorities can design training programs and disclosure requirements that facilitate the adoption of this screening framework. In addition, the regulators can monitor and encourage the positive influence of external institutions as an alternative governance mechanism for corporations. For instance, this can be done by developing corporate regulations that correspond to social views.

For investors and portfolio managers, the comprehensive framework will facilitate the selection of a highly performing ethical stock. Hence, religious investors will have an opportunity to engage in socially responsible investment without challenging religious views

and enabling them to fulfil the intrinsic values of religion. Both religious and ethical investors can benefit from the stable performance offered by comprehensive ethically-compliant firms. The investors and portfolio managers also need to consider the influence of social norms or other external institutional environments in making investment decisions in the international market.

8.3. Limitations and Suggestion for Future Research

The thesis acknowledges that the research design has certain limitations. First, the measure of religiosity used in this study represents the level of religious adherence of the society in general, and it is measured at the aggregate level. This measure does not directly portray the specific religious adherence of the individual shareholders and the organisations. The measure of religiosity also does not distinguish between the properties of different religions. Second, there are constraints on the sample selection process due to the use of multiple databases. Multiple databases create a disparity in the sample coverage. For instance, Orbis covers more than 150 countries, while WVS only covers about 99 countries. This disparity has tremendously reduced the final sample available for analysis.

Third, reliance on company codes for data merging process; it is almost impossible to merge the data manually as the data collection process involved large data from multiple databases. Therefore, to derive the final sample, the data are merged using a unique company code provided by Orbis or using ISIN code for stock data. Even though the codes are unique to companies, one disadvantage of using this method is the company codes in Orbis are changing over time. The data collection process was conducted in stages from 2016 until 2017. Because of the time difference, some of the companies' codes had changed, and the data could not be merged (i.e., unable to merge the accounting and the shareholder information). This issue has further reduced the final sample and the number of companies, according to the

countries, are inconsistent. For example, in chapter 4, the U.S., as a developed country with a large number of corporations, has fewer companies compared to Malaysia, which is a developing country. In addition, Japan, as another developed country, is not in the sample due to the merging issue. Forth, limitation on the availability of corporate governance data. The thesis is unable to examine the other aspect of corporate governance (i.e., the influence of board characteristics) due to the lack of availability of secondary database for companies' corporate governance.

Fifth, for the analysis of comprehensive ethical screening, the performance of the proposed comprehensive ethical framework is tested on a limited sample which is the Asset4 because of the constraint on the availability of ESG data. There are two prominent databases that provide reliable ESG data; the first is Asset4 by Thomson and Reuters, and the second is MSCI KLD. At the time when the data collection was made, only Asset4 was available in the university database. As a result, the sample for ethical screening is smaller, which is only about twenty thousand observations compared to around eighty thousand observations for shareholder religiosity. Sixth, the screening process is limited to the available accounting information. The regulators (i.e., the Security Commission) and the index provider (i.e., FTSE and S&P), provide a list of Shariah compliance firms based on a thorough examination of the company's accounting information. This thesis, on the other hands, needs to rely on the accounting information provided by the publish databases, and there is some constraint on the availability of data for the company's business segments. Despite the limitation, the screening methodology is performed in three stages, which provide a reliable proxy for ethically compliant firms. Seventh, the construction of ethical screening is limited to only three measures of ethics. There are other measures of company ethical practices that could be added in the

screening criteria. Finally, the analysis in this thesis only focused on two measures of corporate behaviour (volatility and agency costs) and tested using regression analysis.

To move the ideas of this study forward, for analysis on religiosity, future research can examine the impact of organisational or individual religiosity on different measures of firm outcomes. There are other measures of corporate behaviour that can be tested, such as accounting and stock performance measures, capital structure, board governance, earnings management, corporate social responsibility, accounting disclosure, and etc. Future analysis can also use a different statistical technique to verify the results. Future research can also extend the research perspective that covers the influence of multiple large shareholders or the conflict between the large and minority shareholders. This line of research could potentially clarify the continuous debate on the importance of integrating religious norms to explain corporate behaviour.

The performance of the proposed comprehensive ethical framework can be tested on a larger sample using a different empirical methodology. Future studies can additionally tackle the impact of other ethical elements such as excessive risk and narrative quality screening. Finally, following Derigs and Marzban (2009), the study acknowledges that the newly proposed comprehensive ethical screening is justified and developed based on religious practices, moral values and reasoning. Therefore, the practicability, effectiveness, and the verdict regarding their compliance needs to be verified and judged by scholars.

Appendices

Appendix A: Chapter 4 – The Influence of Shareholder Country Religiosity on Firm Volatility

Appendix A. 1: Country distribution of observations

Panel A - Accounting Uncertainty				
No	**Country**	**Firms**	**Obs.**	**Percent**
1	Argentina	42	118	0.33
2	Australia*	1,298	4,739	13.30
3	Austria*	25	66	0.19
4	Bangladesh	4	9	0.03
5	Belgium*	39	141	0.40
6	Brazil	190	659	1.85
7	Bulgaria	66	175	0.49
8	Canada*	488	876	2.46
9	Chile	92	226	0.63
10	China	1,936	5,656	15.87
11	Colombia	28	48	0.13
12	Croatia	15	31	0.09
13	Czech Republic	3	5	0.01
14	Egypt	104	231	0.65
15	El Salvador	4	12	0.03
16	France*	505	1,994	5.60
17	Germany*	413	1,591	4.47
18	Ghana	11	29	0.08
19	Greece*	43	125	0.35
20	Hong Kong	92	262	0.74
21	Hungary	22	67	0.19
22	India	1,500	3,276	9.19
23	Indonesia	240	621	1.74
24	Ireland*	38	99	0.28
25	Iran	4	4	0.01
26	Israel*	42	72	0.20
27	Italy*	71	139	0.39
28	Jamaica	4	7	0.02
29	Jordan	93	219	0.61
30	Kenya	13	28	0.08
31	Luxembourg*	21	59	0.17
32	Malaysia	631	1,765	4.95
33	Malta*	8	13	0.04
34	Mexico	35	112	0.31
35	Morocco	42	87	0.24
36	Namibia	2	5	0.01
37	Netherlands*	74	324	0.91
38	Nigeria	29	62	0.17
39	Norway*	124	487	1.37
40	Peru	87	277	0.78

Panel B - Market Uncertainty				
No	**Country**	**Firms**	**Obs.**	**Percent**
1	Argentina	40	209	0.36
2	Australia*	1,326	8,466	14.67
3	Austria*	29	100	0.17
4	Bangladesh	2	4	0.01
5	Belgium*	41	208	0.36
6	Brazil	181	989	1.71
7	Bulgaria	17	38	0.07
8	Canada*	656	1,668	2.89
9	Chile	96	459	0.80
10	China	2,206	10,687	18.52
11	Colombia	27	87	0.15
12	Croatia	12	24	0.04
13	Egypt	84	368	0.64
14	France*	483	3,148	5.45
15	Germany*	402	2,627	4.55
16	Ghana	9	23	0.04
17	Greece*	42	160	0.28
18	Hong Kong	99	445	0.77
19	Hungary	15	71	0.12
20	India	1,973	5,626	9.75
21	Indonesia	280	1,040	1.80
22	Ireland*	47	177	0.31
23	Israel*	52	123	0.21
24	Italy*	73	169	0.29
25	Jordan	95	426	0.74
26	Kenya	13	28	0.05
27	Luxembourg*	22	82	0.14
28	Malaysia	712	3,768	6.53
29	Malta*	6	16	0.03
30	Mexico	56	223	0.39
31	Morocco	43	146	0.25
32	Netherlands*	67	394	0.68
33	Nigeria	46	146	0.25
34	Norway*	95	624	1.08
35	Peru	71	329	0.57
36	Philippines	123	543	0.94
37	Poland	227	1,558	2.70
38	Portugal*	27	86	0.15
39	Romania	5	11	0.02
40	Russian Federation	235	1,154	2.00

41	Philippines	122	359	1.01	41	Saudi Arabia	14	24	0.04
42	Poland	308	1,078	3.03	42	Serbia	6	7	0.01
43	Portugal*	25	63	0.18	43	Singapore	442	1,703	2.95
44	Romania	347	789	2.21	44	Slovenia	12	68	0.12
45	Russian Federation	719	1,722	4.83	45	South Africa*	164	808	1.40
46	Saudi Arabia	14	18	0.05	46	Spain*	101	711	1.23
47	Serbia	337	706	1.98	47	Sri Lanka	41	115	0.20
48	Singapore	340	855	2.40	48	Switzerland*	141	1,125	1.95
49	Slovakia	9	28	0.08	49	Thailand	302	968	1.68
50	Slovenia	21	67	0.19	50	Turkey*	193	1,041	1.80
51	South Africa*	144	423	1.19	51	United Kingdom*	581	894	1.55
52	Spain*	112	515	1.45	52	United States*	918	2,289	3.97
53	Sri Lanka	32	55	0.15	53	Vietnam	471	1,515	2.62
54	Switzerland*	139	661	1.86					
55	Thailand	162	390	1.09					
56	Turkey*	179	619	1.74					
57	United Kingdom*	628	967	2.71					
58	United States*	591	1,251	3.51					
59	Vietnam	210	350	0.98					
	Total	12,917	35,632	100			13,421	57,718	100

* Indicates developed countries based on CIA World Factbook 2017

Appendix A. 2: Country religiosity score

No.	Country	Mean	Std. Dev	Min	Max
1	Qatar	0.9980	0.0000	0.9980	0.9980
2	Egypt	0.9970	0.0014	0.9950	0.9980
3	Morocco	0.9861	0.0014	0.9840	0.9870
4	Philippines	0.9810	0.0000	0.9810	0.9810
5	Indonesia	0.9800	0.0000	0.9800	0.9800
6	Malaysia	0.9654	0.0041	0.9590	0.9680
7	Kuwait	0.9390	0.0000	0.9390	0.9390
8	Turkey	0.9224	0.0069	0.9120	0.9270
9	Brazil	0.8987	0.0070	0.8940	0.9090
10	Thailand	0.8954	0.0277	0.8770	0.9370
11	India	0.8729	0.0611	0.7800	0.9130
12	South Africa	0.8576	0.0281	0.8390	0.9000
13	Colombia	0.8540	0.0000	0.8540	0.8540
14	Mexico	0.8408	0.0042	0.8380	0.8470
15	Poland	0.8142	0.0280	0.7960	0.8570
16	Peru	0.7882	0.0216	0.7560	0.8020
17	Singapore	0.7670	0.0000	0.7670	0.7670
18	Italy	0.7520	0.0000	0.7520	0.7520
19	United States	0.6910	0.0118	0.6840	0.7110
20	Chile	0.6310	0.0643	0.5890	0.7290
21	Canada	0.5870	0.0000	0.5870	0.5870
22	Kazakhstan	0.5500	0.0000	0.5500	0.5500
23	Taiwan	0.5240	0.0046	0.5170	0.5270
24	South Korea	0.5204	0.0333	0.4690	0.5420
25	Switzerland	0.4540	0.0000	0.4540	0.4540
26	Finland	0.4500	0.0000	0.4500	0.4500
27	Russian Federation	0.4323	0.0217	0.4180	0.4650
28	France	0.4080	0.0000	0.4080	0.4080
29	United Kingdom	0.4010	0.0000	0.4010	0.4010
30	Hungary	0.3770	0.0000	0.3770	0.3770
31	Germany	0.3652	0.0222	0.3320	0.3800
32	New Zealand	0.3562	0.0080	0.3430	0.3610
33	Spain	0.3421	0.0322	0.3200	0.3890
34	Australia	0.3340	0.0346	0.3110	0.3860
35	Norway	0.3270	0.0000	0.3270	0.3270
36	Hong Kong	0.3154	0.0287	0.2710	0.3340
37	Sweden	0.2708	0.0137	0.2620	0.2920
38	Netherlands	0.2673	0.0231	0.2520	0.3020
39	Japan	0.1848	0.0078	0.1730	0.1900
40	China	0.1222	0.0254	0.1060	0.1620

Appendix A. 3: Regression results for shareholder country religiosity and firm volatility (minimising the effect of extreme values).

	Panel A: Accounting	**Panel B: Market**
	(1) sd_ROA	(2) Idio_volt
Shareholder country religiosity	-0.726***	-0.395***
	(0.215)	(0.0185)
Local ownership	-0.459*	-0.0364***
	(0.250)	(0.0077)
Profitability	-0.0420	0.0089***
	(0.105)	(0.0017)
Size	-0.276***	-0.137***
	(0.0498)	(0.0019)
Leverage	2.916**	0.0743***
	(1.134)	(0.0093)
Sales Growth	0.0333	0.0113***
	(0.0359)	(0.0018)
Age	-0.199**	-0.0673***
	(0.0812)	(0.0039)
Big 4	-0.296***	-0.0587***
	(0.0905)	(0.0069)
GDP Growth	-0.911	0.218
	(2.645)	(0.271)
Market Size	0.0039***	0.0012***
	(0.0012)	(0.00009)
Control of Corruption	0.0137***	0.0008***
	(0.0027)	(0.0002)
Uncertainty avoidance	-0.0006	-0.0003
	(0.0021)	(0.0002)
Intercept	3.119***	2.836***
	(1.209)	(0.0360)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35632	57718
First Stage Regressions:		
Religion Democracy	1.2676***	1.0551***
	(0.0124)	(0.0092)
Partial R2 of excluded instruments	0.4095	0.3301
F-test of excluded instruments	10459.7	13234.4
Wooldridge's (1995) score test (p-values)	0.0077	0.0000

This table reports 2SLS regression results for shareholder country religiosity and firm volatility that minimize the influence of extreme values in some variables using winsorizing technique. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* is the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 4: Regression results for geographical religiosity and the firms' accounting and market volatility

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Religiosity	-1.439**	-0.517***
	(0.693)	(0.0309)
Local ownership	-0.0605	-0.0401***
	(0.150)	(0.0098)
Profitability	0.0771	-0.0002
	(0.188)	(0.0003)
Size	-0.882***	-0.153***
	(0.116)	(0.0030)
Leverage	0.0446***	-0.0002
	(0.0156)	(0.0002)
Sales Growth	0.0016	0.0003***
	(0.0020)	(0.00009)
Age	-0.336*	-0.0537***
	(0.184)	(0.0064)
Big 4	-0.235	-0.0551***
	(0.238)	(0.0094)
GDP Growth	-9.711*	0.166
	(4.974)	(0.185)
Market Size	0.0001	0.0003***
	(0.0005)	(0.00004)
Control of Corruption	0.0429***	0.0018***
	(0.0049)	(0.0002)
Uncertainty avoidance	-0.0126***	-0.0002
	(0.0030)	(0.0003)
Intercept	4660.3***	3.162***
	(1197.2)	(0.0529)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	94769	111224
First Stage Regressions:		
Religious democracy	0.8271***	0.8296***
	(0.0160)	(0.0193)
Partial R2 of excluded instruments	0.2053	0.1971
F-test of excluded instruments	2683.03	1851.29
Wooldridge's (1995) score test (p-values)	0.0204	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Religiosity* is the level of religiosity in the country where the company is located, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 5: Regression results for shareholder country religiosity and firm volatility using alternative measure of volatility

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROE	Total_volt
Shareholder country religiosity	-1.110***	-0.378***
	(0.264)	(0.0245)
Local ownership	-0.944***	-0.0400***
	(0.307)	(0.0111)
Profitability	-0.146***	-0.00008
	(0.0331)	(0.0002)
Size	-0.504***	-0.131***
	(0.0942)	(0.0031)
Leverage	0.0457	-0.00002
	(0.0965)	(0.0004)
Sales Growth	-0.0006	0.0002*
	(0.0008)	(0.0001)
Age	-0.146	-0.0660***
	(0.107)	(0.0066)
Big 4	-0.126	-0.0577***
	(0.142)	(0.0106)
GDP Growth	-5.359*	0.0292
	(2.812)	(0.265)
Market Size	-0.0002	0.0002***
	(0.0002)	(0.00005)
Control of Corruption	0.0180***	0.0012***
	(0.0039)	(0.0002)
Uncertainty avoidance	-0.0096***	-0.0017***
	(0.0029)	(0.0003)
Intercept	1649.5***	3.056***
	(353.8)	(0.0554)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35630	61060
First Stage Regressions:		
Religion Democracy	1.3354***	1.2028***
	(0.0174)	(0.0185)
Partial R2 of excluded instruments	0.4391	0.3826
F-test of excluded instruments	5870.5	4209.4
Wooldridge's (1995) score test (p-values)	0.0004	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROE* is the standard deviation of ROE minus average industry ROE. ROE is the ratio of total shareholders' funds divided by total assets. Average industry ROE is the average ROE for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Total_volt* is the standard deviation of the firm's weekly stock return. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 6: Regression results for shareholder country religiosity and firm volatility using an alternative measure of religiosity

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Religious membership	-4.493**	-2.357***
	(1.908)	(0.201)
Local ownership	-0.579***	-0.131***
	(0.196)	(0.0140)
Profitability	-0.331***	0.00008
	(0.103)	(0.0002)
Size	-0.228***	-0.144***
	(0.0457)	(0.0035)
Leverage	0.0266	0.00007
	(0.0174)	(0.0004)
Sales Growth	0.0018	0.0003**
	(0.0019)	(0.0001)
Age	-0.0771	-0.0388***
	(0.0974)	(0.0078)
Big 4	0.0777	0.0287**
	(0.164)	(0.0143)
GDP Growth	-2.198	0.686**
	(2.949)	(0.311)
Market Size	-0.000003	0.0004***
	(0.0003)	(0.00007)
Control of Corruption	0.0169***	0.0033***
	(0.0044)	(0.0003)
Uncertainty avoidance	-0.0102***	-0.0019***
	(0.0036)	(0.0003)
Intercept	4.445***	3.108***
	(1.453)	(0.0665)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35630	57718
First Stage Regressions:		
Religious democracy	0.2004***	0.1775***
	(0.0099)	(0.0084)
Partial R2 of excluded instruments	0.0547	0.0503
F-test of excluded instruments	413.772	446.605
Wooldridge's (1995) score test (p-values)	0.0001	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Religious membership* is an alternative measure of religiosity, is the level of religiosity in the country where the shareholder is originated define as the percentage of the respondent that has membership in religious organizations. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 7: Regression results for shareholder country religiosity and external monitoring

	Panel A: Accounting		**Panel B: Market**	
	(1)	(2)	(3)	(4)
	High sd_ROA	Low sd_ROA	High Idio_volt	Low Idio_volt
Shareholder country religiosity	-0.814***	-1.109***	-0.225***	-0.510***
	(0.314)	(0.364)	(0.0291)	(0.0348)
Local ownership	0.0006	-0.681***	-0.0368***	-0.0449**
	(0.0733)	(0.244)	(0.0113)	(0.0188)
Profitability	-0.0120	0.0369	-0.0002	0.00001
	(0.0178)	(0.0911)	(0.0003)	(0.0002)
Size	-0.205***	-0.375***	-0.142***	-0.143***
	(0.0414)	(0.0737)	(0.0039)	(0.0042)
Leverage	0.175***	0.0115	-0.0001	0.00001
	(0.0179)	(0.0080)	(0.0004)	(0.0006)
Sales Growth	-0.00002	0.0060	0.0001	0.0004*
	(0.0004)	(0.0044)	(0.0002)	(0.0002)
Age	-0.0647	-0.0400	-0.0569***	-0.0701***
	(0.0623)	(0.0898)	(0.0067)	(0.0104)
Big 4	-0.173*	-0.349*	-0.0420***	-0.0531***
	(0.100)	(0.206)	(0.0116)	(0.0159)
GDP Growth	-0.0667	-4.586	-0.150	1.737
	(3.101)	(3.043)	(0.173)	(1.107)
Market Size	0.00003	0.00001	0.0001**	0.0003***
	(0.0002)	(0.0005)	(0.00005)	(0.00007)
Control of Corruption	0.0099***	0.0200***	0.0007***	0.0030***
	(0.0034)	(0.0046)	(0.0003)	(0.0004)
Uncertainty avoidance	-0.0073***	-0.0068	-0.0026***	0.0006
	(0.0021)	(0.0049)	(0.0003)	(0.0004)
Intercept	5.050**	2268.5***	3.054***	2.976***
	(2.383)	(421.4)	(0.0685)	(0.0703)
Year-fixed effects	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes
Number of observations	19277	16355	31362	26356
First Stage Regressions:				
Religious democracy	1.3480***	1.2994***	1.2833***	1.0546***
	(0.0201)	(0.0251)	(0.0222)	(0.0243)
Partial R2 of excluded instruments	0.4567	0.4204	0.424	0.3182
F-test of excluded instruments	4485.12	2677.24	3331.5	1889.82
Wooldridge's (1995) score test (p-values)	0.1934	0.0034	0.0000	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 8: Regression results for shareholder country religiosity and types of ultimate ownership

	Panel A: Accounting	**Panel B: Market**
	(1) sd_ROA	(2) Idio_volt
Shareholder country religiosity	-0.683**	-0.361***
	(0.290)	(0.0239)
Family ownership	-0.0566***	-0.0175***
	(0.0211)	(0.0033)
Foreign ownership	-0.0031	0.000003
	(0.0028)	(0.0005)
Institutional ownership	-0.0017*	0.0004
	(0.0009)	(0.0003)
Managerial ownership	-0.273**	-0.123***
	(0.118)	(0.0351)
Local ownership	-0.378**	-0.0415***
	(0.188)	(0.0108)
Profitability	-0.331***	-0.00006
	(0.102)	(0.0002)
Size	-0.253***	-0.142***
	(0.0507)	(0.0031)
Leverage	0.0260	-0.00008
	(0.0173)	(0.0004)
Sales Growth	0.0018	0.0002*
	(0.0020)	(0.0001)
Age	-0.120	-0.0610***
	(0.0978)	(0.0062)
Big 4	-0.0222	-0.0458***
	(0.157)	(0.0101)
GDP Growth	-5.648**	0.180
	(2.269)	(0.276)
Market Size	-0.0001	0.0002***
	(0.0003)	(0.00005)
Control of Corruption	0.0124***	0.0017***
	(0.0032)	(0.0002)
Uncertainty avoidance	-0.0052	-0.0013***
	(0.0037)	(0.0003)
Intercept	4.631***	3.005***
	(1.550)	(0.0538)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	34831	57707
First Stage Regressions:		
Religion Democracy	1.3306***	1.1628***
	(0.0174)	(0.0187)
Partial R2 of excluded instruments	0.4409	0.3648
F-test of excluded instruments	5871	3857.58
Wooldridge's (1995) score test (p-values)	0.0000	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 9: Regression results for shareholder country religiosity and firm volatility excludes crisis year (2007-2008)

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Shareholder country religiosity	-0.886***	-0.385***
	(0.341)	(0.0259)
Local ownership	-0.513**	-0.0462***
	(0.252)	(0.0119)
Profitability	-0.346***	-0.00006
	(0.0987)	(0.0002)
Size	-0.256***	-0.146***
	(0.0558)	(0.0033)
Leverage	0.0250	-0.00003
	(0.0216)	(0.0004)
Sales Growth	-0.00005	0.0002
	(0.0009)	(0.0001)
Age	-0.134	-0.0624***
	(0.137)	(0.0069)
Big 4	-0.0296	-0.0461***
	(0.210)	(0.0111)
GDP Growth	-3.456	0.206
	(2.411)	(0.274)
Market Size	0.0003	0.0002***
	(0.0004)	(0.00005)
Control of Corruption	0.0122***	0.0022***
	(0.0038)	(0.0003)
Uncertainty avoidance	-0.0053	-0.0012***
	(0.0044)	(0.0003)
Intercept	5.561***	3.080***
	(2.024)	(0.0596)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	25498	49291
First Stage Regressions:		
Religious democracy	1.3323***	1.1376***
	(0.0224)	(0.0206)
Partial R2 of excluded instruments	0.4185	0.3459
F-test of excluded instruments	3545.66	3063.83
Wooldridge's (1995) score test (p-values)	0.0000	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 10: Regression results for shareholder country religiosity and shareholder portfolio diversification

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Shareholder country religiosity	-0.678***	-0.360***
	(0.234)	(0.0162)
Shareholder diversification	-0.0519**	-0.0018
	(0.0208)	(0.0017)
Local ownership	-0.403***	-0.0447***
	(0.140)	(0.0079)
Profitability	-0.331***	-0.00006
	(0.0946)	(0.0002)
Size	-0.226***	-0.142***
	(0.0415)	(0.0021)
Leverage	0.0262**	-0.00007
	(0.0115)	(0.0003)
Sales Growth	0.0017	0.0002**
	(0.0019)	(0.0001)
Age	-0.112	-0.0610***
	(0.0714)	(0.0040)
Big 4	-0.0293	-0.0452***
	(0.122)	(0.0070)
GDP Growth	-5.074**	0.180
	(2.055)	(0.274)
Market Size	-0.00009	0.0002***
	(0.0002)	(0.00003)
Control of Corruption	0.0129***	0.0016***
	(0.0027)	(0.0002)
Uncertainty avoidance	-0.0064**	-0.0014***
	(0.0026)	(0.0002)
Intercept	4.202***	3.005***
	(1.319)	(0.0376)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35632	57718
First Stage Regressions:		
Religion Democracy	1.3357***	1.1638***
	(0.0119)	(0.0093)
Partial R2 of excluded instruments	0.4392	0.3649
F-test of excluded instruments	12678.8	15532.1
Wooldridge's (1995) score test (p-values)	0.0000	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix A. 11: Regression results for shareholder country religiosity using alternative instrument and estimation

	Panel A: Accounting	**Panel B: Market**
	(1)	(2)
	sd_ROA	Idio_volt
Shareholder country religiosity	-0.635**	-0.243***
	(0.308)	(0.0202)
Local ownership	-0.394**	-0.0466***
	(0.172)	(0.0107)
Profitability	-0.322***	-0.00007
	(0.106)	(0.0002)
Size	-0.245***	-0.138***
	(0.0493)	(0.0031)
Leverage	0.0274	-0.00007
	(0.0182)	(0.0004)
Sales Growth	0.0018	0.0002*
	(0.0020)	(0.0001)
Age	-0.123	-0.0653***
	(0.0926)	(0.0062)
Big 4	-0.0203	-0.0548***
	(0.161)	(0.0098)
GDP Growth	-5.575**	0.134
	(2.263)	(0.267)
Market Size	-0.0002	0.0002***
	(0.0003)	(0.00004)
Corruption	0.0127***	0.0019***
	(0.0034)	(0.0002)
Uncertainty avoidance	-0.0059	-0.0016***
	(0.0036)	(0.0002)
Intercept	4.537***	2.900***
	(1.514)	(0.0524)
Year-fixed effects	Yes	Yes
Industry-fixed effects	Yes	Yes
Number of observations	35735	58877
First Stage Regressions:		
Religious Support	0.0549***	0.0606***
	(0.0006)	(0.0005)
Partial R2 of excluded instruments	0.3666	0.4536
F-test of excluded instruments	8898.52	16196.80

This table reports LIML regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. (2) *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Shareholder religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders is based in the same country as the company 0 otherwise. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Control of Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Religious support* is the instrumental variable measuring the level of government support to religious practices that range from 0 to 13, with 0 indicating the lowest support, and 13 indicating the highest support. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B: Chapter 5 – Comprehensive Ethical Screening and Firm Volatility

Appendix B. 1: List of Shariah screening users

Types of Users	Users	Country	Screen Level
Regulator	Security Commission (SC)	Malaysia	Malaysia
Index Provider	Dow Jones Islamic Market (DJIM)	USA	Global
	Financial Times Islamic Index Series (FTSE)	UK	Global
	Morgan Stanley Capital International Islamic Index Series (MSCI)	USA	Global
	Standard & Poor Islamic Index Group	USA	Global
	Jakarta Islamic Index (JII)	Indonesia	Indonesia
	Gulf Cooperation Council (GCC) Islamic Index	Kuwait	GCC Countries
	Parsoli Islamic Equity Index (PIE)	India	India
	Hong Kong Islamic Index (HKII)	Hong Kong	Hong Kong
	Directional Movement Index (DMI) 150 Index	Switzerland	Global
	Bombay Stock Exchange (BSE) TASIS Shariah 50 Index	India	Bombay
	Thomson Reuters IdealRatings Islamic Index	USA	Global
	Russell-Jadwa Shariah Global Index	USA	Global
	FTSE Bursa Malaysia EMAS Shariah Index	Malaysia	Malaysia
	FTSE Bursa Malaysia Hijrah Index	Malaysia	Malaysia
	Edbiz-NASDAQ OMX Sharia Index	Sweden	Sweden
	HS50 Shariah Index	UK	Global
Shariah Service Provider	Shariah Capital	USA	Global
	Amanie Business Solution	Malaysia	Global
	Ideal Rating	USA	Global
	Yassar Limited	UK	Global
Fund Manager	Hang Seng China Islamic Index (HSCII)	Hong Kong	Hong Kong and China
	SWIP Islamic Global Equity	UK	Global
Shariah Service Provider & Fund Manager	Al-Meezan	Pakistan	Global
	Azzad	USA	Global
	Amiri	UK	Global
	Guardian Investment House	Sri Lanka	Global
	Ratings Intelligence	UK	Global
	Saturna Capital (Amina)	USA	USA
Association	AAOIFI	Bahrain	Global
Bank	Hong Kong & Shanghai Banking Corporation (HSBC – Amanah)	China	Global

Source: Adapted and modified from Ho (2015)

Appendix B. 2: List of prohibited activities

Categories	Prohibited Activities
Riba and Gharar	* Financial services based on riba / conventional financial services * Stock broking or share trading in Shariah-non- compliant securities Bank Real estate holding and development Consumer finance Mortgage finance/companies Full line insurance Investment services Property and casualty Conventional insurance Reinsurance Life insurance Leasing companies Mudharabah companies Non-operating interest REIT and Trust
Non-Halal Products	* Manufacture or sale of non-halal products and related products Alcoholic product (Brewers Distiller and vintners) Food products Food retailers and wholesalers Restaurants and bars Pork related products Meat products
Gambling	Gambling/casinos/lottery
Immoral	* Entertainment activities that are non-permissible according to Shariah Broadcasting and entertainment Advertising and media agencies (excluding newspapers) Hotel Recreational products and services Night club activities Pornography and adult entertainment Prostitution Cinema Music/Musical instrument
Other impermissible	* Manufacture or sale of tobacco based products or related products Military/defence/weapon/firearms Trading of gold and silver on deferred basis Stem cell research Biotechnology (genetic and foetus)

* General categories

Appendix B. 3: NAICS codes for non-permissible industries

No.	NAICS Code		2012 NAICS US Title	Screening categories	Details	Unethical
	Main/ 4 Digits	6 Digits				
1	11		Agriculture, Forestry, Fishing and Hunting			
2		111910	Tobacco Farming	Other impremissible	tobacco	✓
3		112111	Beef Cattle Ranching and Farming	Non-halal products	meat-related production	
4		112112	Cattle Feedlots	Non-halal products	meat-related production	
5		112130	Dual-Purpose Cattle Ranching and Farming	Non-halal products	meat-related production	
6	1122**		Hog and Pig Farming	Non-halal products	pork-related production	
7		112320	Broilers and Other Meat Type Chicken Production	Non-halal products	poultry-related production	
8		112330	Turkey Production	Non-halal products	poultry-related production	
9		112340	Poultry Hatcheries	Non-halal products	poultry-related production	
10		112390	Other Poultry Production	Non-halal products	poultry-related production	
11	1124**		Sheep and Goat Farming	Non-halal products	meat-related production	
	22		Utilities			
		221112	Fossil Fuel Electric Power Generation	Environment	Fossil	✓
		221113	Nuclear Electric Power Generation	Environment	Nuclear	✓
12	31-33		Manufacturing			
13		311340	Nonchocolate Confectionery Manufacturing	Non-halal products	food-related products	
14		311351	Confectionery and Confectionery Manufacturing from Cocoa Beans	Non-halal products	food-related products	
15		311352	Confectionery Manufacturing from Purchased Chocolate	Non-halal products	food-related products	
16		311412	Frozen Specialty Food Manufacturing	Non-halal products	food-related products	
17		311422	Specialty Canning	Non-halal products	food-related products	
18		311423	Dried and Dehydrated Food Manufacturing	Non-halal products	food-related products	
19	3116**		Animal Slaughtering and Processing	Non-halal products	meat-related production	
20	3118**		Bakeries and Tortilla Manufacturing	Non-halal products	food-related products	
21	3119**		Other Food Manufacturing	Non-halal products	food-related products	
22		312111	Soft Drink Manufacturing	Non-halal products	food-related products	
23		312112	Bottled Water Manufacturing	Non-halal products	food-related products	
24		312120	Breweries	Non-halal products	alcohol	✓
25		312130	Wineries	Non-halal products	alcohol	✓
26		312140	Distilleries	Non-halal products	alcohol	✓
27	3122**		Tobacco Manufacturing	Other impremissible	tobacco	✓
28		332992	Small Arms Ammunition Manufacturing	Other impremissible	arms	✓
29		332993	Ammunition (except Small Arms) Manufacturing	Other impremissible	arms	✓
30		332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	Other impremissible	arms	✓
31	42		Wholesale Trade			
32		424410	General Line Grocery Merchant Wholesalers	Non-halal products	food-related	
33		424420	Packaged Frozen Food Merchant Wholesalers	Non-halal products	food-related	
34		424440	Poultry and Poultry Product Merchant Wholesalers	Non-halal products	poultry-related production	
35		424450	Confectionery Merchant Wholesalers	Non-halal products	food-related	
36		424470	Meat and Meat Product Merchant Wholesalers	Non-halal products	food-related	
37		424490	Other Grocery and Related Products Merchant	Non-halal products	food-related	
38		424520	Livestock Merchant Wholesalers	Non-halal products	meat-related production	
39		424590	Other Farm Product Raw Material Merchant Wholesalers	Non-halal products	meat-related production	
40	4248**		Beer, Wine, and Distilled Alcoholic Beverage Merchant	Non-halal products	alcohol	✓
41		424940	Tobacco and Tobacco Product Merchant Wholesalers	Non-halal products	tobacco	✓

No.	NAICS Code		2012 NAICS US Title	Screening categories	Details	Unethical
	Main/ 4 Digits	6 Digits				
42	44-45		Retail Trade			
43	4451**		Grocery Stores	Non-halal products	food-related	
44		445210	Meat Markets	Non-halal products	food-related	
45		445291	Baked Goods Stores	Non-halal products	food-related	
46		445292	Confectionery and Nut Stores	Non-halal products	food-related	
47		445299	All Other Specialty Food Stores	Non-halal products	food-related	
48	4453**		Beer, Wine, and Liquor Stores	Non-halal products	alcohol	✓
49		453991	Tobacco Stores	Non-halal products	tobacco	✓
50	51		Information			
51		511120	Periodical Publishers	Immoral	media	
52	5121**		Motion Picture and Video Industries	Immoral	film	
53	5122**		Sound Recording Industries	Immoral	music	
54	5151**		Radio and Television Broadcasting	Immoral	broadcasting	
55		519130	Internet Publishing and Broadcasting and Web Search	Immoral	broadcasting	
56	52****		Finance and Insurance	Riba and Gharar	conventional financial services	
57	53****		Real Estate and Rental and Leasing	Riba and Gharar	real estate	
58	5311**		Lessors of Real Estate	Riba and Gharar	real estate	
59	5312**		Offices of Real Estate Agents and Brokers	Riba and Gharar	real estate	
60	5313**		Activities Related to Real Estate	Riba and Gharar	real estate	
61	5321**		Automotive Equipment Rental and Leasing	Riba and Gharar	leasing companies	
62	5322**		Consumer Goods Rental	Riba and Gharar	leasing companies	
63	5323**		General Rental Centers	Riba and Gharar	leasing companies	
64	5324**		Commercial and Industrial Machinery and Equipment Rental and Leasing	Riba and Gharar	leasing companies	
65	5331**		Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	Riba and Gharar	leasing companies	
66	54		Professional, Scientific, and Technical Services			
67	5418**		Advertising, Public Relations, and Related Services	Immoral	media and advertising	
68		541922	Commercial Photography	Immoral	media and advertising-related	
69	55		Management of Companies and Enterprices			
70		551111	Offices of Bank Holding Companies	Riba and Gharar	conventional financial services-related	
71	71		Arts, Entertainment, and Recreation			
72	7111**		Performing Arts Companies	Immoral	entertainment	
73	7113**		Promoters of Performing Arts, Sports, and Similar Events	Immoral	entertainment	
74	7114**		Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	Immoral	entertainment	
75	7115**		Independent Artists, Writers, and Performers	Immoral	entertainment	
76	7131**		Amusement Parks and Arcades	Immoral	amusement and recreation	
77	7132**		Gambling Industries	Gambling	gambling/casino	✓
78	7139**		Other Amusement and Recreation Industries	Immoral	amusement and recreation	
79	72		Accommodation and Food Services			
80	7211**		Traveler Accommodation	Immoral	hotels and motels	
81	7223**		Special Food Services	Non-halal products	restaurand and bar	
82	7224**		Drinking Places (Alcoholic Beverages)	Non-halal products	restaurand and bar	✓
83	7225**		Restaurants and Other Eating Places	Non-halal products	restaurand and bar	

Appendix B. 4: Comparison of Shariah financial screening

Users	**Debt Screen**		**Liquidity Screen**					**Interest Screen**		**Non-permissible income screen**
	Debt	Interest bearing debt	Receivables	Payable	Receivables + Cash	Receivables + Cash + Other deposits	Liquid assets	Cash + Interest bearing securities	Interest income	Non-permissible income
SC	<33%/TA				<33%/TA				<5%/TR	<5%/TR
DJIM	<33%/AMC		<33%/AMC					<33%/AMC		
FTSE	<33%/TA				<50%/TA			<33%/TA	<5%/TR	<5%/TR
MSCI	<33.33%/TA		<33.33%/TA					<33.33%/TA		<5%/TR
S&P	<33%/MVE		<49%/MVE					<33%/MVE		<5%/TR
Shariah Capital	<33%/AMC & TA		<45%/ AMC & TA					<33%/AMV		
Al-Meezan		<40%/TA					<80%/TA			<5%/TR
AAOIFI		<30%/AMC				<70%/AMC		<30%/AMC		
Azzad	<33%/AMC		<45%/TA						<5%/TR	
HSBC Amanah	<33%/MC		<33%/MC					<33%/MC		
JII		<82%/TE							<10%/TR	<10%/TR
GCC Islamic	<30%/MC			<30%/MC					<5%/TR	
Parsoli IEI	≤33/AMC		≤45%/AMC					≤33%/AMC		
HKII	<33% /MC		<49%/MV							<5%/TR
DMI 150	<100%/CE	<30%/CE	<50%/TA				<75%/TA			
HS China Islamic	≤33/AMC		≤33%/AMC					<33%/AMC		
BSE TASIS Shariah 50		<25%/TA							<3%/TR	
AMIRI	<33%/TA				<70%/TA					<5%/TR
Amanie	<33%/TA (MV)		<70%/TA (MV		<70%/TA (MV)			<33%/TA (MV)		<5%/TR
Guardian Inv.		<30%/TA				<70%/TA		<30%/TA	<5%/TR	<5%/TY
Rating Intelligence		<33%/MVE	<49%/MVE					<33%/MVE		<5%/TR
Saturna Capital	<33%/MC		<45%/TA							<5%/TR
Thomson Reuters Ideal Rating		<30%/AMC				<67%/TA		<30%/AMC		
Russell-Jadwa		<33%/AMC				<70%/AMC		<33%/AMC	<5%/TR	
BM Shariah	<33%/TA				<33%/TA				<5%/TR	<5%/TR
BM Hijrah	<33%/TA				<50%/TA			<33%/TA	<5%/TR	<5%/TR
EDBIZ Nasdaq	<30%/MC							<30%/MC		

Users	**Debt Screen**		**Liquidity Screen**					**Interest Screen**		**Non-permissible income screen**
	Debt	Interest bearing debt	Receivables	Payable	Receivables + Cash	Receivables + Cash + Other deposits	Liquid assets	Cash + Interest bearing securities	Interest income	Non-permissible income
HS50 Shariah	<33%/MVE		<33%/MVE					<33%/MVE		
SWIP Islamic	<30%/MV					<30%/TA	<49%/TA		<5%/TR	
Ideal Rating		<30%/AMC					<67%/AMC	<30%/AMC		<5%/TR
Yassar limited	<33%/TA				<50%/TA			<33%/TA	<5%/TR	<5%/TR
Majority benchmark	**<33%/TA**				**<50%/TA**			**<33%/TA**		**<5%/TR**
Stringent benchmark	**<33%/TA**				**<33%/TA**			**<30%/TA**		**<5%/TR**

TA: total assets; AMC: average market capitalisation; TR: total revenue

Appendix B. 5: Country distribution of observations

		Panel A - Accounting Volatility			Panel B - Market Volatility		
No	**Country**	**Firms**	**Obs.**	**Percent**	**Firms**	**Obs.**	**Percent**
1	Australia	250	1,388	9.97	244	2,247	11.51
2	Austria	10	60	0.43	9	90	0.46
3	Belgium	16	93	0.67	16	153	0.78
4	Brazil	54	314	2.26	54	462	2.37
5	Canada	203	970	6.97	152	1,351	6.92
6	Chile	16	96	0.69	16	144	0.74
7	China	42	239	1.72	41	341	1.75
8	Colombia	5	30	0.22	5	43	0.22
9	Egypt	5	28	0.2	5	47	0.24
10	France	75	448	3.22	75	725	3.71
11	Germany	68	398	2.86	66	626	3.21
12	Greece	10	60	0.43	9	81	0.42
13	Hong Kong	114	655	4.71	37	351	1.8
14	Hungary	3	15	0.11	3	19	0.1
15	India	64	378	2.72	64	624	3.2
16	Indonesia	26	153	1.1	26	219	1.12
17	Ireland	10	59	0.42	10	90	0.46
18	Israel	9	54	0.39	9	80	0.41
19	Italy	25	145	1.04	24	185	0.95
20	Japan	338	1,969	14.15	331	2,912	14.92
21	Korea (Republic of)	82	471	3.38	79	750	3.84
22	Luxembourg	3	18	0.13	3	27	0.14
23	Malaysia	31	169	1.21	29	255	1.31
24	Mexico	27	145	1.04	26	209	1.07
25	Netherlands	23	138	0.99	23	197	1.01
26	New Zealand	17	63	0.45	18	106	0.54
27	Norway	18	104	0.75	15	127	0.65
28	Philippines	12	72	0.52	12	108	0.55
29	Poland	18	103	0.74	17	149	0.76
30	Portugal	7	41	0.29	7	63	0.32
31	Qatar	2	4	0.03	2	10	0.05
32	Russian Federation	28	111	0.8	28	190	0.97
33	Saudi Arabia	3	12	0.09	3	24	0.12
34	Singapore	25	147	1.06	22	207	1.06
35	South Africa	82	478	3.43	73	704	3.61
36	Spain	30	168	1.21	30	247	1.27
37	Switzerland	47	277	1.99	45	443	2.27
38	Thailand	21	123	0.88	21	196	1
39	Turkey	17	100	0.72	17	148	0.76
40	United Arab Emirates	4	11	0.08	2	12	0.06
41	United Kingdom	208	412	2.96	197	389	1.99
42	United States	674	3,199	22.98	474	4,167	21.35
	Total	2,722	13,918	100	2,339	19,518	100

Appendix B. 6: Regression Results for the Alternative Measures of Accounting Volatility

Panel A: Accounting Uncertainty	(1) sd_ROE	(2) sd_ROE	(3) sd_ROE	(4) sd_ROE	(5) sd_ROE	(6) sd_ROE
Majority Screening						
Stage 1: Religious	-8.227***					
	(1.289)					
Stage 2: Religious + EQ		-10.55***				
		(1.954)				
Stage 3: Religious + EQ + ESG			-6.049**			
			(2.691)			
Stringent Screening						
Stage 1: Religious				-7.965***		
				(1.247)		
Stage 2: Religious + EQ					-11.56***	
					(2.001)	
Stage 3: Religious + EQ + ESG						-10.13***
						(2.896)
Profitability	-3.489	-3.957*	-3.504	-3.816*	-4.218*	-3.588*
	(2.138)	(2.151)	(2.145)	(2.150)	(2.163)	(2.151)
Size	-1.735***	-1.885***	-1.913***	-1.674***	-1.836***	-1.818***
	(0.271)	(0.267)	(0.288)	(0.274)	(0.267)	(0.283)
Leverage	21.49***	25.33***	29.72***	24.08***	26.46***	29.36***
	(3.956)	(3.701)	(3.558)	(3.666)	(3.524)	(3.480)
Sales Growth	-0.0527	-0.0536	-0.0455	-0.0488	-0.0519	-0.0450
	(0.0386)	(0.0373)	(0.0374)	(0.0387)	(0.0373)	(0.0374)
Age	-1.341***	-1.568***	-1.452***	-1.452***	-1.618***	-1.454***
	(0.432)	(0.439)	(0.433)	(0.436)	(0.440)	(0.434)
Big 4	-0.471	-0.251	-0.393	-0.445	-0.350	-0.364

	(0.796)	(0.799)	(0.794)	(0.797)	(0.799)	(0.794)
GDP Growth	-61.17	-58.80	-58.79	-62.12	-57.47	-58.51
	(44.62)	(44.32)	(44.12)	(44.61)	(44.29)	(44.24)
Market Size	-0.0130***	-0.0130***	-0.0125***	-0.0131***	-0.0130***	-0.0127***
	(0.0016)	(0.0016)	(0.0017)	(0.0016)	(0.0016)	(0.0017)
Inflation	0.441**	0.488**	0.437**	0.548***	0.536***	0.475**
	(0.197)	(0.199)	(0.199)	(0.201)	(0.201)	(0.199)
Regulatory Quality	0.186***	0.190***	0.189***	0.195***	0.194***	0.195***
	(0.0311)	(0.0313)	(0.0322)	(0.0313)	(0.0314)	(0.0321)
Intercept	18.91***	17.30***	14.61***	16.14***	15.89***	12.85***
	(4.548)	(4.546)	(5.027)	(4.584)	(4.580)	(4.951)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	13741	13741	13741	13741	13741	13741
First Stage Regressions:						
Ethical firms: industry-country average	0.8721***	0.9489***	0.9964***	0.9142***	0.9865***	1.0362***
	(0.0090)	(0.0196)	(0.0326)	(0.0093)	(0.0216)	(0.0370)
Partial R2 of excluded instruments	0.2966	0.2231	0.1318	0.2929	0.1735	0.1378
F-test of excluded instruments	9331.21	0.1547	931.724	9755.12	2086.39	783.63
Wooldridge's (1995) score test (p-values)	0.0000	0.0000	0.1890	0.0000	0.0000	0.0028

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROE* is the standard deviation of ROE minus average industry ROE. ROE is the ratio of shareholders' equities divided by total assets. Average industry ROE is the average ROE for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The standard deviation is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 7: Regression Results for the Alternative Measures of Market Volatility

Panel B: Market Volatility	(1) Total_volt	(2) Total_volt	(3) Total_volt	(4) Total_volt	(5) Total_volt	(6) Total_volt
Majority Screening						
Stage 1: Religious	-0.0232					
	(0.0201)					
Stage 2: Religious + EQ		-0.120***				
		(0.0330)				
Stage 3: Religious + EQ + ESG			-0.121**			
			(0.0481)			
Stringent Screening						
Stage 1: Religious				-0.0199		
				(0.0197)		
Stage 2: Religious + EQ					-0.122***	
					(0.0349)	
Stage 3: Religious + EQ + ESG						-0.147***
						(0.0547)
Profitability	-0.101***	-0.104***	-0.102***	-0.102***	-0.104***	-0.103***
	(0.0235)	(0.0236)	(0.0235)	(0.0236)	(0.0238)	(0.0236)
Size	-0.0803***	-0.0789***	-0.0776***	-0.0802***	-0.0785***	-0.0772***
	(0.0037)	(0.0037)	(0.0039)	(0.0037)	(0.0037)	(0.0039)
Leverage	0.276***	0.244***	0.276***	0.284***	0.259***	0.279***
	(0.0396)	(0.0358)	(0.0340)	(0.0364)	(0.0342)	(0.0333)
Sales Growth	0.0016**	0.0015**	0.0016**	0.0016**	0.0015**	0.0016**
	(0.0006)	(0.0007)	(0.0006)	(0.0006)	(0.0007)	(0.0006)
Age	-0.0403***	-0.0402***	-0.0393***	-0.0406***	-0.0407***	-0.0397***
	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)
Big 4	-0.0361***	-0.0333***	-0.0334***	-0.0362***	-0.0350***	-0.0343***
	(0.0103)	(0.0103)	(0.0103)	(0.0103)	(0.0103)	(0.0103)

GDP Growth	-0.100	-0.119	-0.104	-0.101	-0.109	-0.102
	(0.118)	(0.122)	(0.121)	(0.118)	(0.120)	(0.120)
Market Size	-0.00007*	-0.00007*	-0.00008*	-0.00007*	-0.00007*	-0.00008*
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Inflation	0.0184***	0.0191***	0.0193***	0.0186***	0.0196***	0.0195***
	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)
Regulatory Quality	0.0005	0.0006	0.0007*	0.0006	0.0007	0.0008*
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	1.963***	1.954***	1.894***	1.955***	1.936***	1.888***
	(0.0827)	(0.0836)	(0.0872)	(0.0828)	(0.0841)	(0.0877)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19890	19890	19890	19890	19890	19890
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8760***	0.8981***	0.9102***	0.9204***	0.9230***	0.9252***
	(0.0079)	(0.0170)	(0.0272)	(0.0077)	(0.0188)	(0.0305)
Partial R^2 of excluded instruments	0.3015	0.1378	0.1135	0.2992	0.1527	0.115
F-test of excluded instruments	3994.32	2686.49	1111.37	5307.48	2396.79	982.55
Wooldridge's (1995) score test (p-values)	0.5721	0.0006	0.0183	0.5473	0.0008	0.011

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Total_volt* is the standard deviation of the firm's weekly stock return. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 8: Regression Results for the Impact of High Religious Countries (Accounting Volatility)

Panel A: Accounting Volatility	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0223*** (0.0062)					
Stage 2: Religious + EQ		-0.0330*** (0.0093)				
Stage 3: Religious + EQ + ESG			-0.0343*** (0.0117)			
Stringent Screening						
Stage 1: Religious				-0.0140** (0.0056)		
Stage 2: Religious + EQ					-0.0252*** (0.0093)	
Stage 3: Religious + EQ + ESG						-0.0305** (0.0125)
High Religious	-0.0057 (0.0116)	-0.0055 (0.0117)	-0.0068 (0.0116)	-0.0054 (0.0116)	-0.0054 (0.0118)	-0.0063 (0.0117)
Profitability	-0.0377* (0.0211)	-0.0392* (0.0214)	-0.0384* (0.0213)	-0.0384* (0.0213)	-0.0394* (0.0215)	-0.0386* (0.0213)
Size	-0.0160*** (0.0017)	-0.0163*** (0.0017)	-0.0158*** (0.0018)	-0.0162*** (0.0017)	-0.0164*** (0.0017)	-0.0160*** (0.0018)
Leverage	-0.0242* (0.0142)	-0.0172 (0.0135)	-0.00829 (0.0114)	-0.0119 (0.0127)	-0.0101 (0.0124)	-0.0058 (0.0112)
Sales Growth	-0.00002 (0.0003)	-0.00002 (0.0002)	0.000002 (0.0003)	-0.000006 (0.0003)	-0.00001 (0.0003)	0.000002 (0.0003)
Age	-0.0020 (0.0016)	-0.0016 (0.0016)	-0.0011 (0.0016)	-0.0013 (0.0016)	-0.0016 (0.0016)	-0.0013 (0.0016)
Big 4	-0.0060 (0.0044)	-0.0054 (0.0044)	-0.0051 (0.0044)	-0.0061 (0.0044)	-0.0059 (0.0044)	-0.0057 (0.0044)
GDP Growth	-0.251** (0.122)	-0.283** (0.122)	-0.262** (0.123)	-0.242** (0.119)	-0.261** (0.120)	-0.253** (0.122)

Market Size	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Inflation	0.0037***	0.0039***	0.0039***	0.0038***	0.0039***	0.0039***
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Regulatory Quality	0.0009***	0.0009***	0.0009***	0.0009***	0.0009***	0.0009***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Intercept	0.245***	0.240***	0.221***	0.239***	0.238***	0.226***
	(0.0281)	(0.0274)	(0.0288)	(0.0275)	(0.0273)	(0.0288)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	13918	13918	13918	13918	13918	13918
First Stage Regressions 1:						
Ethically-compliant firms: industry-country average	0.8779***	0.9492***	0.0079***	0.9147***	0.9858***	1.0416***
	(0.0092)	(0.0195)	(0.0323)	(0.0093)	(0.0215)	(0.0365)
Partial R^2 of excluded instruments	0.2977	0.1495	0.1279	0.2861	0.164	0.1316
First Stage Regressions 2:						
Ethically-compliant firms: industry-country average* High Religiosity IV	0.4736***	0.4707***	0.4720***	0.4722***	0.4688***	0.4706***
	(0.0079)	(0.0079)	(0.0079)	(0.0079)	(0.0079)	(0.0079)
Partial R^2 of excluded instruments	0.1999	0.1977	0.2006	0.1975	0.1955	0.1985
Wooldridge's (1995) score test (p-values)	0.0015	0.004	0.015	0.005	0.0295	0.0383

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of total firm assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *High religiosity* is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise. The religiosity score is the percentage of respondents in the country who indicate that religion is important or rather important to themselves which is gathered from the World Value Survey. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. The instrumental variable for high religiosity is *Religious Democracy* define as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. This variable is measured by a dummy variable equal to 1 if the Religious Democracy score in the country where the firm is located is above the median score in the sample and 0 otherwise. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 9: Regression Results for the Impact of High Religious Countries (Market Volatility)

Panel B: Market Volatility	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Religious	-0.0295*					
	(0.0174)					
Stage 2: Religious + EQ		-0.106***				
		(0.0295)				
Stage 3: Religious + EQ + ESG			-0.115***			
			(0.0415)			
Stringent Screening						
Stage 1: Religious				-0.0230		
				(0.0175)		
Stage 2: Religious + EQ					-0.102***	
					(0.0318)	
Stage 3: Religious + EQ + ESG						-0.121**
						(0.0481)
High Religious	-0.0478***	-0.0441***	-0.0492***	-0.0474***	-0.0438***	-0.0484***
	(0.0148)	(0.0150)	(0.0148)	(0.0150)	(0.0152)	(0.0149)
Profitability	-0.114***	-0.115***	-0.114***	-0.114***	-0.115***	-0.114***
	(0.0236)	(0.0236)	(0.0235)	(0.0237)	(0.0238)	(0.0236)
Size	-0.0824***	-0.0817***	-0.0800***	-0.0825***	-0.0814***	-0.0803***
	(0.0033)	(0.0033)	(0.0036)	(0.0034)	(0.0034)	(0.0036)
Leverage	0.241***	0.223***	0.249***	0.254***	0.237***	0.255***
	(0.0353)	(0.0327)	(0.0307)	(0.0329)	(0.0313)	(0.0302)
Sales Growth	0.0012*	0.0011	0.0012*	0.0012*	0.0012*	0.0012*
	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Age	-0.0407***	-0.0409***	-0.0400***	-0.0412***	-0.0413***	-0.0405***
	(0.0047)	(0.0047)	(0.0046)	(0.0046)	(0.0046)	(0.0046)
Big 4	-0.0353***	-0.0331***	-0.0325***	-0.0354***	-0.0347***	-0.0337***
	(0.0091)	(0.0091)	(0.0092)	(0.0092)	(0.0092)	(0.0092)
GDP Growth	-0.119	-0.135	-0.122	-0.119	-0.125	-0.120
	(0.0901)	(0.0927)	(0.0921)	(0.0899)	(0.0910)	(0.0916)

Market Size	-0.000009	-0.00001	-0.00002	-0.000008	-0.00001	-0.00001
	(0.00003)	(0.00004)	(0.00003)	(0.00003)	(0.00004)	(0.00003)
Inflation	0.0076***	0.0080***	0.0085***	0.0078***	0.0084***	0.0085***
	(0.0021)	(0.0021)	(0.0021)	(0.0021)	(0.0021)	(0.0021)
Regulatory Quality	-0.0002	-0.0002	-0.00008	-0.0002	-0.0001	-0.00008
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	2.010***	2.000***	1.944***	2.001***	1.986***	1.947***
	(0.0746)	(0.0762)	(0.0799)	(0.0748)	(0.0766)	(0.0805)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19518	19518	19518	19518	19518	19518
First Stage Regressions 1:						
Ethically-compliant firms: industry-country average	0.8763***	0.8897***	0.9182***	0.9212***	0.9156***	0.9364***
	(0.0080)	(0.0173)	(0.0276)	(0.0078)	(0.0191)	(0.0310)
Partial R^2 of excluded instruments	0.299	0.1275	0.1086	0.2912	0.1392	0.1093
First Stage Regressions 2:						
Ethically-compliant firms: industry-country average* High Religiosity IV	0.5254***	0.5218***	0.5243***	0.5233***	0.5199***	0.5226***
	(0.0061)	(0.0061)	(0.0061)	(0.0061)	(0.0062)	(0.0061)
Partial R^2 of excluded instruments	0.242	0.2351	0.2416	0.2376	0.2328	0.2397
Wooldridge's (1995) score test (p-values)	0.0377	0.0005	0.0095	0.0517	0.0014	0.0139

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *High religiosity* is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise. The religiosity score is the percentage of respondents in the country who indicate that religion is important or rather important to themselves which is gathered from the World Value Survey. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. The instrumental variable for high religiosity is *Religious Democracy* define as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 10: Regression Results for the Impact of Types of Controlling Shareholders (Accounting Volatility)

Panel A: Accounting Volatility	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0246*** (0.00847)					
Stage 2: Religious + EQ		-0.0496*** (0.0132)				
Stage 3: Religious + EQ + ESG			-0.0454*** (0.0144)			
Stringent Screening						
Stage 1: Religious				-0.0155** (0.0075)		
Stage 2: Religious + EQ					-0.0377*** (0.0131)	
Stage 3: Religious + EQ + ESG						-0.0411*** (0.0152)
Family ownership	0.0012 (0.0013)	0.0009 (0.0014)	0.0008 (0.0013)	0.0011 (0.0014)	0.0009 (0.0014)	0.0009 (0.0013)
Institutional ownership	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0002* (0.0001)	-0.0002 (0.0001)
Foreign ownership	-0.00009* (0.00005)	-0.00008 (0.00005)	-0.00007 (0.00005)	-0.00008* (0.00005)	-0.00007 (0.00005)	-0.00007 (0.00005)
Managerial ownership	-0.0375*** (0.0128)	-0.0362** (0.0142)	-0.0320** (0.0139)	-0.0376*** (0.0127)	-0.0355*** (0.0138)	-0.0314** (0.0138)
Profitability	-0.0481** (0.0214)	-0.0504** (0.0218)	-0.0490** (0.0217)	-0.0490** (0.0216)	-0.0507** (0.0219)	-0.0493** (0.0217)
Size	-0.0176*** (0.0022)	-0.0175*** (0.0022)	-0.0170*** (0.0025)	-0.0179*** (0.0022)	-0.0177*** (0.0023)	-0.0174*** (0.0023)
Leverage	-0.0292* (0.0174)	-0.0279* (0.0155)	-0.0139 (0.0122)	-0.0165 (0.0150)	-0.0179 (0.0141)	-0.0111 (0.0120)
Sales Growth	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)
Age	-0.0027 (0.0020)	-0.0031 (0.0020)	-0.0027 (0.0020)	-0.0029 (0.0020)	-0.0032 (0.0020)	-0.0027 (0.0020)

Big 4	-0.0056 (0.0056)	-0.0052 (0.0056)	-0.0054 (0.0056)	-0.0058 (0.0056)	-0.0057 (0.0056)	-0.0056 (0.0056)
GDP Growth	-0.137 (0.156)	-0.194 (0.163)	-0.183 (0.163)	-0.131 (0.152)	-0.162 (0.158)	-0.164 (0.160)
Market Size	-0.00004*** (0.000008)	-0.00004*** (0.000008)	-0.00004*** (0.000008)	-0.00004*** (0.000008)	-0.00004*** (0.000008)	-0.00004*** (0.000008)
Inflation	0.0028*** (0.0008)	0.0026*** (0.0008)	0.0028*** (0.0008)	0.0028*** (0.0008)	0.0028*** (0.0008)	0.0027*** (0.0008)
Regulatory Quality	0.0010*** (0.0002)	0.0010*** (0.0002)	0.0010*** (0.0002)	0.0010*** (0.0002)	0.0010*** (0.0002)	0.0010*** (0.0002)
Intercept	0.278*** (0.0375)	0.272*** (0.0365)	0.247*** (0.0394)	0.273*** (0.0367)	0.269*** (0.0362)	0.255*** (0.0386)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	7197	7197	7197	7197	7197	7197
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8771*** (0.0123)	0.9179*** (0.0262)	0.9641*** (0.0423)	0.9044*** (0.0121)	0.9372*** (0.0283)	1.0151*** (0.0469)
Partial R^2 of excluded instruments	0.3227	0.1616	0.1467	0.3225	0.1782	0.1528
F-test of excluded instruments	2330.3	1132.49	520.92	3164.35	1025.15	512.834
Wooldridge's (1995) score test (p-values)	0.0046	0.0001	0.0015	0.0075	0.0014	0.0044

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 11: Regression Results for the Impact of Types of Controlling Shareholders (Market Volatility)

Panel B: Market Volatility	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Religious	-0.0296					
	(0.0223)					
Stage 2: Religious + EQ		-0.142***				
		(0.0359)				
Stage 3: Religious + EQ + ESG			-0.192***			
			(0.0521)			
Stringent Screening						
Stage 1: Religious				-0.0329		
				(0.0215)		
Stage 2: Religious + EQ					-0.149***	
					(0.0377)	
Stage 3: Religious + EQ + ESG						-0.207***
						(0.0604)
Profitability	-0.0922***	-0.0933***	-0.0929***	-0.0927***	-0.0944***	-0.0934***
	(0.0235)	(0.0235)	(0.0233)	(0.0236)	(0.0238)	(0.0234)
Family ownership	0.0061	0.0057	0.0049	0.0059	0.0057	0.0051
	(0.0039)	(0.0039)	(0.0037)	(0.0038)	(0.0039)	(0.003)
Institutional ownership	-0.0007**	-0.0007**	-0.0007**	-0.0008**	-0.0008**	-0.0007**
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Foreign ownership	0.00007	0.00008	0.00007	0.00008	0.0001	0.00007
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Managerial ownership	-0.0750**	-0.0694*	-0.0573	-0.0762**	-0.0721*	-0.0590
	(0.0360)	(0.0391)	(0.0403)	(0.0362)	(0.0403)	(0.0413)
Size	-0.0861***	-0.0841***	-0.0816***	-0.0858***	-0.0837***	-0.0820***
	(0.0040)	(0.0040)	(0.0043)	(0.0040)	(0.0040)	(0.0043)
Leverage	0.243***	0.206***	0.236***	0.247***	0.220***	0.243***
	(0.0462)	(0.0419)	(0.0395)	(0.0429)	(0.0403)	(0.0391)
Sales Growth	0.0008	0.0007	0.0008	0.0008	0.0007	0.0008
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Age	-0.0457***	-0.0455***	-0.0440***	-0.0458***	-0.0456***	-0.0443***

	(0.0059)	(0.0059)	(0.0059)	(0.0059)	(0.0059)	(0.0059)
Big 4	-0.0482***	-0.0461***	-0.0457***	-0.0487***	-0.0482***	-0.0468***
	(0.0115)	(0.0116)	(0.0116)	(0.0115)	(0.0116)	(0.0116)
GDP Growth	-0.105	-0.125	-0.117	-0.107	-0.113	-0.114
	(0.0891)	(0.0940)	(0.0956)	(0.0892)	(0.0913)	(0.0943)
Market Size	-0.000003	-0.000009	-0.00002	-0.000004	-0.000009	-0.00001
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Inflation	0.0075***	0.0075***	0.0080***	0.0077***	0.0080***	0.0080***
	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)
Regulatory Quality	0.0004	0.0005	0.0008	0.0004	0.0006	0.0006
	(0.0004)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0005)
Intercept	2.011***	2.000***	1.915***	2.002***	1.983***	1.922***
	(0.0849)	(0.0865)	(0.0915)	(0.0847)	(0.0865)	(0.0920)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	11833	11833	11833	11833	11833	11833
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8728***	0.8675***	0.8720***	0.9207***	0.8879***	0.8919***
	(0.0096)	(0.0215)	(0.0335)	(0.0093)	(0.0234)	(0.0374)
Partial R^2 of excluded instruments	0.3122	0.1367	0.1189	0.3243	0.1506	0.118
F-test of excluded instruments	2806.2	1720.12	715.602	4434.14	1689.33	711.986
Wooldridge's (1995) score test (p-values)	0.4114	0.0001	0.0002	0.1954	0.0001	0.0005

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of total firm assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 12: Regression Results for the Impact of Shareholders' Investment Characteristic (Accounting Volatility)

Panel A: Accounting Volatility	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0251*** (0.00844)					
Stage 2: Religious + EQ		-0.0498*** (0.0132)				
Stage 3: Religious + EQ + ESG			-0.0471*** (0.0142)			
Stringent Screening						
Stage 1: Religious				-0.0156** (0.0075)		
Stage 2: Religious + EQ					-0.0376*** (0.0131)	
Stage 3: Religious + EQ + ESG						-0.0425*** (0.0150)
Shareholder diversification	0.0009 (0.0009)	0.0009 (0.0009)	0.0010 (0.0009)	0.0008 (0.0009)	0.0008 (0.0009)	0.0010 (0.0009)
Profitability	-0.0484** (0.0214)	-0.0507** (0.0218)	-0.0495** (0.0217)	-0.0493** (0.0216)	-0.0510** (0.0219)	-0.0497** (0.0217)
Size	-0.0177*** (0.0022)	-0.0176*** (0.0022)	-0.0171*** (0.0025)	-0.0180*** (0.0022)	-0.0178*** (0.0022)	-0.0175*** (0.0024)
Leverage	-0.0288* (0.0175)	-0.0272* (0.0156)	-0.0134 (0.0122)	-0.0159 (0.0151)	-0.0172 (0.0142)	-0.0105 (0.0120)
Sales Growth	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)	0.0003 (0.0004)
Age	-0.0028 (0.0020)	-0.0032 (0.0020)	-0.0028 (0.0020)	-0.0031 (0.0020)	-0.0034* (0.0020)	-0.0030 (0.0020)
Big 4	-0.0051 (0.0055)	-0.0048 (0.0056)	-0.0050 (0.0056)	-0.0053 (0.0055)	-0.0053 (0.0056)	-0.0051 (0.0056)

GDP Growth	-0.137	-0.193	-0.183	-0.130	-0.161	-0.164
	(0.154)	(0.161)	(0.162)	(0.151)	(0.156)	(0.159)
Market Size	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***
	(0.000009)	(0.000009)	(0.000009)	(0.000009)	(0.000009)	(0.000009)
Inflation	0.0026***	0.0025***	0.0026***	0.0027***	0.0026***	0.0026***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Regulatory Quality	0.0009***	0.0010***	0.0010***	0.0009***	0.0010***	0.0010***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Intercept	0.279***	0.273***	0.247***	0.273***	0.270***	0.255***
	(0.0375)	(0.0365)	(0.0394)	(0.0367)	(0.0363)	(0.0387)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	7197	7197	7197	7197	7197	7197
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8777***	0.9180***	0.9640***	0.9048***	0.9377***	1.0159***
	(0.0123)	(0.0262)	(0.0423)	(0.0122)	(0.0283)	(0.0470)
Partial R^2 of excluded instruments	0.3226	0.1617	0.1466	0.3228	0.1784	0.1529
F-test of excluded instruments	2326.14	1129.76	520.378	3158.87	1027.6	514.148
Wooldridge's (1995) score test (p-values)	0.0038	0.0001	0.0009	0.0066	0.0014	0.0033

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 13: Regression Results for the Impact of Shareholders' Investment Characteristic (Market Volatility)

Panel B: Market Volatility	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Religious	-0.0304					
	(0.0223)					
Stage 2: Religious + EQ		-0.143***				
		(0.0359)				
Stage 3: Religious + EQ + ESG			-0.195***			
			(0.0522)			
Stringent Screening						
Stage 1: Religious				-0.0332		
				(0.0215)		
Stage 2: Religious + EQ					-0.149***	
					(0.0377)	
Stage 3: Religious + EQ + ESG						-0.210***
						(0.0605)
Shareholder diversification	0.0002	0.0004	0.0010	0.0002	0.0004	0.0009
	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)
Profitability	-0.0924***	-0.0937***	-0.0935***	-0.0930***	-0.0948***	-0.0940***
	(0.0236)	(0.0237)	(0.0234)	(0.0237)	(0.0239)	(0.0235)
Size	-0.0861***	-0.0841***	-0.0815***	-0.0858***	-0.0838***	-0.0820***
	(0.0040)	(0.0040)	(0.0043)	(0.0040)	(0.0040)	(0.0043)
Leverage	0.244***	0.207***	0.237***	0.248***	0.222***	0.244***
	(0.0462)	(0.0419)	(0.0395)	(0.0429)	(0.0402)	(0.0390)
Sales Growth	0.0008	0.0007	0.0008	0.0008	0.0007	0.0008
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Age	-0.0459***	-0.0458***	-0.0442***	-0.0460***	-0.0458***	-0.0445***
	(0.0059)	(0.0059)	(0.0059)	(0.0059)	(0.0059)	(0.0059)
Big 4	-0.0479***	-0.0457***	-0.0454***	-0.0484***	-0.0479***	-0.0465***

	(0.0115)	(0.0116)	(0.0116)	(0.0115)	(0.0116)	(0.0116)
GDP Growth	-0.105	-0.124	-0.116	-0.107	-0.112	-0.112
	(0.0896)	(0.0945)	(0.0961)	(0.0897)	(0.0917)	(0.0948)
Market Size	-0.000004	-0.000009	-0.00001	-0.000005	-0.000009	-0.00001
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Inflation	0.00728***	0.00729***	0.00785***	0.00751***	0.00778***	0.00779***
	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)
Regulatory Quality	0.0004	0.0005	0.0006	0.0004	0.0005	0.0006
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0004)	(0.0005)
Intercept	2.010***	1.999***	1.912***	2.001***	1.982***	1.919***
	(0.0852)	(0.0867)	(0.0917)	(0.0850)	(0.0869)	(0.0922)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	11833	11833	11833	11833	11833	11833
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8722***	0.8670***	0.8715***	0.9207***	0.8882***	0.8913***
	(0.0097)	(0.0214)	(0.0335)	(0.0093)	(0.0234)	(0.0374)
Partial R^2 of excluded instruments	0.3118	0.1367	0.1187	0.3243	0.1507	0.1179
F-test of excluded instruments	2794.54	1720.7	713.825	4421.47	1693.73	710.602
Wooldridge's (1995) score test (p-values)	0.3881	0.0001	0.0001	0.1871	0.0001	0.0004

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 14: Regression Results for the Impact of Financial Crisis – Crisis Sample 2007-2009 (Accounting Volatility)

Panel A: Accounting Volatility	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0226*** (0.0063)					
Stage 2: Religious + EQ		-0.0330*** (0.0092)				
Stage 3: Religious + EQ + ESG			-0.0267** (0.0125)			
Stringent Screening						
Stage 1: Religious				-0.0147*** (0.0055)		
Stage 2: Religious + EQ					-0.0264*** (0.0089)	
Stage 3: Religious + EQ + ESG						-0.0281** (0.0133)
Profitability	-0.0475*** (0.0180)	-0.0485*** (0.0181)	-0.0481*** (0.0180)	-0.0483*** (0.0180)	-0.0491*** (0.0182)	-0.0483*** (0.0181)
Size	-0.0153*** (0.0015)	-0.0154*** (0.0016)	-0.0153*** (0.0017)	-0.0155*** (0.0016)	-0.0156*** (0.0016)	-0.0154*** (0.0017)
Leverage	-0.0157 (0.0141)	-0.0090 (0.0125)	0.0027 (0.0109)	-0.0037 (0.0121)	-0.0022 (0.0114)	0.0038 (0.0106)
Sales Growth	0.0005 (0.0004)	0.0005 (0.0004)	0.0006 (0.0004)	0.0005 (0.0004)	0.0006 (0.0004)	0.0006 (0.0004)
Age	-0.0029** (0.0015)	-0.0037*** (0.0014)	-0.0032** (0.0014)	-0.0032** (0.0014)	-0.0037*** (0.0014)	-0.0033** (0.0014)
Big 4	-0.000006 (0.0035)	0.0007 (0.0035)	0.0002 (0.0035)	0.0002 (0.0035)	0.0003 (0.0035)	0.0001 (0.0035)

GDP Growth	-0.399***	-0.445***	-0.436***	-0.383***	-0.411***	-0.424***
	(0.122)	(0.116)	(0.125)	(0.119)	(0.115)	(0.124)
Market Size	-0.00003***	-0.00003***	-0.00003***	-0.00003***	-0.00003***	-0.00003***
	(0.000006)	(0.000006)	(0.000006)	(0.000005)	(0.000005)	(0.000005)
Inflation	0.0020***	0.0022***	0.0021***	0.0021***	0.0022***	0.0021***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Regulatory Quality	0.0007***	0.0007***	0.0007***	0.0007***	0.0007***	0.0007***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Intercept	0.256***	0.248***	0.235***	0.252***	0.247***	0.237***
	(0.0262)	(0.0251)	(0.0263)	(0.0258)	(0.0251)	(0.0263)
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	6860	6860	6860	6860	6860	6860
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8238***	0.9064***	0.7821***	0.8672***	0.9647***	0.8287***
	(0.0139)	(0.0282)	(0.0434)	(0.0140)	(0.0309)	(0.0490)
Partial R^2 of excluded instruments	0.2643	0.1402	0.0984	0.2618	0.1646	0.1061
F-test of excluded instruments	2035.98	891.156	252.427	2441.84	843.357	224.452
Wooldridge's (1995) score test (p-values)	0.0006	0.0002	0.0287	0.0025	0.0014	0.0208

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 15: Regression Results for the Impact of Financial Crisis – Post-Crisis Sample 2010-2016 (Accounting Volatility)

Panel A: Accounting Uncertainty	(1) sd_ROA	(2) sd_ROA	(3) sd_ROA	(4) sd_ROA	(5) sd_ROA	(6) sd_ROA
Majority Screening						
Stage 1: Religious	-0.0205***					
	(0.0074)					
Stage 2: Religious + EQ		-0.0335***				
		(0.0126)				
Stage 3: Religious + EQ + ESG			-0.0391***			
			(0.0121)			
Stringent Screening						
Stage 1: Religious				-0.0133*		
				(0.0072)		
Stage 2: Religious + EQ					-0.0260**	
					(0.0123)	
Stage 3: Religious + EQ + ESG						-0.0337***
						(0.0126)
Profitability	-0.0228	-0.0249	-0.0232	-0.0235	-0.0248	-0.0235
	(0.0346)	(0.0351)	(0.0349)	(0.0349)	(0.0352)	(0.0350)
Size	-0.0180***	-0.0183***	-0.0174***	-0.0181***	-0.0183***	-0.0177***
	(0.0024)	(0.0025)	(0.0026)	(0.0025)	(0.0025)	(0.0026)
Leverage	-0.0310	-0.0254	-0.0187	-0.0198	-0.0184	-0.0153
	(0.0193)	(0.0188)	(0.0160)	(0.0172)	(0.0171)	(0.0157)
Sales Growth	-0.0004	-0.0005	-0.0004	-0.0004	-0.0004	-0.0004
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Age	0.0017	0.0013	0.0017	0.0013	0.0011	0.0015
	(0.0023)	(0.0023)	(0.0024)	(0.0023)	(0.0023)	(0.0024)
Big 4	-0.0107	-0.0101	-0.00957	-0.0109	-0.0106	-0.0102

	(0.0073)	(0.0073)	(0.0074)	(0.0073)	(0.0073)	(0.0073)
GDP Growth	-0.205	-0.230	-0.203	-0.198	-0.214	-0.198
	(0.169)	(0.171)	(0.171)	(0.166)	(0.169)	(0.169)
Market Size	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***	-0.00004***
	(0.000009)	(0.000009)	(0.000009)	(0.000009)	(0.000009)	(0.000009)
Inflation	0.0038***	0.0040***	0.0041***	0.0039***	0.0040***	0.0041***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Regulatory Quality	0.0009***	0.0010***	0.0010***	0.0010***	0.0010***	0.0010***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Intercept	0.266***	0.263***	0.240***	0.260***	0.260***	0.246***
	(0.0393)	(0.0390)	(0.0401)	(0.0385)	(0.0388)	(0.0404)
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	7058	7058	7058	7058	7058	7058
First Stage Regressions:						
Ethical firms: industry-country average	0.9358***	0.9912***	1.2185***	0.9646***	1.0060***	1.2461***
	(0.0165)	(0.0296)	(0.0519)	(0.0164)	(0.0326)	(0.0589)
Partial R2 of excluded instruments	0.3387	0.1727	0.1692	0.3269	0.184	0.1715
F-test of excluded instruments	3209.8	1122.26	551.273	3456.66	949.603	447.978
Wooldridge's (1995) score test (p-values)	0.0378	0.0488	0.0027	0.0228	0.11	0.011

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *sd_ROA* is the standard deviation of ROA minus average industry ROA. ROA is the ratio of earnings before interest and tax divided by total assets. Average industry ROA is the average ROA for each year across all firms in the same four-digit NAICS industry and from the country in which the company is registered. The volatility (standard deviation) is measured in five-year overlapping periods. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 16: Regression Results for the Impact of Financial Crisis – Crisis Sample 2007-2009 (Market Volatility)

Panel B: Market Volatility	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Religious	-0.0426*					
	(0.0246)					
Stage 2: Religious + EQ		-0.106***				
		(0.0407)				
Stage 3: Religious + EQ + ESG			-0.160**			
			(0.0656)			
Stringent Screening						
Stage 1: Religious				-0.0427*		
				(0.0244)		
Stage 2: Religious + EQ					-0.105**	
					(0.0430)	
Stage 3: Religious + EQ + ESG						-0.164**
						(0.0717)
Profitability	-0.163***	-0.163***	-0.165***	-0.165***	-0.167***	-0.166***
	(0.0384)	(0.0387)	(0.0389)	(0.0385)	(0.0390)	(0.0390)
Size	-0.0797***	-0.0790***	-0.0757***	-0.0794***	-0.0789***	-0.0765***
	(0.0047)	(0.0048)	(0.0054)	(0.0048)	(0.0048)	(0.0054)
Leverage	0.252***	0.245***	0.263***	0.263***	0.260***	0.271***
	(0.0518)	(0.0477)	(0.0456)	(0.0477)	(0.0455)	(0.0446)
Sales Growth	0.0035*	0.0036*	0.0036*	0.0035*	0.0036*	0.0036*
	(0.0019)	(0.0019)	(0.0018)	(0.0019)	(0.0019)	(0.0018)
Age	-0.0435***	-0.0450***	-0.0437***	-0.0440***	-0.0454***	-0.0445***
	(0.0065)	(0.0065)	(0.0065)	(0.0064)	(0.0065)	(0.0065)
Big 4	-0.0165	-0.0133	-0.0144	-0.0154	-0.0139	-0.0150
	(0.0127)	(0.0128)	(0.0128)	(0.0127)	(0.0128)	(0.0128)

GDP Growth	2.756** (1.400)	2.492* (1.420)	2.454* (1.449)	2.779** (1.399)	2.588* (1.414)	2.545* (1.441)
Market Size	-0.0002** (0.00007)	-0.0002** (0.00007)	-0.0002** (0.00007)	-0.0001** (0.00007)	-0.0001** (0.00007)	-0.0002** (0.00007)
Inflation	0.0269*** (0.0021)	0.0273*** (0.0021)	0.0280*** (0.0021)	0.0272*** (0.0021)	0.0276*** (0.0021)	0.0279*** (0.0021)
Regulatory Quality	0.0012** (0.0005)	0.0012** (0.0005)	0.0016*** (0.0005)	0.0012** (0.0005)	0.0013** (0.0005)	0.0016*** (0.0005)
Intercept	2.017*** (0.102)	2.003*** (0.103)	1.901*** (0.116)	2.008*** (0.102)	1.994*** (0.104)	1.918*** (0.114)
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5853	5853	5853	5853	5853	5853
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8359*** (0.0150)	0.9068*** (0.0317)	0.7969*** (0.0480)	0.8688*** (0.0152)	0.9602*** (0.0351)	0.8532*** (0.0547)
Partial R^2 of excluded instruments	0.2739	0.1371	0.0966	0.2645	0.1613	0.1068
F-test of excluded instruments	1808.26	794.739	224.426	2150.87	728.809	207.65
Wooldridge's (1995) score test (p-values)	0.2913	0.0289	0.0392	0.2407	0.0435	0.0392

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix B. 17: Regression Results for the Impact of Financial Crisis – Post-Crisis Sample 2010-2016 (Market Volatility)

Panel B: Market Uncertainty	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
Stage 1: Religious	-0.0239					
	(0.0180)					
Stage 2: Religious + EQ		-0.132***				
		(0.0302)				
Stage 3: Religious + EQ + ESG			-0.157***			
			(0.0395)			
Stringent Screening						
Stage 1: Religious				-0.0297*		
				(0.0175)		
Stage 2: Religious + EQ					-0.142***	
					(0.0320)	
Stage 3: Religious + EQ + ESG						-0.182***
						(0.0456)
Profitability	-0.0999***	-0.103***	-0.100***	-0.100***	-0.104***	-0.101***
	(0.0236)	(0.0238)	(0.0233)	(0.0237)	(0.0239)	(0.0234)
Size	-0.0833***	-0.0820***	-0.0796***	-0.0827***	-0.0813***	-0.0794***
	(0.0037)	(0.0036)	(0.0038)	(0.0037)	(0.0036)	(0.0037)
Leverage	0.245***	0.211***	0.237***	0.246***	0.224***	0.243***
	(0.0403)	(0.0371)	(0.0350)	(0.0372)	(0.0354)	(0.0343)
Sales Growth	0.0005	0.0003	0.0005	0.0005	0.0003	0.0005
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Age	-0.0359***	-0.0352***	-0.0339***	-0.0362***	-0.0357***	-0.0345***
	(0.0050)	(0.0050)	(0.0050)	(0.0050)	(0.0049)	(0.0049)
Big 4	-0.0407***	-0.0387***	-0.0370***	-0.0412***	-0.0409***	-0.0387***

	(0.0103)	(0.0103)	(0.0104)	(0.0103)	(0.0103)	(0.0103)
GDP Growth	-0.0664	-0.0823	-0.0833	-0.0664	-0.0706	-0.0800
	(0.0866)	(0.0893)	(0.0903)	(0.0862)	(0.0876)	(0.0897)
Market Size	-0.00007**	-0.00007**	-0.00008**	-0.00007**	-0.00007**	-0.00008**
	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)
Inflation	0.0053***	0.0062***	0.0073***	0.0057***	0.0068***	0.0075***
	(0.0020)	(0.0020)	(0.0021)	(0.0020)	(0.0021)	(0.0021)
Regulatory Quality	0.0003	0.0005	0.0006	0.0003	0.0005	0.0006
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	1.926***	1.911***	1.837***	1.915***	1.891***	1.831***
	(0.0779)	(0.0802)	(0.0820)	(0.0782)	(0.0807)	(0.0826)
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	13665	13665	13665	13665	13665	13665
First Stage Regressions:						
Ethical firms: industry-country average	0.8964***	0.8859***	0.9689***	0.9479***	0.9011***	0.9687***
	(0.0152)	(0.0207)	(0.0350)	(0.0145)	(0.0228)	(0.0381)
Partial R2 of excluded instruments	0.3135	0.1351	0.1196	0.317	0.1467	0.1186
F-test of excluded instruments	3455.77	1829.77	767.376	4287.75	1560.29	646.658
Wooldridge's (1995) score test (p-values)	0.5359	0.0001	0.0003	0.1432	0.0000	0.0002

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C: Chapter 6 – The Impact of Shareholder Country Religiosity on Agency Costs

Appendix C. 1: Country distributions of observations

No	Country	Firms	Obs.	Percent	No	Country	Firms	Obs.	Percent
1	Argentina	50	249	0.29	38	Malta*	14	29	0.03
2	Australia*	1,453	9,186	10.66	39	Mauritius	11	26	0.03
3	Austria	33	121	0.14	40	Mexico	65	300	0.35
4	Bahrain	15	60	0.07	41	Montenegro	14	23	0.03
5	Bangladesh	4	9	0.01	42	Morocco	47	218	0.25
6	Barbados	3	3	0.00	43	Namibia	2	5	0.01
7	Belgium*	50	236	0.27	44	Netherlands*	94	529	0.61
8	Bermuda*	350	883	1.02	45	Nigeria	65	241	0.28
9	Brazil	235	1,403	1.63	46	Norway*	144	999	1.16
10	Bulgaria	67	175	0.20	47	Oman	5	15	0.02
11	Canada*	1,231	2,668	3.10	48	Peru	95	561	0.65
12	Chile	118	596	0.69	49	Philippines	138	702	0.81
13	China	2,444	13,975	16.22	50	Poland	419	2,502	2.90
14	Colombia	42	155	0.18	51	Portugal*	28	100	0.12
15	Croatia	15	31	0.04	52	Qatar	12	37	0.04
16	Cyprus	65	242	0.28	53	Republic of Korea	1,515	7,458	8.65
17	Czech Republic	3	5	0.01	54	Russian Federation	763	4,407	5.11
18	Côte d'Ivoire	26	118	0.14	55	Saudi Arabia	17	30	0.03
19	Egypt	148	609	0.71	56	Serbia	518	1,139	1.32
20	France	570	3,629	4.21	57	Singapore	469	1,804	2.09
21	Germany	463	2,982	3.46	58	Slovakia	10	43	0.05
22	Ghana	11	30	0.03	59	Slovenia	25	149	0.17
23	Greece*	50	198	0.23	60	South Africa*	176	868	1.01
24	Hong Kong	106	479	0.56	61	Spain*	127	942	1.09
25	Hungary	23	144	0.17	62	Sri Lanka	54	143	0.17
26	India	2,207	6,087	7.06	63	Switzerland*	146	1,148	1.33
27	Indonesia	306	1,391	1.61	64	Thailand	334	1,128	1.31
28	Ireland*	54	214	0.25	65	Tunisia	40	119	0.14
29	Iran	18	26	0.03	66	Turkey*	222	1,326	1.54
30	Israel*	70	164	0.19	67	Ukraine	169	188	0.22
31	Italy*	85	199	0.23	68	United Arab Emirates	7	23	0.03
32	Jamaica	4	7	0.01	69	United Kingdom*	628	967	1.12
33	Jordan	102	534	0.62	70	United States*	2,459	5,431	6.30
34	Kazakhstan	35	119	0.14	71	Vietnam	488	1,608	1.87
35	Kenya	13	28	0.03	72	Zambia	4	4	0.00
36	Luxembourg*	30	105	0.12					
37	Malaysia	738	3,911	4.54		Total	20,561	86,183	100

* Indicates developed countries based on CIA Factsheet 2017

Appendix C. 2: Regression Results for Shareholder Country Religiosity in Regional Analysis (Full Results for North America, Central America and Europe)

	North America			**Central America**			**Europe**		
	(1) AUR	(2) OPR	(3) TFCF	(1) AUR	(2) OPR	(3) TFCF	(1) AUR	(2) OPR	(3) TFCF
Shareholder country religiosity	0.340***	-12.63***	0.0810**	0.319***	-13.51***	0.108**	0.351***	-16.09***	0.127***
	(0.117)	(3.488)	(0.0322)	(0.123)	(3.562)	(0.0430)	(0.132)	(3.727)	(0.0469)
Shareholder country religiosity * Region	0.483	-1.268	-0.0565	-0.223	8.216***	-0.0852**	-0.250**	13.56***	-0.0959***
	(1.005)	(7.685)	(0.0607)	(0.157)	(3.152)	(0.0404)	(0.0983)	(3.190)	(0.0262)
Region	-0.161	4.528	-0.0301	-0.0955	-5.765**	0.0474*	0.252***	-10.43***	0.0793***
	(0.611)	(6.860)	(0.0516)	(0.110)	(2.317)	(0.0252)	(0.0598)	(2.463)	(0.0199)
Christian	-0.282***	3.703***	-0.0278**	-0.148***	4.352***	-0.0457**	-0.232***	4.778***	-0.0517**
	(0.0375)	(0.936)	(0.0118)	(0.0410)	(1.635)	(0.0188)	(0.0392)	(1.489)	(0.0209)
Muslims	-0.345***	0.380	-0.0287***	-0.333***	0.532	-0.0355***	-0.332***	0.235	-0.0346***
	(0.0449)	(0.629)	(0.0092)	(0.0455)	(0.680)	(0.0120)	(0.0450)	(0.649)	(0.0118)
Unaffiliated	0.127	-20.84***	0.0599	0.0158	-23.00***	0.112*	0.00671	-24.11***	0.120*
	(0.205)	(6.300)	(0.0427)	(0.211)	(6.582)	(0.0634)	(0.220)	(6.902)	(0.0643)
Uncertainty Avoidance	0.0032***	-0.0302***	0.0002	0.0024***	-0.0398***	0.0004*	0.0009*	-0.0019	0.00007
	(0.0005)	(0.0092)	(0.0002)	(0.0005)	(0.0136)	(0.0002)	(0.0005)	(0.0198)	(0.0001)
Operating Quality		-0.0929***			-0.0933***			-0.0927***	
		(0.0107)			(0.0108)			(0.0108)	
Local ownership	-0.0713**	0.604	-0.0075	-0.0526**	0.610	-0.0091	-0.0606***	0.807	-0.0116*
	(0.0337)	(0.820)	(0.0065)	(0.0212)	(0.839)	(0.0068)	(0.0224)	(0.867)	(0.0069)
Profitability	-0.0001	-0.0084	0.0001	-0.00006	-0.0063	0.0001	-0.00009	-0.0062	0.00009
	(0.00007)	(0.0075)	(0.0001)	(0.00007)	(0.0082)	(0.0001)	(0.00006)	(0.0081)	(0.0001)
Size	-0.0239***	-1.116***	0.0128***	-0.0205***	-1.085***	0.0134***	-0.0237***	-1.064***	0.0130***
	(0.0040)	(0.181)	(0.0039)	(0.0041)	(0.192)	(0.0042)	(0.0042)	(0.189)	(0.0040)
Leverage	0.0001	-0.0641	-0.0007	0.0002	-0.0479	-0.0007	0.0002	-0.0304	-0.0007
	(0.0005)	(0.711)	(0.0006)	(0.0005)	(0.703)	(0.0006)	(0.0005)	(0.701)	(0.0006)
Sales Growth	0.0007*	-0.0090***	-0.00002	0.0007*	-0.0088***	-0.00002	0.0007*	-0.0102***	-0.00002
	(0.0004)	(0.0023)	(0.00002)	(0.0004)	(0.0024)	(0.00001)	(0.0004)	(0.0026)	(0.00002)
Age	0.0240**	-1.304***	0.0116**	0.0190*	-1.376***	0.0134**	0.0104	-1.034**	0.0108*
	(0.0102)	(0.479)	(0.0058)	(0.0107)	(0.477)	(0.0059)	(0.0107)	(0.463)	(0.0061)
Big 4	0.509***	-1.660*	0.0003	0.511***	-1.583*	-0.0012	0.513***	-1.537*	-0.0022
	(0.0237)	(0.936)	(0.0019)	(0.0217)	(0.880)	(0.0022)	(0.0220)	(0.873)	(0.0024)
GDP Growth	0.394	2.074	0.0157	0.409	1.753	0.0258	0.388	1.645	0.0258
	(0.582)	(2.975)	(0.0401)	(0.585)	(2.934)	(0.0398)	(0.586)	(3.140)	(0.0410)
Market Size	-0.0001***	0.0012	-0.00001	-0.0002***	0.0010	-0.00001	-0.0001***	-0.0003	-0.00001

	(0.0001)	(0.0018)	(0.00003)	(0.00006)	(0.0017)	(0.00003)	(0.00006)	(0.0016)	(0.00003)
Control of Corruption	0.0009**	0.0752***	-0.0003**	0.0005	0.0798***	-0.0003***	0.0005	0.102***	-0.0005***
	(0.0004)	(0.0133)	(0.0001)	(0.0004)	(0.0129)	(0.00009)	(0.0004)	(0.0155)	(0.00009)
Intercept	-0.142	2371.0***	-0.177***	-0.119	2371.4***	-0.206***	-0.0255	2368.8***	-0.189***
	(0.101)	(392.0)	(0.0602)	(0.106)	(392.3)	(0.0738)	(0.106)	(392.0)	(0.0691)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	60490	40087	65984	60490	40087	65984	60490	40087	65984
First Stage Regressions 1:									
Religion Democracy	0.6069***	0.5689***	0.6413***	0.5650***	0.5478***	1.1579***	0.5462***	0.5342***	0.5840***
	(0.0110)	(0.0124)	(0.0108)	(0.0107)	(0.0122)	(0.0465)	(0.0104)	(0.0120)	(0.5840)
Partial R2 of excluded instruments	0.1787	0.166	0.1943	0.1563	0.1588	0.1669	0.1538	0.1556	0.1666
First Stage Regressions 2:									
Religion Democracy*Developed	1.3149***	1.2486***	1.2788***	1.8418***	1.9046***	1.8453***	1.3965***	1.3612***	1.3803***
	(0.0911)	(0.1422)	(0.0802)	(0.0441)	(0.0588)	(0.0443)	(0.0090)	(0.0109)	(0.0088)
Partial R2 of excluded instruments	0.1758	0.2151	0.1791	0.3392	0.331	0.3398	0.4047	0.4481	0.4025
Wooldridge's (1995) score test (p-values)	0.0015	0.0000	0.0149	0.0185	0.0001	0.0444	0.0484	0.0000	0.0001

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. Shareholder country religiosity is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Region* is a dummy variable equal to 1 if the company is located in the respective region (North America, Central America, or Europe) and 0 otherwise. *Shareholder country Religiosity*Region$_i$* is the interaction between the two variables. *Christians, Muslims, Buddhists and Hindus* are the percentage of Christians, Muslims, Buddhists, and Hindus population in the country. *Unaffiliated* is the percentage of the population with no religious affiliation in the country. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Operating Quality* is the country rank of operating component of earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank. Local ownership is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. *Religious Democracy* Region* is the interaction between the two variables serve as the instrument for the interaction term. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 3: Regression Results for Shareholder Country Religiosity in Regional Analysis (Full Results for the Middle East & Africa, and Central Asia)

	Middle East & Africa			**Central Asia**		
	(1) AUR	(2) OPR	(3) TFCF	(1) AUR	(2) OPR	(3) TFCF
Shareholder country religiosity	0.262**	-15.00***	0.133***	-0.227***	-10.41***	0.0691*
	(0.132)	(3.906)	(0.0384)	(0.0874)	(3.166)	(0.0365)
Shareholder country religiosity * Region	0.128	8.952**	-0.293	0.528***	6.024***	-0.0017
	(0.160)	(3.552)	(0.272)	(0.0873)	(2.262)	(0.0140)
Region	-0.108	-6.670**	0.265	-0.701***	-11.12***	0.0494***
	(0.130)	(3.004)	(0.248)	(0.0746)	(2.510)	(0.0190)
Buddhists				-0.411***	8.882***	-0.0879***
				(0.123)	(2.017)	(0.0238)
Hindus				-0.562***	6.592***	-0.0533***
				(0.101)	(1.594)	(0.0197)
Christian	-0.232***	4.388***	-0.0568***	-0.958***	6.347***	-0.0772***
	(0.0395)	(1.455)	(0.0200)	(0.113)	(1.899)	(0.0283)
Muslims	-0.331***	0.395	-0.0432***	-0.928***	4.468**	-0.0720***
	(0.0475)	(0.699)	(0.0121)	(0.120)	(1.740)	(0.0222)
Unaffiliated	-0.0410	-25.85***	0.159**	-1.146***	-1.323	-0.0109
	(0.231)	(7.219)	(0.0618)	(0.160)	(4.926)	(0.0562)
Uncertainty Avoidance	0.0026***	-0.0436***	0.0005**	-0.0016**	-0.112***	0.0010**
	(0.0005)	(0.0137)	(0.0002)	(0.0007)	(0.0253)	(0.0004)
Operating Quality		-0.0939***			-0.0950***	
		(0.0109)			(0.0109)	
Local ownership	-0.0581***	0.671	-0.0061	-0.0482**	0.168	-0.0091
	(0.0215)	(0.851)	(0.0055)	(0.0210)	(0.805)	(0.0066)
Profitability	-0.00009	-0.0059	0.00009	-0.00009	-0.0069	0.0001
	(0.00007)	(0.0081)	(0.0001)	(0.00006)	(0.0081)	(0.0001)
Size	-0.0235***	-1.059***	0.0131***	-0.0187***	-1.051***	0.0129***
	(0.0042)	(0.188)	(0.0041)	(0.0042)	(0.204)	(0.0040)
Leverage	0.0002	-0.0379	-0.0007	0.0002	-0.104	-0.0007
	(0.0005)	(0.702)	(0.0006)	(0.0005)	(0.707)	(0.0006)
Sales Growth	0.0007	-0.0091***	-0.00002	0.0007	-0.0089***	-0.00002
	(0.0004)	(0.0024)	(0.00001)	(0.0004)	(0.0024)	(0.00002)
Age	0.0186*	-1.375***	0.0129**	0.0430***	-1.520***	0.0136**
	(0.0107)	(0.477)	(0.0057)	(0.0113)	(0.507)	(0.0062)
Big 4	0.517***	-1.575*	-0.0020	0.0749***	-1.933**	0.0014

	(0.0218)	(0.877)	(0.0024)	(0.0182)	(0.974)	(0.0022)
GDP Growth	0.377	1.712	0.0186	0.576	-0.603	0.0396
	(0.584)	(2.686)	(0.0417)	(0.644)	(2.607)	(0.0423)
Market Size	-0.0002***	0.0008	-0.00003	-0.0004***	0.0060***	-0.00004
	(0.00006)	(0.0016)	(0.00003)	(0.00008)	(0.0019)	(0.00004)
Control of Corruption	0.0011***	0.0813***	-0.0003***	-0.0001	-0.0045	0.0001
	(0.0004)	(0.0129)	(0.00007)	(0.0005)	(0.0116)	(0.0002)
Intercept	-0.0814	2372.4***	-0.228***	2.089***	2375.7***	-0.207***
	(0.112)	(392.2)	(0.0685)	(0.142)	(393.4)	(0.0786)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	60490	40087	65984	60320	40018	65809
First Stage Regressions 1:						
Religion Democracy	0.5626***	0.0167***	0.5992***	0.9128***	0.9412***	0.9428***
	(0.0119)	(0.0137)	(0.0118)	(0.0096)	(0.0114)	(0.0091)
Partial R2 of excluded instruments	0.1387	0.137	0.1496	0.3272	0.3712	0.3367
First Stage Regressions 2:						
Religion Democracy*Developed	0.8712***	0.8394***	0.8716***	1.2501***	1.1493***	1.2783***
	(0.0142)	(0.0167)	(0.0140)	(0.0103)	(0.0126)	(0.0102)
Partial R2 of excluded instruments	0.5552	0.5368	0.5613	0.4832	0.4699	0.4876
Wooldridge's (1995) score test (p-values)	0.0004	0.0001	0.017	0.0207	0.064	0.0039

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. Shareholder country religiosity is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Region* is a dummy variable equal to 1 if the company is located in the respective region (the Middle East and Africa, or Central Asia) and 0 otherwise. *Shareholder country Religiosity*Region*$_i$ is the interaction between the two variables. *Christians, Muslims, Buddhists and Hindus* are the percentage of Christians, Muslims, Buddhists, and Hindus population in the country. *Unaffiliated* is the percentage of the population with no religious affiliation in the country. *Uncertainty avoidance* the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Operating Quality* is the country rank of operating component of earnings quality score calculated by StarMine (Thomson Reuters Eikon). It is a percentile (1-100) ranking of stocks based on sustainability of earnings, with 100 representing the highest rank. Local ownership is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. *Religious Democracy* Region* is the interaction between the two variables serve as the instrument for the interaction term. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 4: Regression results for shareholder country religiosity and agency costs minimize the influence of extreme values

	(1) AUR	(2) OPR	(3) TFCF
Shareholder country religiosity	0.132*** (0.0444)	-1.131*** (0.0931)	0.0299** (0.0146)
Local ownership	-0.0396*** (0.0148)	-0.122*** (0.0405)	-0.0072 (0.0055)
Profitability	0.0102** (0.0045)	-0.145*** (0.0231)	0.0061** (0.0031)
Size	-0.0187*** (0.0032)	-0.335*** (0.0148)	0.0071*** (0.0021)
Leverage	0.126*** (0.0202)	0.354*** (0.0775)	-0.0440* (0.0253)
Sales Growth	0.0162*** (0.0047)	-0.0509*** (0.0118)	0.0007 (0.0005)
Age	0.0331*** (0.0087)	-0.204*** (0.0262)	0.0126*** (0.0048)
Big 4	0.508*** (0.0190)	0.138*** (0.0517)	-0.0044* (0.0025)
GDP Growth	0.237 (0.535)	0.138 (0.432)	0.0340 (0.0406)
Market Size	-0.0003 (0.0002)	0.0006 (0.0004)	-0.00002 (0.0001)
Control of Corruption	0.0002 (0.0003)	0.0182*** (0.0010)	-0.0004*** (0.0001)
Intercept	-0.151** (0.0722)	4.635*** (0.252)	-0.0560*** -0.0212
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	79530	58532	86183
First Stage Regressions:			
Religious Democracy	1.1277*** (0.0097)	1.1592*** (0.0107)	1.1365*** (0.0094)
Partial R2 of excluded instruments	0.3182	0.3367	0.3256
F-test of excluded instruments	3303.69	3250.12	3529.58
Wooldridge's (1995) score test (p-values)	0.2147	0.0000	0.0273

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 5: Regression results for geographical religiosity and agency costs

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Religiosity	0.389*** (0.0560)	-6.916*** (0.912)	0.0715*** (0.0104)
Local ownership	-0.0235 (0.0162)	-1.591*** (0.509)	0.0027 (0.0039)
Profitability	-0.0001 (0.0001)	-0.0138 (0.0200)	0.0001 (0.0001)
Size	-0.0233*** (0.0037)	-1.542*** (0.133)	0.0167*** (0.0044)
Leverage	-0.000005 (0.000006)	0.0553 (0.0572)	-0.00003 (0.00003)
Sales Growth	0.0006* (0.0003)	0.0080 (0.0122)	-0.00001 (0.00002)
Age	0.0060 (0.0081)	-0.440* (0.254)	0.0105*** (0.0036)
Big 4	0.490*** (0.0174)	0.478 (0.569)	-0.0122*** (0.0046)
GDP Growth	-0.108 (0.388)	2.986 (1.919)	-0.0168 (0.0325)
Market Size	-0.0002*** (0.00005)	-0.0018** (0.0009)	-0.000004 (0.00001)
Control of Corruption	0.0010*** (0.0003)	0.0842*** (0.0099)	-0.0006*** (0.00007)
Intercept	-0.184** (0.0743)	2176.0*** (249.4)	-0.212*** (0.0564)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	170452	120845	186330
First Stage Regressions:			
Religious Democracy	0.8347*** (0.0064)	0.8312*** (0.0072)	0.8522*** (0.0063)
Partial R^2 of excluded instruments	0.1896	0.1908	0.1959
F-test of excluded instruments	2057.62	1767.04	2164.24
Wooldridge's (1995) score test (p-values)	0.0000	0.0000	0.0000

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Religiosity* is the level of religiosity in the country where the company is located, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 6: Regression results for shareholder country religiosity and agency costs control for earnings quality

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.101**	-5.567***	0.0227*
	(0.0429)	(1.181)	(0.0135)
Earnings Quality	0.0050***	-0.0527***	0.0003***
	(0.0002)	(0.0064)	(0.00003)
Local ownership	-0.0405***	-0.187	-0.0036
	(0.0151)	(0.515)	(0.0053)
Profitability	-0.0001*	0.0058	0.00003
	(0.00006)	(0.0138)	(0.00005)
Size	-0.0347***	-1.413***	0.0057**
	(0.0038)	(0.191)	(0.0024)
Leverage	0.00007	-0.0323	0.00002
	(0.0006)	(0.263)	(0.00002)
Sales Growth	0.0002	-0.0085***	-0.00004*
	(0.0002)	(0.0026)	(0.00002)
Age	0.0324***	-0.737*	0.0107**
	(0.0093)	(0.385)	(0.0048)
Big 4	0.421***	-0.514	-0.0052***
	(0.0192)	(0.740)	(0.0019)
GDP Growth	0.372	3.483	0.0095
	(0.588)	(2.412)	(0.0343)
Market Size	-0.0002***	0.0012	0.00003
	(0.00005)	(0.0014)	(0.00003)
Control of Corruption	0.0005	0.0822***	-0.0005***
	(0.0003)	(0.0119)	(0.0001)
Intercept	0.0923	2415.0***	-0.0664**
	(0.0795)	(323.9)	(0.0291)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	55503	47653	59438
First Stage Regressions:			
Religious Democracy	1.1957***	1.2091***	1.2048***
	(0.0111)	(0.0117)	(0.0109)
Partial R2 of excluded instruments	0.3394	0.3493	0.3479
F-test of excluded instruments	3385.35	3270.01	3613.12
Wooldridge's (1995) score test (p-values)	0.2510	0.0001	0.2311

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholder is based in the same country as the company 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 7: Regression results for shareholder country religiosity, agency costs and external monitoring

	AUR		OPR		TFCF	
	(1) High	(2) Low	(3) High	(4) Low	(5) High	(6) Low
Shareholder country religiosity	0.0218	0.145**	-3.755**	-5.126***	0.0175	0.0646***
	(0.0419)	(0.0650)	(1.766)	(1.045)	(0.0196)	(0.0178)
Local ownership	-0.0139	-0.0940***	-0.217	-0.965	-0.00516	-0.00494
	(0.0135)	(0.0304)	(0.676)	(0.679)	(0.0068)	(0.0053)
Profitability	-0.00001	-0.0003	0.0088	0.0461**	0.0002	-0.000008
	(0.00005)	(0.0003)	(0.0198)	(0.0202)	(0.0002)	(0.00003)
Size	-0.0179***	-0.0374***	-1.897***	-1.119***	0.0118*	0.0111***
	(0.0038)	(0.0057)	(0.334)	(0.179)	(0.0060)	(0.0037)
Leverage	0.0008	-0.000004	0.0208	0.619***	-0.0008	-0.0003
	(0.0007)	(0.0004)	(0.0351)	(0.185)	(0.0010)	(0.0004)
Sales Growth	0.0008	0.0005**	-0.0097***	-0.0057**	-0.00002	-0.00003
	(0.0007)	(0.0002)	(0.0034)	(0.0023)	(0.00002)	(0.00002)
Age	0.0415***	0.0137	-1.523**	-0.900***	0.0181***	0.0008
	(0.0077)	(0.0147)	(0.601)	(0.306)	(0.0068)	(0.0044)
Big 4	0.482***	0.568***	-1.266	0.565	-0.0058	-0.0049
	(0.0186)	(0.0315)	(1.128)	(0.701)	(0.0047)	(0.0032)
GDP Growth	-0.235**	3.968*	2.740	-0.180	0.0284	0.170*
	(0.105)	(2.373)	(3.545)	(2.766)	(0.0417)	(0.0925)
Market Size	-0.00005	-0.0002*	0.0023	-0.0004	0.00002	-0.00002
	(0.00005)	(0.00008)	(0.0025)	(0.0009)	(0.00005)	(0.00002)
Control of Corruption	0.0009***	-0.0008*	0.104***	0.0772***	-0.0005***	-0.0004***
	(0.0003)	(0.0005)	(0.0278)	(0.0110)	(0.0001)	(0.00007)
Intercept	-0.104	0.183*	2265.2***	2100.0***	-0.141*	-0.108***
	(0.0914)	(0.105)	(506.4)	(264.7)	(0.0764)	(0.0273)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	42133	37397	31838	26694	45606	40577

First Stage Regressions:						
Religious Democracy	1.2950***	1.0518***	1.3080***	1.1119***	1.3015***	1.0666***
	(0.0121)	(0.0135)	(0.0132)	(0.0151)	(0.0118)	(0.0133)
Partial R^2 of excluded instruments	0.3942	0.2874	0.4136	0.3122	0.3998	0.2961
F-test of excluded instruments	3504.63	1665.61	3314.24	1693.45	3759.13	1765.2
Wooldridge's (1995) score test (p-values)	0.0384	0.2103	0.0456	0.0000	0.4915	0.0052

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 8: Regression results for shareholder country religiosity, agency costs and types of ultimate ownership

	(1) AUR	(2) OPR	(3) TFCF
Shareholder Religiosity	0.0876**	-5.288***	0.0431***
	(0.0406)	(1.099)	(0.0142)
Family owner	0.0032	-0.146	0.0010
	(0.0041)	(0.0947)	(0.0006)
Foreign owner	-0.0007	0.0076	-0.00008
	(0.0005)	(0.0090)	(0.00009)
Institutional owner	-0.0006**	-0.0124*	0.00003
	(0.0003)	(0.0073)	(0.00003)
Managerial owner	0.0319	2.620	0.0150**
	(0.0425)	(3.924)	(0.0063)
Local ownership	-0.0485***	-0.412	-0.0054
	(0.0153)	(0.501)	(0.0048)
Profitability	-0.0001	0.0130	0.0009
	(0.00008)	(0.0121)	(0.0001)
Size	-0.0276***	-1.570***	0.0115***
	(0.0036)	(0.216)	(0.0035)
Leverage	0.0002	0.182	-0.0006
	(0.0004)	(0.158)	(0.0005)
Sales Growth	0.0007*	-0.0078***	-0.00002
	(0.0004)	(0.0022)	(0.00002)
Age	0.0318***	-1.252***	0.0109**
	(0.0090)	(0.390)	(0.0044)
Big 4	0.518***	-0.506	-0.0056*
	(0.0190)	(0.736)	(0.0031)
GDP Growth	0.245	2.842	0.0319
	(0.534)	(2.556)	(0.0417)
Market Size	-0.0001**	0.0015	-0.0000002
	(0.00005)	(0.0015)	(0.00003)
Control of Corruption	0.0002	0.0919***	-0.0004***
	(0.0003)	(0.0161)	(0.00008)
Intercept	0.0177	2217.2***	-0.129***
	(0.0749)	(364.6)	(0.0410)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	79530	58532	86183
First Stage Regressions:			
Religion Democracy	1.1723***	1.2143***	1.1834***
	(0.0094)	(0.0103)	(0.0092)
Partial R2 of excluded instruments	0.337	0.3617	0.3445
F-test of excluded instruments	3790.58	3857.97	4037.35
Wooldridge's (1995) score test (p-values)	0.7767	0.0002	0.0381

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners.*Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 9: Regression results for shareholder country religiosity and agency costs excludes crisis year (2007-2008)

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.105** (0.0454)	-6.418*** (1.310)	0.0482*** (0.0167)
Local ownership	-0.0439*** (0.0163)	-0.0243 (0.542)	-0.0079 (0.0055)
Profitability	-0.0001 (0.00009)	0.0160 (0.0130)	0.00009 (0.0001)
Size	-0.0298*** (0.0039)	-1.646*** (0.257)	0.0117*** (0.0040)
Leverage	0.00004 (0.0004)	0.193 (0.168)	-0.0006 (0.0005)
Sales Growth	0.0007* (0.0004)	-0.0071*** (0.0024)	-0.00003 (0.00002)
Age	0.0309*** (0.0101)	-0.957** (0.430)	0.0112** (0.0052)
Big 4	0.523*** (0.0204)	-0.267 (0.812)	-0.0068* (0.0039)
GDP Growth	0.228 (0.531)	3.379 (2.581)	0.0244 (0.0404)
Market Size	-0.0001* (0.00005)	0.0014 (0.0017)	-0.000007 (0.00004)
Control of Corruption	0.00004 (0.0003)	0.0921*** (0.0188)	-0.0004*** (0.00008)
Intercept	0.0178 (0.0804)	2304.5*** (398.0)	-0.154*** (0.0477)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	68092	48921	74029
First Stage Regressions:			
Religious Democracy	1.1531*** (0.0104)	1.1938*** (0.0117)	1.1664*** (0.0102)
Partial R^2 of excluded instruments	0.3214	0.3429	0.3300
F-test of excluded instruments	3015.01	2944.81	3217.95
Wooldridge's (1995) score test (p-values)	0.6405	0.0001	0.0309

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 10: Regression results for shareholder country religiosity, agency costs and shareholder portfolio diversification

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder country religiosity	0.0918** (0.0404)	-5.226*** (1.092)	0.0425*** (0.0141)
Shareholder diversification	0.0168*** (0.0029)	0.405 (0.249)	-0.0007 (0.0004)
Local ownership	-0.0388** (0.0155)	-0.239 (0.530)	-0.0054 (0.0047)
Profitability	-0.0001 (0.00008)	0.0129 (0.0121)	0.0001 (0.0001)
Size	-0.0304*** (0.0037)	-1.638*** (0.223)	0.0115*** (0.0035)
Leverage	0.0001 (0.0004)	0.182 (0.158)	-0.0006 (0.0005)
Sales Growth	0.0007* (0.0004)	-0.0077*** (0.0022)	-0.00002 (0.00002)
Age	0.0298*** (0.0089)	-1.289*** (0.394)	0.0110** (0.0044)
Big 4	0.513*** (0.0187)	-0.597 (0.734)	-0.0054* (0.0030)
GDP Growth	0.239 (0.535)	2.786 (2.611)	0.0315 (0.0416)
Market Size	-0.0001** (0.00005)	0.0018 (0.0015)	-0.000001 (0.00003)
Control of Corruption	0.0001 (0.0003)	0.0873*** (0.0158)	-0.0004*** (0.00007)
Intercept	0.0352 (0.0753)	2217.5*** (364.6)	-0.130*** (0.0409)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	79530	58532	86183
First Stage Regressions:			
Religious Democracy	1.1760*** (0.0094)	1.2161*** (0.0103)	1.1873*** (0.0092)
Partial R^2 of excluded instruments	0.3389	0.3634	0.3462
F-test of excluded instruments	3803.71	3856.05	4048.73
Wooldridge's (1995) score test (p-values)	0.6298	0.0004	0.0392

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder country religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders are based in the same country as the company and 0 otherwise. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. *Religious Democracy* is the instrumental variable defined as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 11: Regression results for shareholder country religiosity and agency costs; other country governance

	Panel A: AUR				
	(1)	(2)	(3)	(4)	(5)
Shareholder country religiosity	0.131***	0.127**	0.104**	0.122***	0.214***
	(0.0469)	(0.0521)	(0.0485)	(0.0462)	(0.0434)
Rule of law	0.0012***				
	(0.0003)				
Political stability		0.0012***			
		(0.0003)			
Government effectiveness			0.0008*		
			(0.0004)		
Regulatory quality				0.0010***	
				(0.0003)	
Voice and accountability					0.0017***
					(0.0002)
Religion Diversity	0.178***	0.159***	0.147***	0.168***	0.301***
	(0.0439)	(0.0471)	(0.0462)	(0.0443)	(0.0416)
Local ownership	-0.0617***	-0.0582***	-0.0617***	-0.0601***	-0.0596***
	(0.0172)	(0.0170)	(0.0172)	(0.0171)	(0.0171)
Profitability	-0.0001*	-0.0001*	-0.0001*	-0.0001*	-0.0001*
	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)
Size	-0.0294***	-0.0287***	-0.0307***	-0.0298***	-0.0256***
	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0040)
Leverage	0.0002	0.0002	0.0002	0.0002	0.0002
	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0005)
Sales Growth	0.0007*	0.0007*	0.0007*	0.0007*	0.0007*
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Age	0.0585***	0.0589***	0.0598***	0.0590***	0.0496***
	(0.0100)	(0.0100)	(0.0100)	(0.0100)	(0.0104)
Big 4	0.102***	0.0966***	0.110***	0.104***	0.0866***
	(0.0162)	(0.0163)	(0.0161)	(0.0162)	(0.0160)
GDP Growth	0.313	0.304	0.315	0.310	0.311
	(0.276)	(0.276)	(0.277)	(0.276)	(0.275)
Market Size	-0.0004***	-0.0004***	-0.0003***	-0.0004***	-0.0005***
	(0.00006)	(0.00007)	(0.00006)	(0.00006)	(0.00006)
Intercept	0.708***	0.727***	0.762***	0.728***	0.557***
	(0.0859)	(0.0921)	(0.0885)	(0.0848)	(0.0815)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	68484	68484	68484	68484	68484
First Stage Regressions:					
Religious Democracy	1.1004***	0.9969***	1.0450***	1.0821***	1.2162***
	(0.0185)	(0.0196)	(0.0179)	(0.0172)	(0.0183)
Partial R2 of excluded instruments	0.3547	0.3082	0.325	0.3431	0.4087
F-test of excluded instruments	3540.57	2580.81	3400.33	3959.3	4412.43
Wooldridge's (1995) score test (p-values)	0.8710	0.8660	0.6280	0.9273	0.0153

	Panel B: OPR				
	(1)	(2)	(3)	(4)	(5)
Shareholder country religiosity	-11.06***	-14.62***	-12.24***	-11.19***	-8.666***
	(1.795)	(2.226)	(2.011)	(1.793)	(1.543)
Rule of law	0.166***				
	(0.0261)				

Political stability		0.111***			
		(0.0200)			
Government effectiveness			0.190***		
			(0.0292)		
Regulatory quality				0.167***	
				(0.0271)	
Voice and accountability					0.130***
					(0.0208)
Religion Diversity	-6.789***	-11.31***	-10.57***	-7.800***	0.149
	(1.623)	(2.180)	(2.090)	(1.740)	(1.220)
Local ownership	0.0956	0.551	-0.0168	0.373	0.380
	(0.874)	(0.897)	(0.873)	(0.885)	(0.884)
Profitability	-0.0062	-0.0056	-0.0057	-0.0059	-0.0066
	(0.0208)	(0.0205)	(0.0207)	(0.0207)	(0.0210)
Size	-2.296***	-2.413***	-2.432***	-2.349***	-2.182***
	(0.264)	(0.277)	(0.277)	(0.267)	(0.255)
Leverage	0.184	0.184	0.184	0.183	0.184
	(0.159)	(0.159)	(0.159)	(0.159)	(0.159)
Sales Growth	-0.0135***	-0.0144***	-0.0142***	-0.0139***	-0.0139***
	(0.0037)	(0.0037)	(0.0036)	(0.0036)	(0.0037)
Age	-2.006***	-1.727***	-1.778***	-1.905***	-2.553***
	(0.550)	(0.523)	(0.523)	(0.539)	(0.620)
Big 4	-0.0946	0.188	0.180	-0.340	-0.0139
	(0.927)	(0.950)	(0.911)	(0.954)	(0.904)
GDP Growth	0.495	-0.466	1.119	-0.142	-0.0778
	(2.351)	(2.426)	(2.510)	(2.506)	(2.665)
Market Size	0.0038**	0.0094***	0.0050**	0.0037*	0.0058***
	(0.0019)	(0.0025)	(0.0020)	(0.0020)	(0.0021)
Intercept	34.31***	44.63***	35.14***	34.70***	32.76***
	(4.446)	(5.496)	(4.621)	(4.457)	(4.284)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	57548	57548	57548	57548	57548
First Stage Regressions:					
Religious Democracy	1.1066***	0.9980***	1.0494***	1.0814***	1.2154***
	(0.0192)	(0.0204)	(0.0187)	(0.0179)	(0.0190)
Partial R2 of excluded instruments	0.3614	0.3154	0.3318	0.3485	0.4136
F-test of excluded instruments	3325	2388.43	3164.27	3636.21	4086.53
Wooldridge's (1995) score test (p-values)	0.0000	0.0000	0.0000	0.0000	0.0220

	Panel C: TFCF				
	(1)	(2)	(3)	(4)	(5)
Shareholder country religiosity	0.0549***	0.0684***	0.0579***	0.0524***	0.0526***
	(0.0191)	(0.0218)	(0.0195)	(0.0195)	(0.0186)
Rule of law	-0.0006***				
	(0.0001)				
Political stability		-0.0004***			
		(0.00009)			
Government effectiveness			-0.0007***		
			(0.0001)		
Regulatory quality				-0.0006***	
				(0.0001)	
Voice and accountability					-0.0004***
					(0.00007)
Religion Diversity	0.0167	0.0307**	0.0290**	0.0179	0.0003
	(0.0132)	(0.0153)	(0.0147)	(0.0137)	(0.0111)

Local ownership	-0.0053	-0.0064	-0.0049	-0.0062	-0.0061
	(0.00566)	(0.00587)	(0.00560)	(0.00579)	(0.00579)
Profitability	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.000121)	(0.000121)	(0.000121)	(0.000121)	(0.000121)
Size	0.0134***	0.0137***	0.0138***	0.0133***	0.0132***
	(0.0041)	(0.0042)	(0.0041)	(0.0041)	(0.0041)
Leverage	-0.0007	-0.0007	-0.0007	-0.0007	-0.0007
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Sales Growth	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002
	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)
Age	0.0122**	0.0119**	0.0118**	0.0122**	0.0137**
	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0055)
Big 4	-0.0051*	-0.0071*	-0.0058*	-0.0037	-0.0066**
	(0.0029)	(0.0036)	(0.0031)	(0.0030)	(0.0030)
GDP Growth	0.0370	0.0402	0.0352	0.0388	0.0376
	(0.0346)	(0.0359)	(0.0351)	(0.0351)	(0.0358)
Market Size	-0.00001	-0.00004	-0.00002	-0.00001	-0.00003
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Intercept	-0.161***	-0.196***	-0.160***	-0.154***	-0.165***
	(0.0552)	(0.0620)	(0.0561)	(0.0562)	(0.0549)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	74028	74028	74028	74028	74028
First Stage Regressions:					
Religious Democracy	1.1045***	1.0061***	1.0506***	1.0869***	1.2218***
	(0.0182)	(0.0193)	(0.0177)	(0.0170)	(0.0180)
Partial R2 of excluded instruments	0.3558	0.313	0.3279	0.3444	0.4085
F-test of excluded instruments	3671.75	2710.66	3542.46	4107.1	4608.22
Wooldridge's (1995) score test (p-values)	0.0411	0.0123	0.0243	0.0540	0.0672

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Rule of law* is the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. *Political stability* is the likelihood of political instability and/or politically-motivated violence, including terrorism. *Government effectiveness* measures the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. *Regulatory quality* is the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. *Voice and accountability* is of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. *Religion diversity* is a religion diversity score calculated based on the shares of six major religions (Christianity, Islam, Buddhism, Hinduism, Other religion, and Unaffiliated); the score range from 0 to 1 where the higher scores indicate higher diversity. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders is based in the same country as the company 0 otherwise. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Religious Democracy* is the instrumental variable define as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 12: Regression results for shareholder religiosity and agency costs; higher percentage of ownership

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder religiosity 10	0.0778* (0.0400)	-4.559*** (1.086)	0.0309*** (0.0112)
Local ownership	-0.0500*** (0.0158)	-0.597 (0.525)	-0.0040 (0.0045)
Profitability	-0.0001 (0.00009)	0.0146 (0.0126)	0.00001 (0.00003)
Size	-0.0298*** (0.0037)	-1.499*** (0.233)	0.00880*** (0.0026)
Leverage	0.0002 (0.0005)	0.184 (0.159)	-0.0001 (0.0002)
Sales Growth	0.0007* (0.0004)	-0.0071*** (0.0022)	-0.00003* (0.00002)
Age	0.0300*** (0.0094)	-1.295*** (0.407)	0.0083** (0.0039)
Big 4	0.520*** (0.0197)	-0.815 (0.776)	-0.0022 (0.0018)
GDP Growth	0.312 (0.254)	0.993 (1.766)	0.0283 (0.0285)
Market Size	-0.0001** (0.00005)	0.0017 (0.0016)	0.00001 (0.00003)
Control of Corruption	0.0002 (0.0003)	0.0884*** (0.0171)	-0.0004*** (0.00006)
Intercept	0.0571 (0.0764)	2202.4*** (387.5)	-0.0945*** (0.0231)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	72385	52948	78095
First Stage Regressions:			
Religious Democracy	1.2571*** (0.0186)	1.3021*** (0.0191)	1.2657*** (0.0182)
Partial R2 of excluded instruments	0.3755	0.4031	0.382
F-test of excluded instruments	4561.71	4670.37	4847.19
Wooldridge's (1995) score test (p-values)	0.8468	0.0013	0.0611

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder religiosity 10* is the level of religiosity in the country where the shareholder (above 10% of ownership) is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local ownership* is a dummy variable equal to 1 if the company's largest ultimate shareholders is based in the same country as the company 0 otherwise. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable define as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix C. 13: Regression results for shareholder religiosity versus local religiosity

	(1) **AUR**	(2) **OPR**	(3) **TFCF**
Shareholder religiosity	0.215* (0.122)	-24.57*** (5.045)	0.107** (0.0429)
Local religiosity	-0.167 (0.104)	-12.59*** (4.882)	0.0893** (0.0363)
Christian	-0.187*** (0.0495)	8.113*** (2.387)	-0.0718*** (0.0277)
Muslim	-0.317*** (0.0496)	4.143*** (1.448)	-0.0537*** (0.0180)
Unaffiliated	-0.620* (0.359)	-77.04*** (19.26)	0.379** (0.159)
Uncertainty avoidance	0.0011 (0.0009)	-0.148*** (0.0418)	0.0011** (0.0005)
Local ownership	-0.0671*** (0.0244)	0.630 (1.286)	-0.0058 (0.0055)
Profitability	-0.00001 (0.00007)	0.0032 (0.0236)	0.00008 (0.0001)
Size	-0.0261*** (0.0046)	-1.921*** (0.275)	0.0123*** (0.0038)
Leverage	0.0002 (0.0005)	0.328 (0.234)	-0.0007 (0.0006)
Sales Growth	0.0006 (0.0004)	-0.0157*** (0.0041)	-0.00002 (0.00002)
Age	0.0368*** (0.0130)	-2.647*** (0.668)	0.0156** (0.0063)
Big 4	0.113*** (0.0191)	-1.835 (1.242)	0.0020 (0.0020)
GDP Growth	0.337 (0.276)	0.717 (3.706)	0.0464 (0.0425)
Market Size	-0.0003*** (0.00007)	-0.0026 (0.0019)	-0.000007 (0.00003)
Control of Corruption	0.0012*** (0.0004)	0.144*** (0.0237)	-0.0003*** (0.00001)
Intercept	1.046*** (0.172)	59.54*** (8.564)	-0.315*** (0.110)
Year-fixed effects	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes
Number of observations	60490	50455	65984
First Stage Regressions:			
Religious democracy	0.5657*** (0.0206)	0.5373*** (0.0212)	0.6060*** (0.0203)
Partial R2 of excluded instruments	0.1767	0.1704	0.1909
First Stage Regressions 2:			
High religious democracy	0.2381*** (0.0104)	0.0821*** (0.0115)	0.2303*** (0.0103)
Partial R2 of excluded instruments	0.0568	0.0821	0.047
Wooldridge's (1995) score test (p-values)	0.3229	0.0000	0.0257

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: (1) *AUR* is the ratio of sales to total assets. (2) *OPR* is the ratio of operating expense to sales. (3) *TFCF* is interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Shareholder religiosity* is the level of religiosity in the country where the shareholder is originated, where the level of religiosity is measured by the percentage of respondents that indicate religion is important or rather important to them. *Local religiosity* is a dummy variable equal to 1 if the firm is located in high religious population measured by the religious score above the median score in the sample and 0 otherwise. *Christians* and *Muslims* are the percentage of Christians and Muslims population in the country. *Unaffiliated* is the percentage of population with no religious affiliation in the country. *Uncertainty avoidance* is the Hofstede's culture variable that expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Corruption* is the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This variable express in percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to the highest rank. *Religious Democracy* is the instrumental variable define as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D: Chapter 7 – Comprehensive Ethical Screening and Agency Costs

Appendix D. 1: Country distribution of observations

No	Country	Firms	Obs.	Percent	No	Country	Firms	Obs.	Percent
1	Australia	262	2,411	10.13	23	Luxembourg	3	30	0.13
2	Austria	10	100	0.42	24	Malaysia	31	293	1.23
3	Belgium	16	157	0.66	25	Mexico	27	250	1.05
4	Brazil	57	543	2.28	26	Netherlands	25	236	0.99
5	Canada	219	1,783	7.49	27	New Zealand	19	119	0.50
6	Chile	16	160	0.67	28	Norway	18	176	0.74
7	China	42	407	1.71	29	Philippines	12	120	0.50
8	Colombia	5	50	0.21	30	Poland	18	171	0.72
9	Czech Republic	2	4	0.02	31	Portugal	7	69	0.29
10	Egypt	5	48	0.20	32	Qatar	2	11	0.05
11	France	77	752	3.16	33	Russian Federation	28	223	0.94
12	Germany	68	668	2.81	34	Saudi Arabia	3	24	0.10
13	Greece	10	100	0.42	35	Singapore	26	250	1.05
14	Hong Kong	114	1,109	4.66	36	South Africa	83	806	3.39
15	Hungary	3	27	0.11	37	Spain	30	288	1.21
16	India	64	629	2.64	38	Switzerland	48	468	1.97
17	Indonesia	26	256	1.08	39	Thailand	21	207	0.87
18	Ireland	10	99	0.42	40	Turkey	17	168	0.71
19	Israel	10	91	0.38	41	United Arab Emirates	4	27	0.11
20	Italy	25	195	0.82	42	United Kingdom	208	412	1.73
21	Japan	342	3,004	12.63	43	United States	724	6,047	25.42
22	Korea (Republic of)	83	802	3.37					
						Total	2,820	23,790	100

Appendix D. 2: Ethical Screening and Asset Utilisation: Matching Sample (Full Results)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	-0.00311					
	(0.0310)					
Stage 2: Religious + EQ		0.0441**				
		(0.0210)				
Stage 3: Religious + EQ + ESG			0.0619***			
			(0.0227)			
Stringent Screening						
Stage 1: Religious				0.0007		
				(0.0258)		
Stage 2: Religious + EQ					0.0396*	
					(0.0217)	
Stage 3: Religious + EQ + ESG						0.0604**
						(0.0244)
Profitability	0.168**	0.0796	0.0283	0.0778	0.0121	-0.0542
	(0.0752)	(0.0542)	(0.0962)	(0.0546)	(0.0525)	(0.0817)
Size	-0.0458***	-0.0415***	-0.0857***	-0.0243**	-0.0324***	-0.0555***
	(0.0133)	(0.0115)	(0.0127)	(0.0116)	(0.0121)	(0.0135)
Leverage	-0.466***	-0.196	-0.309**	-0.509***	-0.304***	-0.391***
	(0.141)	(0.131)	(0.137)	(0.112)	(0.115)	(0.135)
Sales Growth	-0.0047***	0.0136	0.0950*	-0.0036***	0.0157	0.206***
	(0.0014)	(0.0238)	(0.0576)	(0.0012)	(0.0272)	(0.0568)
Age	0.0675***	0.0475***	0.0467**	0.0548***	0.0416**	0.0412*
	(0.0190)	(0.0152)	(0.0199)	(0.0164)	(0.0168)	(0.0241)
Big 4	0.0819**	0.0950***	0.0551	0.0533*	0.0856***	0.0535
	(0.0325)	(0.0291)	(0.0342)	(0.0306)	(0.0308)	(0.0358)

GDP Growth	-0.728	-1.539	-0.866	-0.211	-0.151	-2.667
	(0.908)	(1.750)	(0.896)	(1.259)	(1.007)	(1.972)
Market Size	-0.0001	-0.0001	-0.0002*	-0.0002**	-0.0002	-0.0001
	(0.00009)	(0.0001)	(0.0001)	(0.00009)	(0.0001)	(0.0001)
Inflation	0.0115	0.0196*	0.0041	0.0130	0.0191*	0.0108
	(0.0093)	(0.0102)	(0.0101)	(0.0086)	(0.0102)	(0.0113)
Regulatory Quality	-0.0030*	-0.0020	-0.0035*	-0.0024*	-0.0021	-0.0022
	(0.0015)	(0.0015)	(0.0018)	(0.0014)	(0.0016)	(0.0022)
Intercept	1.239***	1.140***	2.386***	1.058***	1.178***	1.712***
	(0.280)	(0.243)	(0.323)	(0.256)	(0.253)	(0.320)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5714	6660	3794	5960	5078	2932

This table reports OLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 3: Ethical Screening and Operating Efficiency: Matching Sample (Full Results)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	0.577					
	(0.578)					
Stage 2: Religious + EQ		-0.491				
		(0.550)				
Stage 3: Religious + EQ + ESG			-0.0313**			
			(0.0153)			
Stringent Screening						
Stage 1: Religious				0.596		
				(0.534)		
Stage 2: Religious + EQ					-0.760	
					(0.684)	
Stage 3: Religious + EQ + ESG						-0.0329**
						(0.0163)
Profitability	-3.224	-0.718	-0.0664	-1.791	-1.709	-0.0902
	(2.006)	(1.642)	(0.153)	(1.204)	(1.245)	(0.160)
Size	-0.684	-0.565**	-0.0093	-0.560	-0.801**	-0.0058
	(0.434)	(0.283)	(0.0064)	(0.391)	(0.367)	(0.0062)
Leverage	3.130	-2.101	-0.113	2.798	-3.482	-0.206**
	(2.791)	(1.844)	(0.0803)	(2.710)	(2.375)	(0.0930)
Sales Growth	-0.0576	-4.553	-0.307**	-0.0584	-7.484	-0.236**
	(0.0649)	(3.656)	(0.127)	(0.0619)	(4.643)	(0.104)
Age	-0.332	-0.825	-0.0173	-0.259	-0.786	-0.0251**
	(0.251)	(0.502)	(0.0108)	(0.242)	(0.548)	(0.0106)
Big 4	0.453	-1.340	0.0090	0.451	-1.661	0.0302
	(0.383)	(1.255)	(0.0231)	(0.363)	(1.449)	(0.0202)

GDP Growth	1.738	-3.296	-0.334	-0.385	-4.119	2.060
	(3.167)	(4.455)	(1.179)	(4.656)	(13.47)	(1.454)
Market Size	-0.0018*	-0.0014*	-0.00006	-0.0014*	-0.0017*	0.000009
	(0.0009)	(0.0008)	(0.00005)	(0.0008)	(0.0010)	(0.00005)
Inflation	0.101*	0.0295	0.0035	0.0567*	0.0590	-0.0039
	(0.0522)	(0.0528)	(0.0044)	(0.0337)	(0.0588)	(0.0050)
Regulatory Quality	0.0427*	0.0436*	0.0018**	0.0326	0.0629*	0.0007
	(0.0248)	(0.0260)	(0.0008)	(0.0208)	(0.0323)	(0.0008)
Intercept	6.903*	10.43*	0.253*	6.213*	13.85**	0.324**
	(3.745)	(5.485)	(0.145)	(3.556)	(7.043)	(0.152)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	3746	2400	1548	3950	2064	1292

This table reports OLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 4: Ethical Screening and Growth Prospects: Matching Sample (Full Results)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	-0.0011					
	(0.0021)					
Stage 2: Religious + EQ		0.0003				
		(0.0018)				
Stage 3: Religious + EQ + ESG			-0.0054***			
			(0.0020)			
Stringent Screening						
Stage 1: Religious				0.0004		
				(0.0021)		
Stage 2: Religious + EQ					-0.0036	
					(0.0023)	
Stage 3: Religious + EQ + ESG						-0.0051***
						(0.0022)
Profitability	0.0953***	0.0903***	0.0335	0.118***	0.119***	0.0221
	(0.0239)	(0.0253)	(0.0229)	(0.0301)	(0.0357)	(0.0201)
Size	0.0078***	0.0081***	0.0057***	0.0091***	0.0098***	0.0051***
	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0012)	(0.0011)
Leverage	0.0373***	0.0458***	0.0384***	0.0377***	0.0362***	0.0324***
	(0.0091)	(0.0096)	(0.0101)	(0.0112)	(0.0129)	(0.0115)
Sales Growth	-0.0005	0.0091**	0.0121	-0.0004	0.0117**	0.0276***
	(0.00034)	(0.0040)	(0.0076)	(0.0003)	(0.0051)	(0.0069)
Age	-0.0008	0.00171	0.0004	0.0007	0.0001	0.0012
	(0.0013)	(0.0013)	(0.0014)	(0.0013)	(0.0015)	(0.0015)
Big 4	-0.0016	-0.0049*	-0.0041	-0.0017	-0.0037	-0.0015
	(0.0025)	(0.0026)	(0.0031)	(0.0028)	(0.0033)	(0.0029)

GDP Growth	-0.0574	-0.0262	0.0071	-0.0495	-0.0765	-0.0876
	(0.0625)	(0.135)	(0.0572)	(0.0970)	(0.0895)	(0.208)
Market Size	0.00001*	0.00001**	-0.000002	0.00001**	0.000007	-0.00001
	(0.000006)	(0.000006)	(0.000008)	(0.000006)	(0.000007)	(0.00001)
Inflation	-0.0002	-0.0015**	-0.0001	-0.0008	-0.0012	-0.00002
	(0.0006)	(0.0006)	(0.0008)	(0.0007)	(0.0007)	(0.0008)
Regulatory Quality	-0.0004***	-0.0006***	-0.0003**	-0.0005***	-0.0005***	-0.0004***
	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0001)
Intercept	-0.0239	-0.0477	-0.0246	-0.0671**	-0.0590*	-0.0153
	(0.0325)	(0.0336)	(0.0245)	(0.0268)	(0.0340)	(0.0282)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5686	6614	3772	5928	5052	2922

This table reports OLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 5: Regression Results for the Impact of High Religious Countries (Asset Utilisation Ratio)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	0.154***					
	(0.0506)					
Stage 2: Religious + EQ		0.414***				
		(0.0828)				
Stage 3: Religious + EQ + Ethics			0.799***			
			(0.131)			
Stringent Screening						
Stage 1: Religious				-0.0224		
				(0.0499)		
Stage 2: Religious + EQ					0.121	
					(0.0818)	
Stage 3: Religious + EQ + ESG						0.474***
						(0.141)
High Religiosity	0.0139	0.0090	0.0291	0.0253	0.0174	0.0220
	(0.0381)	(0.0382)	(0.0374)	(0.0390)	(0.0388)	(0.0377)
Profitability	0.0033**	0.0031**	0.0035**	0.0031**	0.0030**	0.0033**
	(0.0013)	(0.0014)	(0.0014)	(0.0013)	(0.0013)	(0.0014)
Size	-0.0319***	-0.0337***	-0.0500***	-0.0259***	-0.0292***	-0.0389***
	(0.0072)	(0.0070)	(0.0077)	(0.0075)	(0.0073)	(0.0078)
Leverage	-0.0981	-0.0613	-0.110**	-0.266***	-0.208***	-0.189***
	(0.0678)	(0.0573)	(0.0506)	(0.0639)	(0.0555)	(0.0509)
Sales Growth	-0.0032***	-0.0030***	-0.0033***	-0.0034***	-0.0033***	-0.0034***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Age	0.0593***	0.0630***	0.0523***	0.0628***	0.0630***	0.0587***
	(0.0106)	(0.0104)	(0.0105)	(0.0105)	(0.0104)	(0.0104)
Big 4	0.0734***	0.0650***	0.0522**	0.0738***	0.0733***	0.0665***
	(0.0212)	(0.0211)	(0.0208)	(0.0211)	(0.0211)	(0.0208)
GDP Growth	-0.149	-0.255	-0.113	-0.127	-0.161	-0.115
	(0.327)	(0.351)	(0.311)	(0.308)	(0.321)	(0.310)
Market Size	-0.0002**	-0.0001**	-0.00009	-0.0002**	-0.0002**	-0.0001**
	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)

Inflation	0.0121**	0.0105*	0.0056	0.0132**	0.0117**	0.0087
	(0.0058)	(0.0057)	(0.0057)	(0.0058)	(0.0057)	(0.0058)
Regulatory Quality	-0.0014	-0.0017*	-0.0026***	-0.0011	-0.0014	-0.0019**
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Intercept	1.015***	1.051***	1.461***	1.035***	1.060***	1.266***
	(0.169)	(0.168)	(0.174)	(0.165)	(0.167)	(0.177)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	23790	23790	23790	23790	23790	23790
First Stage Regressions 1:						
Ethically-compliant firms: industry-country average	0.8815***	0.9315***	0.9152***	0.9232***	0.9565***	0.9292***
	(0.0095)	(0.0151)	(0.0250)	(0.0080)	(0.0164)	(0.0283)
Partial R2 of excluded instruments	0.2988	0.1439	0.1097	0.2867	0.1532	0.1092
First Stage Regressions 2:						
High Religiosity IV	0.4745***	0.4716***	0.4755***	0.4719***	0.4692***	0.4734***
	(0.0057)	(0.0057)	(0.0057)	(0.0057)	(0.0057)	(0.0057)
Partial R^2 of excluded instruments	0.1983	0.1953	0.2007	0.194	0.1926	0.1985
Wooldridge's (1995) score test (p-values)	0.0251	0.0000	0.0000	0.8859	0.2963	0.0053

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of total firm assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *High religiosity* is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise. The religiosity score is the percentage of respondents in the country who indicate that the religion is important or rather important to themselves which is gathered from the World Value Survey. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. The instrumental variable for high religiosity is *Religious Democracy* define as the percentage of respondent that indicate one of the essential components of country democracy is when the religious authority have the power to interpret the law. This variable is measured by a dummy variable equal to 1 if the Religious Democracy score in the country where the firm is located is above the median score in the sample and 0 otherwise. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 6: Regression Results for the Impact of High Religious Countries (Operating expense ratio)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	-2.543***					
	(0.759)					
Stage 2: Religious + EQ		-7.735**				
		(3.247)				
Stage 3: Religious + EQ + Ethics			-4.045*			
			(2.451)			
Stringent Screening						
Stage 1: Religious				-2.639***		
				(1.007)		
Stage 2: Religious + EQ					-7.012***	
					(2.603)	
Stage 3: Religious + EQ + ESG						-6.110*
						(3.597)
High Religiosity	-1.129***	-0.858**	-1.195***	-1.025***	-0.908**	-1.141***
	(0.339)	(0.371)	(0.344)	(0.343)	(0.357)	(0.348)
Profitability	-4.666***	-4.913***	-4.638***	-4.718***	-4.829***	-4.666***
	(1.134)	(1.182)	(1.144)	(1.147)	(1.160)	(1.151)
Size	-0.723***	-0.654***	-0.690***	-0.695***	-0.692***	-0.651***
	(0.124)	(0.132)	(0.143)	(0.127)	(0.126)	(0.151)
Leverage	-3.983***	-3.906**	-2.193*	-3.429**	-4.483**	-2.252*
	(1.533)	(1.723)	(1.217)	(1.499)	(1.827)	(1.230)
Sales Growth	0.0404	0.0366	0.0412	0.0423	0.0349	0.0412
	(0.0679)	(0.0684)	(0.0685)	(0.0680)	(0.0683)	(0.0685)
Age	-0.521**	-0.600***	-0.525***	-0.556***	-0.566***	-0.538***
	(0.207)	(0.227)	(0.198)	(0.214)	(0.217)	(0.203)
Big 4	-0.722	-0.670	-0.650	-0.745	-0.569	-0.666
	(0.492)	(0.482)	(0.474)	(0.495)	(0.467)	(0.478)
GDP Growth	0.804	1.906	0.443	0.652	2.183	0.346
	(1.576)	(2.412)	(1.358)	(1.531)	(2.478)	(1.322)
Market Size	-0.0026***	-0.0027***	-0.0026***	-0.0026***	-0.0027***	-0.0027***

	(0.0005)	(0.0006)	(0.0005)	(0.0005)	(0.0005)	(0.0006)
Inflation	0.0550	0.116**	0.0705	0.0830*	0.0840	0.0833*
	(0.0562)	(0.0482)	(0.0501)	(0.0504)	(0.0518)	(0.0477)
Regulatory Quality	0.0357***	0.0455***	0.0377***	0.0387***	0.0415***	0.0408***
	(0.0091)	(0.0116)	(0.0100)	(0.0096)	(0.0104)	(0.0109)
Intercept	471.6	470.5	468.4	471.1	470.9	467.8
	(373.5)	(373.1)	(373.9)	(373.4)	(373.2)	(373.9)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	15833	15833	15833	15833	15833	15833
First Stage Regressions 1:						
Ethically-compliant firms: industry-country average	0.9121***	0.9502***	0.9604***	0.9435***	0.9274***	0.9859***
	(0.0092)	(0.0207)	(0.0304)	(0.0086)	(0.0185)	(0.0351)
Partial R2 of excluded instruments	0.3417	0.1674	0.132	0.3271	0.1511	0.1348
First Stage Regressions 2:						
High Religiosity IV	0.6772***	0.6697***	0.6737***	0.6755***	0.6715***	0.6715***
	(0.0071)	(0.0072)	(0.0071)	(0.0072)	(0.0072)	(0.0072)
Partial R^2 of excluded instruments	0.3852	0.3752	0.3836	0.3813	0.3763	0.381
Wooldridge's (1995) score test (p-values)	0.0081	0.0289	0.1311	0.0162	0.0147	0.1231

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *High religiosity* is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise. The religiosity score is the percentage of respondents in the country who indicate that the religion is important or rather important to themselves which is gathered from the World Value Survey. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. The instrumental variable for high religiosity is *Religious Democracy* define as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. This variable is measured by a dummy variable equal to 1 if the Religious Democracy score in the country where the firm is located is above the median score in the sample and 0 otherwise. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 7: Regression Results for the Impact of High Religious Countries (Growth prospects)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	0.0100***					
	(0.0035)					
Stage 2: Religious + EQ		0.0073				
		(0.0052)				
Stage 3: Religious + EQ + Ethics			-0.0114			
			(0.0086)			
Stringent Screening						
Stage 1: Religious				0.0103***		
				(0.0034)		
Stage 2: Religious + EQ					0.0072	
					(0.0055)	
Stage 3: Religious + EQ + ESG						-0.0051
						(0.0093)
Profitability	0.121***	0.121***	0.121***	0.121***	0.121***	0.121***
	(0.0159)	(0.0160)	(0.0159)	(0.0159)	(0.0160)	(0.0159)
High Religiosity	0.0120***	0.0124***	0.0125***	0.0116***	0.0123***	0.0126***
	(0.0038)	(0.0039)	(0.0038)	(0.0039)	(0.0039)	(0.0038)
Size	0.0091***	0.0093***	0.0098***	0.0081***	0.0093***	0.0096***
	(0.0008)	(0.0008)	(0.0009)	(0.0008)	(0.0008)	(0.0009)
Leverage	0.0003	-0.0069	-0.0128*	-0.0019	-0.0078	-0.0113*
	(0.0079)	(0.0071)	(0.0068)	(0.0072)	(0.0068)	(0.0066)
Sales Growth	-0.00008	-0.00008	-0.00009	-0.00009	-0.00008	-0.00009
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Age	0.0022***	0.0025***	0.0026***	0.0024***	0.0025***	0.0025***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Big 4	-0.00229	-0.0024	-0.0019	-0.0022	-0.0023	-0.0022
	(0.0020)	(0.0020)	(0.0021)	(0.0020)	(0.0020)	(0.0020)
GDP Growth	0.0279	0.0269	0.0289	0.0282	0.0272	0.0290
	(0.0217)	(0.0224)	(0.0224)	(0.0221)	(0.0226)	(0.0224)
Market Size	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***

	(0.000005)	(0.000005)	(0.000005)	(0.000005)	(0.000005)	(0.000005)
Inflation	-0.0004	-0.0004	-0.0002	-0.0005	-0.0004	-0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Regulatory Quality	-0.0005***	-0.0005***	-0.0005***	-0.0005***	-0.0005***	-0.0005***
	(0.00008)	(0.00008)	(0.00008)	(0.00008)	(0.00008)	(0.00008)
Intercept	-0.0874***	-0.0856***	-0.0920***	-0.0838***	-0.0846***	-0.0883***
	(0.0181)	(0.0179)	(0.0189)	(0.0182)	(0.0181)	(0.0188)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	23614	23614	23614	23614	23614	23614
First Stage Regressions 1:						
Ethically-compliant firms: industry-country average	0.8707***	0.9237***	0.9118***	0.9172***	0.9515***	0.9266***
	(0.0081)	(0.0149)	(0.0250)	(0.0075)	(0.0164)	(0.0283)
Partial R2 of excluded instruments	0.2941	0.1415	0.1086	0.2850	0.1519	0.1084
First Stage Regressions 2:						
High Religiosity IV	0.4698***	0.4671***	0.4707***	0.4674***	0.4648***	0.4687***
	(0.0057)	(0.0057)	(0.0057)	(0.0058)	(0.0057)	(0.0058)
Partial R^2 of excluded instruments	0.1949	0.1921	0.1972	0.1909	0.1898	0.1952
Wooldridge's (1995) score test (p-values)	0.0000	0.0000	0.0002	0.0000	0.0000	0.0001

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *High religiosity* is measured by a dummy variable equal to 1 if the religiosity score in the country where the firm is located is above the median score in the sample and 0 otherwise. The religiosity score is the percentage of respondents in the country who indicate that the religion is important or rather important to themselves which is gathered from the World Value Survey. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. The instrumental variable for high religiosity is *Religious Democracy* define as the percentage of the respondent that indicate one of the essential components of country democracy is when the religious authority has the power to interpret the law. This variable is measured by a dummy variable equal to 1 if the Religious Democracy score in the country where the firm is located is above the median score in the sample and 0 otherwise. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 8: Regression Results for the Impact of Types of Controlling Shareholders (Asset utilisation ratio)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	0.117*					
	(0.0648)					
Stage 2: Religious + EQ		0.371***				
		(0.101)				
Stage 3: Religious + EQ + Ethics			0.733***			
			(0.159)			
Stringent Screening						
Stage 1: Religious				-0.0729		
				(0.0605)		
Stage 2: Religious + EQ					0.0442	
					(0.0985)	
Stage 3: Religious + EQ + ESG						0.297*
						(0.168)
Family ownership	-0.0044	-0.0032	0.00003	-0.0051	-0.0045	-0.0032
	(0.0104)	(0.0105)	(0.0100)	(0.0104)	(0.0105)	(0.0103)
Institutional ownership	0.0022**	0.0023**	0.0022**	0.0021*	0.0022**	0.0022**
	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Foreign ownership	-0.0002	-0.0002	-0.0003	-0.0002	-0.0002	-0.0002
	(0.0007)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Managerial ownership	0.118	0.107	0.0523	0.113	0.116	0.0951
	(0.123)	(0.131)	(0.138)	(0.120)	(0.124)	(0.131)
Profitability	0.0025***	0.0023***	0.0026***	0.0023***	0.0023***	0.0024***
	(0.0008)	(0.0008)	(0.0008)	(0.0007)	(0.0008)	(0.0008)
Size	-0.0229***	-0.0264***	-0.0395***	-0.0150*	-0.0194**	-0.0257***
	(0.0087)	(0.0084)	(0.0091)	(0.0091)	(0.0087)	(0.0092)
Leverage	-0.163*	-0.105	-0.147**	-0.350***	-0.272***	-0.245***
	(0.0955)	(0.0790)	(0.0672)	(0.0883)	(0.0761)	(0.0685)
Sales Growth	-0.0038***	-0.0035***	-0.0036***	-0.0038***	-0.0038***	-0.0038***
	(0.0012)	(0.0011)	(0.0011)	(0.0012)	(0.0012)	(0.0012)
Age	0.0670***	0.0673***	0.0594***	0.0705***	0.0690***	0.0659***

	(0.0134)	(0.0133)	(0.0133)	(0.0133)	(0.0132)	(0.0132)
Big 4	0.0716***	0.0656**	0.0608**	0.0731***	0.0730***	0.0702***
	(0.0262)	(0.0263)	(0.0260)	(0.0261)	(0.0262)	(0.0260)
GDP Growth	-0.192	-0.291	-0.150	-0.175	-0.188	-0.162
	(0.347)	(0.372)	(0.332)	(0.327)	(0.338)	(0.332)
Market Size	-0.0002**	-0.0002**	-0.0001	-0.0002***	-0.0002**	-0.0002**
	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)
Inflation	0.0042	0.0048	0.0022	0.0059	0.0048	0.0040
	(0.0065)	(0.0064)	(0.0063)	(0.0064)	(0.0064)	(0.0064)
Regulatory Quality	-0.0018*	-0.0019*	-0.0027***	-0.0015	-0.0017	-0.0020*
	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Intercept	1.009***	1.038***	1.373***	1.019***	1.033***	1.148***
	(0.189)	(0.188)	(0.193)	(0.185)	(0.187)	(0.193)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	14177	14177	14177	14177	14177	14177
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8708***	0.8972***	0.8665***	0.9135***	0.9148***	0.8814***
	(0.00906)	(0.0186)	(0.0303)	(0.00860)	(0.02015)	(0.0343)
Partial R^2 of excluded instruments	0.3100	0.1511	0.1199	0.3183	0.1645	0.1190
F-test of excluded instruments	3591.50	2214.93	861.13	5384.69	2092.74	812.51
Wooldridge's (1995) score test (p-values)	0.0618	0.0005	0.0000	0.8622	0.5042	0.1312

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 9: Regression Results for the Impact of Types of Controlling Shareholders (Operating expense ratio)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	-3.407***					
	(1.075)					
Stage 2: Religious + EQ		-9.613**				
		(4.248)				
Stage 3: Religious + EQ + Ethics			-6.155*			
			(3.581)			
Stringent Screening						
Stage 1: Religious				-3.370**		
				(1.319)		
Stage 2: Religious + EQ					-9.114***	
					(3.537)	
Stage 3: Religious + EQ + ESG						-8.169*
						(4.940)
Family ownership	0.0718	0.0407	0.0442	0.0590	0.0442	0.0420
	(0.119)	(0.116)	(0.107)	(0.118)	(0.118)	(0.107)
Institutional ownership	-0.0019	-0.0093	-0.0011	-0.0055	-0.0007	-0.0021
	(0.0269)	(0.0283)	(0.0269)	(0.0273)	(0.0272)	(0.0271)
Foreign ownership	0.0155	0.0189	0.0159	0.0167	0.0172	0.0163
	(0.0186)	(0.0197)	(0.0182)	(0.0189)	(0.0192)	(0.0184)
Managerial ownership	0.0731	0.311	0.735	-0.0613	0.474	0.793
	(0.936)	(1.512)	(1.186)	(0.987)	(1.420)	(1.357)
Profitability	-5.237***	-5.568***	-5.288***	-5.332***	-5.462***	-5.323***
	(1.314)	(1.375)	(1.342)	(1.333)	(1.352)	(1.349)
Size	-0.771***	-0.686***	-0.719***	-0.748***	-0.717***	-0.693***
	(0.153)	(0.182)	(0.197)	(0.161)	(0.168)	(0.209)
Leverage	-5.766**	-5.528**	-3.360*	-4.975**	-6.371**	-3.378*
	(2.300)	(2.591)	(1.839)	(2.235)	(2.752)	(1.869)
Sales Growth	0.0388	0.0332	0.0377	0.0409	0.0310	0.0376
	(0.0877)	(0.0887)	(0.0889)	(0.0880)	(0.0884)	(0.0889)
Age	-0.713**	-0.769**	-0.694**	-0.729**	-0.742**	-0.699**

	(0.317)	(0.331)	(0.302)	(0.319)	(0.324)	(0.304)
Big 4	-0.646	-0.716	-0.614	-0.716	-0.571	-0.636
	(0.589)	(0.597)	(0.582)	(0.595)	(0.583)	(0.585)
GDP Growth	1.233	2.587	0.739	0.897	3.169	0.550
	(2.081)	(3.082)	(1.755)	(1.953)	(3.286)	(1.691)
Market Size	-0.0023***	-0.0026***	-0.0024***	-0.0024***	-0.0025***	-0.0024***
	(0.0006)	(0.0007)	(0.0006)	(0.0006)	(0.0006)	(0.0007)
Inflation	0.0346	0.0594	0.0308	0.0560	0.0284	0.0329
	(0.0579)	(0.0601)	(0.0571)	(0.0564)	(0.0615)	(0.0567)
Regulatory Quality	0.0431***	0.0505***	0.0464***	0.0449***	0.0470***	0.0474***
	(0.0125)	(0.0143)	(0.0134)	(0.0127)	(0.0135)	(0.0137)
Intercept	365.9	365.3	361.5	365.6	365.6	361.3
	(400.2)	(399.8)	(399.7)	(400.2)	(399.9)	(399.6)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9969	9969	9969	9969	9969	9969
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.9074***	0.9211***	0.9407***	0.9417***	0.9053***	0.9677***
	(0.0098)	(0.0242)	(0.0363)	(0.0096)	(0.0221)	(0.0417)
Partial R^2 of excluded instruments	0.3515	0.1747	0.1467	0.3535	0.1601	0.1447
F-test of excluded instruments	3167.97	1587.98	718.22	4824.32	1724.98	670.26
Wooldridge's (1995) score test (p-values)	0.0104	0.0543	0.0931	0.017	0.0309	0.0992

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 10: Regression Results for the Impact of Types of Controlling Shareholders (Growth prospects)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	0.0090**					
	(0.0045)					
Stage 2: Religious + EQ		0.0164**				
		(0.0069)				
Stage 3: Religious + EQ + Ethics			0.00007			
			(0.0104)			
Stringent Screening						
Stage 1: Religious				0.0105**		
				(0.0042)		
Stage 2: Religious + EQ					0.0164**	
					(0.0070)	
Stage 3: Religious + EQ + ESG						0.0039
						(0.0108)
Family ownership	-0.0003	-0.0002	-0.0003	-0.0002	-0.0002	-0.0003
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Institutional ownership	0.0001	0.0001	0.0001	0.0001*	0.0001*	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Foreign ownership	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001
	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)
Managerial ownership	0.0142	0.0137	0.0141	0.0146	0.0140	0.0138
	(0.0097)	(0.0101)	(0.0097)	(0.0098)	(0.0102)	(0.0099)
Profitability	0.119***	0.119***	0.119***	0.119***	0.119***	0.119***
	(0.0173)	(0.0173)	(0.0173)	(0.0173)	(0.0173)	(0.0173)
Size	0.0100***	0.0100***	0.0104***	0.0099***	0.0099***	0.0103***
	(0.0001)	(0.0001)	(0.0011)	(0.0001)	(0.0001)	(0.0011)
Leverage	0.0038	0.0024	-0.0061	0.0032	0.0003	-0.0055
	(0.0111)	(0.0100)	(0.0096)	(0.0102)	(0.0095)	(0.0094)
Sales Growth	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Age	0.0024**	0.0025**	0.0026**	0.0024**	0.0025**	0.00254**

	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Big 4	-0.0014	-0.0016	-0.0013	-0.0013	-0.0013	-0.0013
	(0.0026)	(0.0026)	(0.0026)	(0.0026)	(0.0026)	(0.0026)
GDP Growth	0.0242	0.0202	0.0253	0.0249	0.0212	0.0255
	(0.0214)	(0.0221)	(0.0219)	(0.0217)	(0.0227)	(0.0219)
Market Size	0.00002***	0.00002***	0.00002***	0.00003***	0.00003***	0.00002***
	(0.000005)	(0.000005)	(0.000002)	(0.000005)	(0.000005)	(0.000005)
Inflation	-0.0003	-0.0003	-0.0003	-0.0004	-0.0003	-0.0003
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Regulatory Quality	-0.0007***	-0.0007***	-0.0006***	-0.0007***	-0.0007***	-0.0006***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Intercept	-0.0893***	-0.0874***	-0.0879***	-0.0868***	-0.0854***	-0.0863***
	(0.0202)	(0.0200)	(0.0211)	(0.0202)	(0.0201)	(0.0209)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	14083	14083	14083	14083	14083	14083
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8689***	0.8936***	0.8674***	0.9135***	0.9126***	0.8831***
	(0.0088)	(0.0186)	(0.0304)	(0.0085)	(0.0202)	(0.0344)
Partial R^2 of excluded instruments	0.3097	0.1496	0.1198	0.3189	0.1634	0.1192
F-test of excluded instruments	3562.60	2190.85	843.74	5360.19	2077.88	810.54
Wooldridge's (1995) score test (p-values)	0.1626	0.0052	0.7994	0.0383	0.0044	0.5225

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Family Ownership* is the percentage of largest ultimate ownership held by individual and family owners. *Institutional Ownership* is the percentage of largest ultimate ownership held by institutional owners. *Foreign Ownership* is the percentage of largest ultimate ownership held by foreign owners. *Managerial Ownership* is the percentage of largest ultimate ownership held by managerial owners. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 11: Regression Results for the Impact of Investment Characteristic of Controlling Shareholders (Asset utilisation ratio)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	0.114*					
	(0.0645)					
Stage 2: Religious + EQ		0.368***				
		(0.101)				
Stage 3: Religious + EQ + Ethics			0.722***			
			(0.159)			
Stringent Screening						
Stage 1: Religious				-0.0754		
				(0.0603)		
Stage 2: Religious + EQ					0.0428	
					(0.0984)	
Stage 3: Religious + EQ + ESG						0.285*
						(0.167)
Shareholder diversification	0.0117***	0.0112***	0.0087**	0.0122***	0.0120***	0.0110***
	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0040)
Profitability	0.0025***	0.0024***	0.0027***	0.0024***	0.0024***	0.0025***
	(0.0007)	(0.0008)	(0.0008)	(0.0007)	(0.0007)	(0.0007)
Size	-0.0242***	-0.0277***	-0.0403***	-0.0163*	-0.0208**	-0.0268***
	(0.0087)	(0.0084)	(0.0091)	(0.0091)	(0.0087)	(0.0092)
Leverage	-0.159*	-0.0989	-0.143**	-0.344***	-0.264***	-0.239***
	(0.0957)	(0.0793)	(0.0673)	(0.0886)	(0.0764)	(0.0686)
Sales Growth	-0.0037***	-0.0034***	-0.0035***	-0.0037***	-0.0037***	-0.0037***
	(0.0011)	(0.0011)	(0.0011)	(0.0012)	(0.0012)	(0.0012)
Age	0.0669***	0.0672***	0.0595***	0.0704***	0.0688***	0.0659***
	(0.0134)	(0.0133)	(0.0133)	(0.0132)	(0.0132)	(0.0132)
Big 4	0.0721***	0.0661**	0.0615**	0.0736***	0.0735***	0.0708***
	(0.0261)	(0.0262)	(0.0260)	(0.0261)	(0.0262)	(0.0260)

GDP Growth	-0.173	-0.273	-0.137	-0.156	-0.169	-0.146
	(0.347)	(0.372)	(0.333)	(0.326)	(0.338)	(0.332)
Market Size	-0.0001**	-0.0001*	-0.0001*	-0.0002**	-0.0001**	-0.0001*
	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)	(0.00007)
Inflation	0.0039	0.0045	0.0020	0.0056	0.0045	0.0037
	(0.0064)	(0.0063)	(0.0063)	(0.0064)	(0.0064)	(0.0063)
Regulatory Quality	-0.0020*	-0.0021**	-0.0028***	-0.0017	-0.0019*	-0.0022**
	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Intercept	1.018***	1.048***	1.379***	1.027***	1.042***	1.153***
	(0.190)	(0.189)	(0.194)	(0.186)	(0.188)	(0.194)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	14177	14177	14177	14177	14177	14177
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8702***	0.8968***	0.8656***	0.9135***	0.9152***	0.8804***
	(0.0091)	(0.0189)	(0.0309)	(0.0087)	(0.0206)	(0.0350)
Partial R^2 of excluded instruments	0.3097	0.1511	0.1195	0.3184	0.1648	0.1187
F-test of excluded instruments	3577.60	2212.42	858.36	5375.72	2095.39	808.70
Wooldridge's (1995) score test (p-values)	0.0669	0.0005	0.0001	0.8380	0.5091	0.1450

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 12: Regression Results for the Impact of Investment Characteristic of Controlling Shareholders (Operating expense ratio)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	-3.379***					
	(1.054)					
Stage 2: Religious + EQ		-9.618**				
		(4.243)				
Stage 3: Religious + EQ + Ethics			-6.025*			
			(3.499)			
Stringent Screening						
Stage 1: Religious				-3.350***		
				(1.300)		
Stage 2: Religious + EQ					-9.103***	
					(3.524)	
Stage 3: Religious + EQ + ESG						-8.049*
						(4.855)
Shareholder diversification	-0.135	-0.145	-0.117	-0.143	-0.125	-0.114
	(0.119)	(0.121)	(0.109)	(0.120)	(0.116)	(0.107)
Profitability	-5.187***	-5.517***	-5.245***	-5.280***	-5.416***	-5.281***
	(1.307)	(1.365)	(1.335)	(1.324)	(1.344)	(1.342)
Size	-0.754***	-0.665***	-0.707***	-0.730***	-0.700***	-0.679***
	(0.156)	(0.189)	(0.201)	(0.166)	(0.173)	(0.215)
Leverage	-5.818**	-5.626**	-3.410*	-5.048**	-6.445**	-3.434*
	(2.327)	(2.651)	(1.870)	(2.274)	(2.798)	(1.905)
Sales Growth	0.0375	0.0318	0.0366	0.0395	0.0299	0.0366
	(0.0884)	(0.0893)	(0.0896)	(0.0886)	(0.0891)	(0.0896)
Age	-0.717**	-0.774**	-0.698**	-0.734**	-0.745**	-0.703**
	(0.318)	(0.332)	(0.302)	(0.320)	(0.325)	(0.304)
Big 4	-0.662	-0.735	-0.633	-0.732	-0.587	-0.655
	(0.589)	(0.598)	(0.582)	(0.596)	(0.583)	(0.585)

GDP Growth	1.041	2.395	0.574	0.704	2.988	0.390
	(2.029)	(3.038)	(1.713)	(1.905)	(3.236)	(1.656)
Market Size	-0.0026***	-0.0029***	-0.0026***	-0.0027***	-0.0027***	-0.0027***
	(0.0007)	(0.0008)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Inflation	0.0446	0.0705	0.0398	0.0665	0.0384	0.0417
	(0.0554)	(0.0593)	(0.0549)	(0.0550)	(0.0591)	(0.0547)
Regulatory Quality	0.0462***	0.0537***	0.0489***	0.0480***	0.0498***	0.0498***
	(0.0129)	(0.0153)	(0.0141)	(0.0134)	(0.0142)	(0.0145)
Intercept	365.8	365.2	361.5	365.5	365.5	361.3
	(400.1)	(399.7)	(399.7)	(400.0)	(399.8)	(399.5)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9969	9969	9969	9969	9969	9969
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.9070***	0.9217***	0.9399***	0.9422***	0.9051***	0.9670***
	(0.0098)	(0.0250)	(0.0368)	(0.0097)	(0.0227)	(0.0421)
Partial R^2 of excluded instruments	0.3512	0.1750	0.1464	0.3537	0.1601	0.1445
F-test of excluded instruments	3153.15	1592.51	715.494	4807.08	1727.61	668.196
Wooldridge's (1995) score test (p-values)	0.0098	0.0540	0.0938	0.0162	0.0304	0.0995

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 13: Regression Results for the Impact of Investment Characteristic of Controlling Shareholders (Growth prospects)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	0.0093**					
	(0.0045)					
Stage 2: Religious + EQ		0.0167**				
		(0.0069)				
Stage 3: Religious + EQ + Ethics			0.0015			
			(0.0104)			
Stringent Screening						
Stage 1: Religious				0.0107**		
				(0.0042)		
Stage 2: Religious + EQ					0.0163**	
					(0.0070)	
Stage 3: Religious + EQ + ESG						0.0052
						(0.0109)
Shareholder diversification	-0.0009**	-0.0009**	-0.0009**	-0.0009**	-0.0009**	-0.0009**
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Profitability	0.119***	0.120***	0.119***	0.119***	0.120***	0.119***
	(0.0173)	(0.0173)	(0.0173)	(0.0173)	(0.0173)	(0.0173)
Size	0.0101***	0.0101***	0.0104***	0.0101***	0.0101***	0.0103***
	(0.0001)	(0.0001)	(0.0011)	(0.0010)	(0.0010)	(0.0010)
Leverage	0.0034	0.0017	-0.0065	0.0025	-0.0003	-0.0061
	(0.0111)	(0.0091)	(0.0096)	(0.0102)	(0.0095)	(0.0094)
Sales Growth	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Age	0.0025**	0.0026**	0.0027**	0.0025**	0.0026**	0.0027**
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Big 4	-0.0015	-0.0017	-0.0014	-0.0014	-0.0014	-0.0014
	(0.0026)	(0.0026)	(0.0026)	(0.0026)	(0.0026)	(0.0026)

GDP Growth	0.0224	0.0183	0.0236	0.0231	0.0195	0.0238
	(0.0213)	(0.0220)	(0.0219)	(0.0216)	(0.0226)	(0.0218)
Market Size	0.00002***	0.00002***	0.00001***	0.00002***	0.00002***	0.00001***
	(0.000005)	(0.000005)	(0.000005)	(0.000005)	(0.000005)	(0.000005)
Inflation	-0.0002	-0.0002	-0.0002	-0.0003	-0.0003	-0.0002
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Regulatory Quality	-0.0006***	-0.0006***	-0.0006***	-0.0006***	-0.0006***	-0.0006***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Intercept	-0.0893***	-0.0873***	-0.0871***	-0.0866***	-0.0853***	-0.0857***
	(0.0202)	(0.0200)	(0.0211)	(0.0202)	(0.0201)	(0.0209)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	14083	14083	14083	14083	14083	14083
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8684****	0.8933***	0.8665***	0.9135***	0.9129***	0.8821***
	(0.0088)	(0.0189)	(0.0309)	(0.0086)	(0.0206)	(0.0351)
Partial R^2 of excluded instruments	0.3094	0.1496	0.1194	0.3190	0.1636	0.1189
F-test of excluded instruments	3545.40	2187.80	840.99	5348.14	2080.32	806.73
Wooldridge's (1995) score test (p-values)	0.1415	0.0048	0.7137	0.0349	0.0046	0.4641

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. *Shareholder diversification* is the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 14: Regression Results for the Impact of Financial Crisis: 2007-2008 (Asset utilisation ratio)

	(1) AUR	(2) AUR	(3) AUR	(4) AUR	(5) AUR	(6) AUR
Majority Screening						
Stage 1: Religious	0.143***					
	(0.0496)					
Stage 2: Religious + EQ		0.396***				
		(0.0780)				
Stage 3: Religious + EQ + Ethics			0.771***			
			(0.124)			
Stringent Screening						
Stage 1: Religious				-0.0196		
				(0.0475)		
Stage 2: Religious + EQ					0.125	
					(0.0767)	
Stage 3: Religious + EQ + ESG						0.478***
						(0.133)
Profitability	0.0029***	0.0027***	0.0031***	0.0026***	0.0027***	0.0029***
	(0.0009)	(0.0009)	(0.0009)	(0.0008)	(0.0009)	(0.0009)
Size	-0.0333***	-0.0354***	-0.0504***	-0.0279***	-0.0313***	-0.0408***
	(0.0072)	(0.0070)	(0.0076)	(0.0075)	(0.0073)	(0.0078)
Leverage	-0.111*	-0.0721	-0.116**	-0.265***	-0.208***	-0.189***
	(0.0648)	(0.0542)	(0.0483)	(0.0604)	(0.0525)	(0.0486)
Sales Growth	-0.0029***	-0.0025***	-0.0030***	-0.0030***	-0.0029***	-0.0031***
	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Age	0.0618***	0.0644***	0.0534***	0.0653***	0.0652***	0.0603***
	(0.0107)	(0.0104)	(0.0106)	(0.0105)	(0.0105)	(0.0105)
Big 4	0.0770***	0.0700***	0.0561***	0.0775***	0.0772***	0.0697***
	(0.0216)	(0.0216)	(0.0214)	(0.0215)	(0.0215)	(0.0213)
GDP Growth	-0.138	-0.239	-0.0965	-0.113	-0.149	-0.103
	(0.315)	(0.336)	(0.300)	(0.297)	(0.310)	(0.299)

Market Size	-0.0002*** (0.00006)	-0.0002*** (0.00006)	-0.0001** (0.00006)	-0.0002*** (0.00006)	-0.0002*** (0.00006)	-0.0002** (0.00006)
Inflation	0.0149*** (0.0057)	0.0131** (0.0056)	0.0088 (0.006)	0.0165*** (0.0058)	0.0146** (0.0057)	0.0114* (0.0058)
Regulatory Quality	-0.0013 (0.0009)	-0.0015* (0.0009)	-0.0023** (0.0009)	-0.0009 (0.0009)	-0.0012 (0.0009)	-0.0017* (0.0009)
Intercept	1.029*** (0.169)	1.057*** (0.169)	1.450*** (0.173)	1.052*** (0.165)	1.074*** (0.168)	1.281*** (0.176)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19175	19175	19175	19175	19175	19175
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8928*** (0.0108)	0.9414*** (0.0168)	0.9464*** (0.0278)	0.9377*** (0.0090)	0.9568*** (0.0182)	0.9460*** (0.0316)
Partial R^2 of excluded instruments	0.3074	0.1580	0.1216	0.3074	0.1685	0.1204
F-test of excluded instruments	3680.41	2528.32	1070.51	5393.48	2327.50	886.94
Wooldridge's (1995) score test (p-values)	0.0141	0.0000	0.0000	0.5656	0.1020	0.0009

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: AUR is the ratio of sales to total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 15: Regression Results for the Impact of Financial Crisis: 2007-2008 (Operating expense ratio)

	(1) OPR	(2) OPR	(3) OPR	(4) OPR	(5) OPR	(6) OPR
Majority Screening						
Stage 1: Religious	-2.696***					
	(0.907)					
Stage 2: Religious + EQ		-9.108**				
		(3.972)				
Stage 3: Religious + EQ + Ethics			-5.063*			
			(2.827)			
Stringent Screening						
Stage 1: Religious				-2.953**		
Stage 2: Religious + EQ					-8.000**	
					(3.149)	
Stage 3: Religious + EQ + ESG						-7.676*
						(4.246)
Profitability	-4.041***	-4.412***	-4.000***	-4.109***	-4.315***	-4.036***
	(1.136)	(1.232)	(1.155)	(1.155)	(1.197)	(1.165)
Size	-0.715***	-0.604***	-0.651***	-0.670***	-0.661***	-0.598***
	(0.143)	(0.150)	(0.158)	(0.143)	(0.143)	(0.168)
Leverage	-4.272**	-4.479**	-2.563*	-3.818**	-5.023**	-2.636*
	(1.787)	(2.039)	(1.400)	(1.752)	(2.146)	(1.423)
Sales Growth	0.0656	0.0565	0.0664	0.0673	0.0552	0.0661
	(0.0899)	(0.0903)	(0.0905)	(0.0900)	(0.0901)	(0.0906)
Age	-0.590**	-0.675**	-0.576**	-0.637**	-0.619**	-0.589**
	(0.251)	(0.275)	(0.236)	(0.262)	(0.258)	(0.241)
Big 4	-0.647	-0.643	-0.532	-0.686	-0.524	-0.551
	(0.598)	(0.599)	(0.573)	(0.606)	(0.577)	(0.578)
GDP Growth	0.718	2.194	0.221	0.682	2.374	0.166
	(1.747)	(2.822)	(1.470)	(1.740)	(2.841)	(1.449)

Market Size	-0.0021***	-0.0024***	-0.0021***	-0.0022***	-0.0023***	-0.0022***
	(0.0005)	(0.0006)	(0.0005)	(0.0005)	(0.0006)	(0.0006)
Inflation	-0.0110	0.0833*	0.0098	0.0279	0.0405	0.0323
	(0.0654)	(0.0499)	(0.0567)	(0.0545)	(0.0549)	(0.0518)
Regulatory Quality	0.0377***	0.0497***	0.0399***	0.0410***	0.0453***	0.0435***
	(0.0106)	(0.0136)	(0.0114)	(0.0111)	(0.0122)	(0.0123)
Intercept	517.5	516.7	513.9	517.1	517.2	513.2
	(379.8)	(379.1)	(380.3)	(379.8)	(379.2)	(380.3)
Year-fixed effects	12345	12345	12345	12345	12345	12345
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations						
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.9303***	0.9451***	1.0105***	0.9673***	0.9353***	1.0156***
	(0.0104)	(0.0235)	(0.0348)	(0.0096)	(0.0210)	(0.0403)
Partial R^2 of excluded instruments	0.3574	0.1748	0.1472	0.3493	0.1626	0.1453
F-test of excluded instruments	3694.49	1827.15	840.223	4793.84	2150.98	664.253
Wooldridge's (1995) score test (p-values)	0.0157	0.032	0.1199	0.0237	0.019	0.1128

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: OPR is the ratio of operating expense to sales. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Appendix D. 16: Regression Results for the Impact of Financial Crisis: 2007-2008 (Growth Prospects)

	(1) TFCF	(2) TFCF	(3) TFCF	(4) TFCF	(5) TFCF	(6) TFCF
Majority Screening						
Stage 1: Religious	0.0083**					
	(0.0037)					
Stage 2: Religious + EQ		0.0096*				
		(0.0053)				
Stage 3: Religious + EQ + Ethics			-0.0059			
			(0.0080)			
Stringent Screening						
Stage 1: Religious				0.0098***		
				(0.0035)		
Stage 2: Religious + EQ					0.0098*	
					(0.0056)	
Stage 3: Religious + EQ + ESG						-0.0008
						(0.0085)
Profitability	0.125***	0.125***	0.125***	0.125***	0.125***	0.125***
	(0.0176)	(0.0177)	(0.0176)	(0.0176)	(0.0177)	(0.0176)
Size	0.0101***	0.0102***	0.0106***	0.0010***	0.0102***	0.0104***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Leverage	0.0021	-0.0020	-0.0082	0.0013	-0.0032	-0.0071
	(0.0089)	(0.0079)	(0.0075)	(0.0081)	(0.0076)	(0.0074)
Sales Growth	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002
	(0.0003)	(0.0003)	(0.0002)	(0.0002)	(0.0003)	(0.0003)
Age	0.0018*	0.0019**	0.00204**	0.0019**	0.0019**	0.0011**
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Big 4	-0.0003	-0.0005	-0.00009	-0.0002	-0.0003	-0.0002
	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)
GDP Growth	0.0317	0.0299	0.0328	0.0316	0.0302	0.0329
	(0.0211)	(0.0217)	(0.0216)	(0.0214)	(0.0220)	(0.0216)
Market Size	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***

	(0.000004)	(0.000004)	(0.000004)	(0.000004)	(0.000004)	(0.000004)
Inflation	-0.0001	-0.0001	-0.00002	-0.0003	-0.0002	-0.00006
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Regulatory Quality	-0.0006***	-0.0006***	-0.0005***	-0.0006***	-0.0006***	-0.0006***
	(0.00009)	(0.00009)	(0.00009)	(0.00009)	(0.00009)	(0.00009)
Intercept	-0.0911***	-0.0895***	-0.0928***	-0.0878***	-0.0881***	-0.0901***
	(0.0198)	(0.0197)	(0.0204)	(0.0199)	(0.0198)	(0.0203)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19039	19039	19039	19039	19039	19039
First Stage Regressions:						
Ethically-compliant firms: industry-country average	0.8788***	0.9321***	0.9419***	0.9292***	0.9501***	0.9423***
	(0.0093)	(0.0166)	(0.0279)	(0.0084)	(0.0182)	(0.0316)
Partial R^2 of excluded instruments	0.3006	0.1548	0.1204	0.3035	0.1663	0.1192
F-test of excluded instruments	4012.16	2530.3	1055.05	5521.84	2313.35	887
Wooldridge's (1995) score test (p-values)	0.3088	0.0278	0.7079	0.0693	0.0208	0.7927

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variable: TFCF is the interaction of company's growth opportunities with its free cash flows. The growth opportunities is a dummy variable equal to 1 if the company's Tobin's Q was less than 1 (indicating low performance or a poorly managed company), or is 0 otherwise. Tobin's Q is measured as the firm's market capitalisation divided by the total assets, and free cash flows are the operating income before interest and tax divided by total assets. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets defines as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big 4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm

Bibliography

Abdelsalam, O. *et al.* (2014) 'On the comparative performance of socially responsible and Islamic mutual funds', *Journal of Economic Behavior and Organization*, 103, pp. 108–128.

Abdelsalam, O., Dimitropoulos, P. and Elnahass, M. (2016) 'Earnings management behaviors under different monitoring mechanisms: The case of Islamic and conventional banks', *Journal of Economic Behavior and Organization*. Elsevier B.V., 132, pp. 155–173.

Abdul Rahman, A., Yahya, M. A. and Mohd Nasir, M. H. (2010) 'Islamic norms for stock screening: A comparison between the Kuala Lumpur Stock Exchange Islamic Index and the Dow Jones Islamic Market Index', *International Journal of Islamic and Middle Eastern and Management*, 3(3), pp. 228–240.

Acero Fraile, I. and Alcalde Fradejas, N. (2014) 'Ownership structure and board composition in a high ownership concentration context', *European Management Journal*, 32(4), pp. 646–657.

Adhikari, B. K. and Agrawal, A. (2016) 'Does local religiosity matter for bank risk-taking?', *Journal of Corporate Finance*. Elsevier B.V., 38, pp. 272–293.

Agusman, A. *et al.* (2014) 'Government intervention, bank ownership and risk-taking during the Indonesian financial crisis', *Pacific-Basin Finance Journal*. Elsevier B.V., 30, pp. 114–131.

Ahmed, H. (2011) 'Maqasid Al-Shariah and Islamic Financial Products: A Framework for Assessment', *ISRA International Journal of Islamic Finance*, 3(1), pp. 149–160.

Al-Awadhi, A. M. and Dempsey, M. (2017) 'Social norms and market outcomes: The effects of religious beliefs on stock markets', *Journal of International Financial Markets, Institutions & Money*. Elsevier B.V., 50, pp. 119–134.

Al-Khazali, O. *et al.* (2017) 'International Review of Financial Analysis The impact of religious practice on stock returns and volatility', *International Review of Financial Analysis*. Elsevier Inc., 52, pp. 172–189.

Alam, N. (2010) 'Shariah-compliant equities: Empirical evaluation of performance in the European market during credit crunch', *Journal of Financial Services Marketing*, 15(3), pp. 228–240.

Alaoui, A. O. *et al.* (2016) 'Shari'ah screening, market risk and contagion: a multi-country analysis', *Journal of Economic Behavior and Organization*. Elsevier B.V., 132, pp. 93–112.

Alsaadi, A., Ebrahim, M. S. and Jaafar, A. (2016) 'Corporate Social Responsibility, Shariah-Compliance and Earnings Quality', *Journal of Financial Services Research*. Journal of Financial Services Research, pp. 1–42.

Ames, E. S. (1928) 'Religion and morality', *International Journal of Ethics*, 38(3), pp. 295–306.

Anderson, R. C. and Reeb, D. M. (2003) 'Founding-family ownership, corporate diversification, and firm leverage', *Journal of Law and Economics*, 46(2), pp. 653–684.

Andres, C. (2008) 'Large shareholders and firm performance - An empirical examination of founding-family ownership', *Journal of Corporate Finance*, 14, pp. 431–445.

Ang, J. S., Cole, R. A. and Lin, J. W. (2000) 'Agency costs and ownership structure', *The Journal of Finance*, 55(1), pp. 81–106.

Appel, I. R., Gormley, T. A. and Keim, D. B. (2016) 'Passive investors, not passive owners', *Journal of Financial Economics*. Elsevier B.V., 121(1), pp. 111–141.

Arshad, S., Aun, S. and Rizvi, R. (2016) 'Do Islamic stock indices perform better than conventional counterparts ? An empirical investigation of sectoral ef fi ciency', *Review of Financial Economics*, 31, pp. 108–114.

Ashraf, B. N., Zheng, C. and Arshad, S. (2016) 'Effects of national culture on bank risk-taking behaviour', *Research in International Business and Finance*. Elsevier B.V., 37, pp. 309–326.

Ashraf, D. *et al.* (2017) 'Do constraints on financial and operating leverage affect the performance of Islamic equity portfolios?', *Pacific-Basin Finance Journal*. Elsevier B.V., 42, pp. 171–182.

Ashraf, D. and Khawaja, M. (2016) 'Does the Shariah screening process matter? Evidence from Shariah compliant portfolios', *Journal of Economic Behavior and Organization*. Elsevier B.V., 132, pp. 77–92.

Attig, N. *et al.* (2014) 'Corporate Legitimacy and Investment – Cash Flow Sensitivity', *Journal of Business Ethics*, 121, pp. 297–314.

Attig, N., Guedhami, O. and Mishra, D. (2008) 'Multiple large shareholders, control contests, and implied cost of equity', *Journal of Corporate Finance*. Elsevier B.V., 14(5), pp. 721–737.

Baltagi, B. H. (2013) *Econometric Anaylsis of Panel Data*. Fifth. Chichester, West Sussex.: John Wiley & Sons, Inc.

Bar-El, R. *et al.* (2013) 'The evolution of secularization: cultural transmission, religion and fertility - theory, simulations and evidence', *Journal of Population Economics*, 26(3), pp. 1129–1174.

Barnea, A. and Rubin, A. (2010) 'Corporate social responsibility as a conflict between shareholders', *Journal of Business Ethics*, 97, pp. 71–86.

Barro, R. J. and Mccleary, R. M. (2003) 'Religion and economic growth across countries', *American Sociological Review*, 68(5), pp. 760–781.

Bartram, S. M., Brown, G. W. and Waller, W. (2015) 'How important is financial risk?', *Journal of Financial and Quantitative Analysis*, 50(4), pp. 801–824.

Baum, C. F., Schaffer, M. E. and Stillman, S. (2003) 'Instrumental variables and GMM: Estimation and testing', *The Stata Journal*, 3(1), pp. 1–31.

Baxamusa, M. and Jalal, A. (2014) 'Does religion affect capital structure?', *Research in International Business and Finance*. Elsevier B.V., 31, pp. 112–131.

Berman, E. M. and West, J. P. (1998) 'Responsible risk-taking', *American Society for Public Administration*, 58(4), pp. 346–352.

Bhandari, A. and Javakhadze, D. (2017) 'Corporate social responsibility and capital allocation efficiency', *Journal of Corporate Finance*. Elsevier B.V., 43, pp. 354–377.

Blau, B. M. (2017) 'Religiosity and the volatility of stock prices: A cross-country analysis', *Journal of Business Ethics*. Springer Netherlands, 144(3), pp. 609–621.

Bloodgood, J. M. *et al.* (2008) 'The influence of ethics and intelligence on cheating behaviour', *Journal of Business Ethics*, 82(3), pp. 557–571.

Bodnaruk, A. *et al.* (2008) 'Shareholder diversification and the decision to go public', *Review of Financial Studies*, 21(6), pp. 2779–2824.

Boubaker, S., Rouatbi, W. and Saffar, W. (2017) 'The role of multiple large shareholders in the choice of debt source', *Financial Management*, 46(1), pp. 241–274.

Boubakri, N., Cosset, J.-C. and Saffar, W. (2013) 'The role of state and foreign owners in corporate risk-taking: Evidence from privatization', *Journal of Financial Economics*. Elsevier, 108(3), pp. 641–658.

Brammer, S., Williams, G. and Zinkin, J. (2007) 'Religion and attitudes to corporate social responsibility in a large cross-country sample', *Journal Business Ethics*, 71(3), pp. 229–243.

Brown, G. and Kapadia, N. (2007) 'Firm-specific risk and equity market development', *Journal of Financial Economics*, 84, pp. 358–388.

Buchner, A., Mohamed, A. and Saadouni, B. (2017) 'The association between earnings forecast in IPOs prospectuses and earnings management: An empirical analysis', *Journal of International Financial Markets, Institutions & Money*, 51, pp. 92–105.

Callen, J. L. and Fang, X. (2015) 'Religion and stock price crash risk', *Journal of Financial and Quantitative Analysis*, 50(1–2), pp. 169–195.

Callen, J. L., Morel, M. and Richardson, G. (2011) 'Do culture and religion mitigate earnings management? Evidence from a cross-country', *International Journal of Disclosure and Governance*, 8(2), pp. 103–121.

Canepa, A. and Ibnrubbian, A. (2014) 'Does faith move stock markets? Evidence from Saudi Arabia', *Economics and Finance Working Paper*, (14–18), pp. 1–30.

Capelle-Blancard, G. and Mojon, S. (2014) 'The performance of socially responsible funds: does the screening process matter?', *European Financial Management*, 20(3), pp. 494–520.

Carey, P., Liu, L. and Qu, W. (2017) 'Voluntary corporate social responsibility reporting and financial statement auditing in China', *Journal of Contemporary Accounting & Economics*. Elsevier Ltd, 13, pp. 244–262.

Carroll, A. B. (1979) 'A three-dimensional conceptual model of corporate performance', *The Academy of Management Review*, 4(4), pp. 497–505.

Charles, A., Darné, O. and Pop, A. (2015) 'Risk and ethical investment: Empirical evidence from Dow Jones Islamic indexes', *Research in International Business and Finance*. Elsevier B.V., 35, pp. 33–56.

Chen, C. *et al.* (2018) 'Corporate codes of ethics, national culture, and earnings discretion: international evidence', *Journal of Business Ethics*. Springer Netherlands, 151, pp. 141–

163. doi: 10.1007/s10551-016-3210-y.

Chen, H. *et al.* (2016) 'Religiosity and the cost of debt', *Journal of Banking and Finance*. Elsevier B.V., 70, pp. 70–85.

Chen, H. and Ngo, T. (2017) 'Leverage-based index revisions: the case of Dow Jones Islamic Market World Index', *Global Finance Journal*. Elsevier Inc., 32, pp. 16–34.

Chen, J. C. and Roberts, R. W. (2010) 'Toward a more coherent understanding of the organization- society relationship: a theoretical consideration for social and environmental accounting research', *Journal of Business Ethics*, 97(4), pp. 651–665.

Chircop, J. *et al.* (2017) 'Does branch religiosity influence bank risk-taking?', *Journal of Business Finance & Accounting*, 44(1 & 2), pp. 271–294.

Cho, C. H., Roberts, R. W. and Patten, D. M. (2010) 'The language of US corporate environmental disclosure', *Accounting, Organizations and Society*. Elsevier Ltd, 35(4), pp. 431–443.

Combs, J. G. *et al.* (2007) 'The moderating effect of CEO power on the board composition? Firm performance relationship', *Journal of Management Studies*, 44(8), pp. 1299–1323.

Conheady, B. *et al.* (2014) 'Board effectiveness and firm performance of Canadian listed firms', *British Accounting Review*, 47, pp. 1–14.

Crane, A. D. and Koch, A. (2018) 'Shareholder litigation and ownership structure: Evidence from a natural experiment', *Management Science*, 64(1), pp. 5–23.

Cronqvist, H. and Fahlenbrach, R. (2009) 'Large shareholders and corporate policies', *The Review of Financial Studies*, 22(10), pp. 3941–3976. doi: 10.1086/261385.

Cui, J. *et al.* (2015) 'Workforce diversity and religiosity', *Journal of Business Ethics*, 128(4), pp. 743–767.

Dechow, P., Ge, W. and Schrand, C. (2010) 'Understanding earnings quality: A review of the proxies, their determinants and their consequences', *Journal of Accounting and Economics*. Elsevier, 50, pp. 344–401.

Deegan, C. (2002) 'The legitimising effect of social and environmental disclosures - a theoretical foundation', *Accounting, Auditing & Accountability Journal*, 15(3), pp. 282–311.

Deegan, C. and Unerman, J. (2011) *Financial Accounting Theory*. New York: McGraw-Hill Higher Education.

Demarzo, P. M. and Urosevic, B. (2014) 'Ownership dynamics and asset pricing with a large shareholder ownership', *Journal of Political Economy*, 114(4), pp. 774–815.

Derigs, U. and Marzban, S. (2008) 'Review and analysis of current Shariah-compliant equity screening practices', *International Journal of Islamic and Middle Eastern Finance and Management*, 1(4), pp. 285–303.

Derigs, U. and Marzban, S. (2009) 'New strategies and a new paradigm for Shariah-compliant portfolio optimization', *Journal of Banking & Finance*, 33, pp. 1166–1176.

Desender, K. A. *et al.* (2016) 'A clash of governance logics: Foreign ownership and board monitoring', *Strategic Management Journal*, 37, pp. 349–369.

Devers, C. E. *et al.* (2009) 'A general theory of organizational stigma', *Organization Science*, 20(1), pp. 154–171.

Dhillon, A. and Rossetto, S. (2015) 'Ownership structure, voting, and risk', *Review of Financial Studies*, 28(2), pp. 521–560.

Diemont, D., Moore, K. and Soppe, A. (2016) 'The downside of being responsible: corporate social responsibility and tail risk', *Journal of Business Ethics*. Springer Netherlands, 137, pp. 213–229.

DiMaggio, P. J. and Powell, W. W. (1983) 'The iron cage revisited: institutional isomorphism and collective rationality in organizational fields', *American Sociological Review*, 48(2), pp. 147–160.

Doidge, C., Andrew Karolyi, G. and Stulz, R. M. (2007) 'Why do countries matter so much for corporate governance?', *Journal of Financial Economics*, 86(1), pp. 1–39.

Donaldson, T. and Preston, L. E. (1995) 'The stakeholder theory of the corporation: Concepts, evidence, and implications', *The Academy of Management Review*, 20(1), pp. 65–91.

Dong, Y. *et al.* (2014) 'Ownership structure and risk-taking: Comparative evidence from private and state-controlled banks in China', *International Review of Financial Analysis*. Elsevier Inc., 36, pp. 120–130.

Donker, H., Poff, D. and Zahir, S. (2008) 'Corporate values, codes of ethics, and firm performance: A look at the Canadian context', *Journal of Business Ethics*, (82), pp. 527–537.

Doukas, J. A., Kim, C. and Pantzalis, C. (2000) 'Security analysis, agency costs, and company characteristics', *Financial Analysts Journal*, 56(6), pp. 54–63.

Doukas, J. A., McKnight, P. J. and Pantzalis, C. (2005) 'Security analysis, agency costs, and UK firm characteristics', *International Review of Financial Analysis*, 14, pp. 493–507.

Douma, S., George, R. and Kabir, R. (2006) 'Foreign and domestic ownership, business groups and firm performance: Evidence from a large emerging market', *Strategic Management Journal*, 27(7), pp. 637–657.

Dow, S. and McGuire, J. (2016) 'Family matters?: A cross-national analysis of the performance implications of family ownership', *Corporate Governance: An International Review*, 24(6), pp. 584–598.

Dowling, J. and Pfeffer, J. (1975) 'Organizational legitimacy: social values and organizational behavior', *The Pacific Sociological Review*, 18(1), pp. 122–136.

Du, X. (2013) 'Does religion matter to owner-manager agency costs? Evidence from China', *Journal of Business Ethics*, (118), pp. 319–347.

Du, X. *et al.* (2017) 'Culture, marketization, and owner-manager agency costs: A case of merchant guild culture in China', *Journal of Business Ethics*. Springer Netherlands, 143(2), pp. 353–386.

Du, X., Jian, W. and Lai, S. (2015) 'Does religion mitigate earnings management? Evidence from China', *Journal of Business Ethics*. Springer Netherlands, 131, pp. 699–749.

Dyreng, S. D., Mayew, W. J. and Williams, C. D. (2012) 'Religious social norms and corporate financial reporting', *Journal of Business Finance and Accounting*, 39(7–8), pp. 845–875.

Edmans, A. (2014) 'Blockholders and corporate governance', *Annual Review of Financial Economics*, 6(1), pp. 23–50.

Eisenmann, T. R. (2002) 'The effects of CEO equity ownership and firm diversification on risk taking', *Strategic Management Journal*, 23(6), pp. 513–534.

Elster, J. (1989) 'Social norms and economic theory', *The Journal of Economic Perspective*, 3(4), pp. 99–117.

Elster, J. (1991) 'Rationality and social norms', *European Journal of Sociology*, 32(1), pp. 109–129.

Erragragui, E. and Revelli, C. (2016) 'Is it costly to be both shariah compliant and socially responsible?', *Review of Financial Economics*. Elsevier Inc., 31, pp. 64–74.

Faccio, M. and Lang, L. H. P. (2002) 'The ultimate ownership of Western European corporations', *Journal of Financial Economics*, 65(3), pp. 365–395.

Faccio, M., Marchica, M. T. and Mura, R. (2011) 'Large shareholder diversification and corporate risk-taking', *Review of Financial Studies*, 24(11), pp. 3601–3641.

Fama, Eugene, F. (1980) 'Agency problems and the theory of the firm', *Journal of Political Economy*, 88(2), pp. 288–307.

Fama, E. F. and Jensen, M. C. (1983) 'Separation of Ownership and Control', *Journal of Law and Economics*, 26(2), pp. 301–325.

Fama, F. and French, R. (1993) 'Common risk factors in the returns stocks and bonds', 33, pp. 3–56.

Farinha, J., Mateus, C. and Soares, N. (2018) 'Cash holdings and earnings quality: evidence from the Main and Alternative', *International Review of Financial Analysis*. Elsevier, 56, pp. 238–252.

Fauver, L. and McDonald, M. B. (2014) 'International variation in sin stocks and its effects on equity valuation', *Journal of Corporate Finance*, 25, pp. 173–187.

Fehr, E. and Fischbacher, U. (2002) 'Why social preferences matter - The impact of non-selfish motives on competition, cooperation and incentives', *The Economic Journal*, 112, pp. 1–34.

Fernando, S. and Lawrence, S. (2014) 'A theoretical framework for CSR practices: Integrating legitimacy theory, stakeholder theory and institutional theory', *Journal of Theoretical Accounting Research*, pp. 149–178.

Ferrell, A., Liang, H. and Renneboog, L. (2016) 'Socially responsible firms', *Journal of Financial Economics*. Elsevier B.V., 122, pp. 585–606.

Festré, A. (2010) 'Incentives and social norms: A motivation-based economic analysis of social norms', *Journal of Economic Surveys*, 24(3), pp. 511–538.

Fitza, M. and Tihanyi, L. (2017) 'How much does ownership form matter', *Strategic Management Journal*, 38(13), pp. 2726–2743. doi: 10.1002/smj.

Fleming, G., Heaney, R. and Mccosker, R. (2005) 'Agency costs and ownership structure in Australia', *Pacific-Basin Finance Journal*, 13, pp. 29–52.

Florackis, C. (2011) 'Agency costs and corporate governance mechanisms: evidence for UK firms', *International Journal of Managerial Finance*, 4(1), pp. 37–59.

Fox, J., Finke, R. and Dane, R. M. (2018) 'New data and measures on societal discrimination and religious minorities', *Interdisciplinary Journal of Research on Religion*, 14, pp. 1–37.

Freeman, E. R. (2001) 'Stakeholder theory of the modern corporation', *General Issues in Business Ethics*, 3, pp. 38–48.

Freeman, R. E. (1984) *Strategic management: a stakeholder approach*. Boston: Pitman.

Gadhoum, Y. and Ayadi, M. a. (2003) 'Ownership structure and risk: A Canadian empirical analysis', *Quarterly Journal of Business and Economics*, 42(1), pp. 19–39.

Gao, L., Wang, Y. and Zhao, J. (2017) 'Does local religiosity affect organizational risk-taking? Evidence from the hedge fund industry', *Journal of Corporate Finance*. Elsevier B.V., 47, pp. 1–22.

García-Kuhnert, Y., Marchica, M.-T. and Mura, R. (2015) 'Shareholder diversification and bank risk-taking', *Journal of Financial Intermediation*, 24(4), pp. 602–635.

Gaspar, J.-M., Massa, M. and Matos, P. (2005) 'Shareholder investment horizons and the market for corporate control', *Journal of Financial Economics*, 76(1), pp. 135–165.

Ghoul, E. S. *et al.* (2012) 'Does religion matter to equity pricing?', *Journal of Business Ethics*, 111, pp. 491–518.

Goergen, M. and Renneboog, L. (2001) 'Investment policy, internal financing and ownership concentration in the UK', *Journal of Corporate Finance*, 7(3), pp. 257–284.

Graham, G. (1992) 'Religion, secularization and modernity', *Philosophy*, 67(260), pp. 183–197.

Gregory, A., Tharyan, R. and Whittaker, J. (2014) 'Corporate social responsibility and firm value: Disaggregating the effects on cash flow, risk and growth', *Journal of Business Ethics*, 124, pp. 633–657.

Grullon, G., Kanatas, G. and Weston, J. (2009) *Religion and corporate (mis)behavior, Working Paper Rice University*.

Guiso, L., Sapienza, P. and Zingales, L. (2006) 'Does culture affect economics outcomes?', *The Journal of Economic Perspective*, 20(2), pp. 23–48.

Gursoy, G. and Kursat, A. (2002) 'Equity ownership structure, risk taking, and performance an empirical investigation in Turkish listed companies', *Emerging Markets Finance and Trade*, 38(6), pp. 6–25.

Halbritter, G. and Dorfleitner, G. (2015) 'The wages of social responsibility - where are they? A critical review of ESG investing', *Review of Financial Economics*, 26, pp. 25–35.

Harjoto, M. A. and Laksmana, I. (2018) 'The impact of corporate social responsibility on risk taking and firm value', *Journal of Business Ethics*. Springer Netherlands, 151(2), pp. 353–373. doi: 10.2139/ssrn.2777215.

He, Q. and Rui, O. M. (2016) 'Ownership structure and insider trading: evidence from China', *Journal of Business Ethics*, 134(4), pp. 553–574.

Henry, D. (2010) 'Agency costs, ownership structure and corporate governance compliance: A private contracting perspective', *Pacific-Basin Finance Journal*. Elsevier B.V., 18, pp. 24–46.

Hermalin, B. E. and Weisbach, M. S. (1991) 'The effects of board composition and direct incentive on firm performance', *Financial Management*, 20(4), pp. 101–112.

Hilary, G. and Hui, K. W. (2009) 'Does religion matter in corporate decision making in America?', *Journal of Financial Economics*. Elsevier, 93(3), pp. 455–473.

Hillman, A. J. and Dalziel, T. (2003) 'Boards of directors and firm performance: integrating agency and resource dependence perspectives', *Academy of Management Review*, 28(3), pp. 383–396.

Ho, C. S. F. (2015) 'International comparison of Shari'ah compliance screening standards', *International Journal of Islamic and Middle Eastern Financial Management*, 8(2), pp. 222–245.

Ho, S. C. F. *et al.* (2014) 'Performance of global Islamic versus conventional share indices: international evidence', *Pacific-Basin Finance Journal*, 28, pp. 110–121.

Hong, H. and Kacperczyk, M. (2009) 'The price of sin: The effects of social norms on markets', *Journal of Financial Economics*. Elsevier, 93(1), pp. 15–36.

Hooghiemstra, R., Kuang, Y. F. and Qin, B. (2015) 'Say-on-pay votes: the role of the media', *European Accounting Review*, 24(4), pp. 753–778.

Hope, O. K. (2013) 'Large shareholders and accounting research', *China Journal of Accounting Research*, 6(1), pp. 3–20.

Hsiao, C. (2014) *Analysis of Panel Data*. Third. New York: Cambridge University Press.

Huang, Y. S. and Wang, C.-J. (2015) 'Corporate governance and risk-taking of Chinese firms: The role of board size', *International Review of Economics & Finance*. Elsevier Inc., 37, pp. 96–113.

Huddart, S. (1993) 'The effect of a large shareholder on corporate value', 39(11), pp. 1407–1421.

Humphrey, J. E. and Lee, D. D. (2011) 'Australian socially responsible funds: performance, risk and screening intensity', *Journal of Business Ethics*, 102, pp. 519–535.

Iannotta, G., Nocera, G. and Sironi, A. (2007) 'Ownership structure, risk and performance in the European banking industry', *Journal of Banking & Finance*, 31(7), pp. 2127–2149.

Iqbal, Z. and Mirakhor, A. (2011) *An introducton to Islamic finance: Theory and practice*. 2nd edn. Singapore: John Wiley & Sons (Asia) Pte. Ltd.

Jawadi, F., Jawadi, N. and Louhichi, W. (2014) 'Conventional and Islamic stock price performance: An empirical investigation', *International Economics*. Elsevier, 137, pp. 73–87.

Jensen, M. C. and Meckling, W. H. (1976) 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of Financial Economics*, 3, pp. 305–360.

Jiang, F. *et al.* (2015) 'Family-firm risk-taking: Does religion matter?', *Journal of Corporate Finance*. Elsevier B.V., 33(71002032), pp. 260–278.

Jiraporn, P. *et al.* (2015) 'Does corporate governance influence corporate risk-taking? Evidence from the Institutional Shareholders Services (ISS)', *Finance Research Letters*. Elsevier Inc., 13, pp. 105–112.

Jo, H. and Harjoto, M. A. (2011) 'Corporate governance and firm value: The impact of corporates social responsibility', *Journal of Business Ethics*, 103, pp. 351–383.

Jo, H. and Na, H. (2012) 'Does CSR reduce firm risk? evidence from controversial industry sectors', *Journal of Business Ethics*, 110, pp. 441–456.

Jones, J. J. (1991) 'Earnings management during import relief investigations', 29(2), pp. 193–228.

Judge, G. G. *et al.* (1985) *The Theory and Practice of Econometrics*. Second. New York: Wiley.

Kamali, M. H. (1999) 'Maqasid Al-Shari'ah: The objectives of Shari'ah', *Islamic Studies*, 38(2), pp. 193–208.

Kamali, M. H. (2008) *Shariah law: an introduction*. Oxford: One World Publication.

Kanagaretnam, K. *et al.* (2015) 'Religiosity and risk-taking in international banking', *Journal of Behavioral and Experimental Finance*. Elsevier B.V., 7, pp. 42–59.

Kanagaretnam, K., Lim, C. Y. and Lobo, G. J. (2011) 'Effects of national culture on earnings quality of banks', *Journal of International Business Studies*, 42(6), pp. 853–874.

Kanagaretnam, K., Lobo, G. J. and Wang, C. (2015) 'Religiosity and earnings management: International evidence from the banking industry', *Journal of Business Ethics*. Springer Netherlands, 132(2), pp. 277–296.

Karim, K., Suh, S. and Tang, J. (2016) 'Do ethical firms create value?', *Social Responsibility Journal*, 12(1), pp. 54–68.

Kennedy, E. J. and Lawton, L. (1998) 'Religiousness and business ethics', *Journal of Business Ethics*, 17(2), pp. 163–175.

Kolasa, M., Rubaszek, M. and Taglioni, D. (2010) 'Firms in the great global recession: The role of foreign ownership and financial dependence', *Emerging Markets Review*, 11(4), pp. 341–357.

Krüger, P. (2015) 'Corporate goodness and shareholder wealth', *Journal of Financial Economics*, 115, pp. 304–329.

Kumar, A., Page, J. K. and Spalt, O. G. (2011) 'Religious beliefs, gambling attitudes, and financial market outcomes', *Journal of Financial Economics*. Elsevier, 102(3), pp. 671–708.

Laeven, L. and Levine, R. (2008) 'Complex ownership structures and corporate valuations', *Review of Financial Studies*, 21(2), pp. 579–604.

Lassoued, N., Sassi, H. and Ben Rejeb Attia, M. (2016) 'The impact of state and foreign ownership on banking risk: Evidence from the MENA countries', *Research in International Business and Finance*. Elsevier B.V., 36, pp. 167–178.

Lee, C. C. and Hsieh, M. F. (2014) 'Bank reforms, foreign ownership, and financial stability', *Journal of International Money and Finance*. Elsevier Ltd, 40, pp. 204–224.

Lee, D. D. *et al.* (2010) 'Socially responsible investment fund performance: the impact of screening intensity', *Accounting and Finance*, 50, pp. 351–370.

Leventis, S., Dedoulis, E. and Abdelsalam, O. (2015) 'The impact of religiosity on audit pricing', *Journal of Business Ethics*. Springer Netherlands.

Lewis, M. K. and Algaoud, L. M. (2001) *Islamic Banking*. Cheltenham: Edward Elgar Publishing Limited.

Li, D. *et al.* (2006) 'When financial institutions are large shareholders: The role of macro corporate governance environments', *Journal of Finance*, 61(6), pp. 2975–3007.

Li, K. *et al.* (2013) 'How does culture influence corporate risk-taking?', *Journal of Corporate Finance*. Elsevier B.V., 23, pp. 1–22.

Li, W. and Cai, G. (2016) 'Religion and stock price crash risk: Evidence from China', *China Journal of Accounting Research*. Sun Yat-sen University, 9(3), pp. 235–250.

Lins, K. V, Servaes, H. and Tamayo, A. (2017) 'Social capital, trust, and firm Performance: The value of corporate social responsibility during the financial crisis', *The Journal of Finance*, 72(4), pp. 1785–1824.

Liston, D. P. (2016) 'Sin stock returns and investor sentiment', *The Quarterly Review of Economics and Finance*, 59, pp. 63–70.

Longenecker, J. G., Mckinney, J. A. and Moore, C. W. (2004) 'Religious intensity, evangelical christianity, and business ethics: An empirical study', *Journal of Business Ethics*, 55, pp. 373–386.

Mallin, C. A., Saadouni, B. and Briston, R. J. (1995) 'The financial performance of ethical investment funds', *Journal of Business Finance & Accounting*, 22(4), pp. 483–496.

Manev, I. M. and Stevenson, W. B. (2001) 'Nationality, cultural distance, and expatriate status : effects on the managerial network in a multinational enterprise', *Journal of International Business Studies*, 32(2), pp. 285–303.

Maury, B. and Pajuste, A. (2005) 'Multiple large shareholders and firm value', *Journal of Banking & Finance*, 29(7), pp. 1813–1834.

Mazouz, K., Mohamed, A. and Saadouni, B. (2016) 'Stock return comovement around the Dow Jones Islamic Market World Index revisions', *Journal of Economic Behavior and Organization*. Elsevier B.V., 132, pp. 50–62.

Mazouz, K., Mohamed, A. and Saadouni, B. (2019) 'Price reaction of ethically screened stocks: A study of the Dow Jones Islamic Market World Index', *Journal of Business Ethics*. Springer Netherlands, 154(3), pp. 683–699.

Mccleary, R. M. and Barro, R. J. (2006) 'Religion and economy', *Journal of Economic Perspectives*, 20(2), pp. 49–72.

Mcguire, S. T., Omer, T. C. and Sharp, N. Y. (2012) 'The impact of religion on financial reporting irregularities', *The Accounting Review*, 87(2), pp. 645–673.

McIntyre, M. L., Murphy, S. A. and Mitchell, P. (2007) 'The top team: examining board

composition and firm performance', *Corporate Governance: The international journal of business in society*, 7(5), pp. 547–561.

Mcknight, P. J. and Weir, C. (2009) 'Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis', *The Quarterly Review of Economics and Finance*, 49, pp. 139–158.

Merkl-Davies, D. M., Brennan, N. M. and McLeay, S. J. (2011) 'Impression management and retrospective sense-making in corporate narratives: A social psychology perspective', *Accounting, Auditing and Accountability Journal*, 24(3), pp. 315–344.

Meyer, J. W. and Rowan, B. (1977) 'Institutionalized organizations: formal structure as myth and ceremony author', *American Journal of Sociology*, 83(2), pp. 340–363.

Mihet, R. (2013) 'Effects of culture on firm risk-taking: A cross-country and cross-industry analysis', *Journal of Cultural Economics*, 37(1), pp. 109–151.

Mishra, D. R. (2011) 'Multiple large shareholders and corporate risk taking: Evidence from East Asia', *Corporate Governance: An International Review*, 19(6), pp. 507–528.

Mishra, S. and Modi, S. B. (2013) 'Positive and negative corporate social responsibility, financial leverage, and idiosyncratic risk', *Journal of Business Ethics*, 117, pp. 431–448.

Muttakin, M. B., Khan, A. and Azim, M. I. (2015) 'Corporate social responsibility disclosures and earnings quality: Are they a reflection of managers ' opportunistic behaviour?', *Managerial Auditing Journal*, 30(3), pp. 277–298.

Nainggolan, Y., How, J. and Verhoeven, P. (2016) 'Ethical Screening and Financial Performance : The Case of Islamic Equity Funds', *Journal of Business Ethics*. Springer Netherlands, 137(1), pp. 83–99.

Nasr, A. Ben *et al.* (2016) 'Forecasting the volatility of the Dow Jones Islamic stock market index: long memory vs. regime switching', *International Review of Economics and Finance*. Elsevier Inc., 45, pp. 559–571.

Naughton, S. and Naughton, T. (2000) 'Religion, ethics and stock trading: the case of an Islamic equities market', *Journal of Business Economics*, 23(2), pp. 145–159.

Noussair, C. N. and Trautmann, S. T. (2013) 'Risk aversion and religion', *Journal of Risk Uncertain*, 165, pp. 165–183. doi: 10.1007/s11166-013-9174-8.

Obaidullah, M. and Wilson, R. (2005) 'Risk sharing and management in infrasttructure financing: An Islamic evaluation', in Anwar, M. and Haneef, M. A. (eds) *Studies in Islamic Banking and Finance in the 21st Century: Theory and Practice*. Kuala Lumpur: Kulliah of Economics and Management Sciences, IIUM.

Oh, H., Bae, J. and Kim, S. J. (2017) 'Can sinful firms benefit from advertising their CSR efforts? Adverse effect of advertising sinful firms' CSR engagements on firm performance', *Journal of Business Ethics*. Springer Netherlands, 143(4), pp. 643–663.

Oh, W. Y., Cha, J. and Chang, Y. K. (2017) 'Does ownership structure matter? The effects of insider and institutional ownership on corporate social responsibility', *Journal of Business Ethics*, 146(1), pp. 111–124.

Paligorova, T. (2010) 'Corporate risk taking and ownership structure corporate risk taking and ownership', *Bank of Canada Working paper*.

Pirinsky, C. and Wang, Q. (2006) 'Does corporate headquarters location matter for stock returns?', *The Journal of Finance*, LXI(4), pp. 1991–2015.

La Porta, R., Lopez-De-Silanes, F. and Shleifer, A. (1999) 'Corporate ownership around the world', *The Journal of Finance*, 54(2), pp. 471–517.

Rashid, A. (2016) 'Managerial Ownership and Agency Cost : Evidence from Bangladesh', *Journal of Business Ethics*. Springer Netherlands, pp. 609–621.

Rashid, M. Z. and Ibrahim, S. (2008) 'The effect of culture and religiosity on business ethics: A cross-cultural comparison', *Journal Business Ethics*, 82(4), pp. 907–917.

Renneboog, L., Ter, J. and Zhang, C. (2008) 'The price of ethics and stakeholder governance: the performance of socially responsible mutual funds', *Journal of Corporate Finance*, 14, pp. 302–322.

Richard, P. J. *et al.* (2009) 'Measuring organizational performance: towards methodological best practice', *Journal of Management*, 35(3), pp. 718–804.

Rosly, S. A. (2005) *Critical issues on Islamic banking and financial markets*. Indiana: AuthorHouse.

Salaber, J. (2013) 'Religion and returns in Europe', *European Journal of Political Economy*. Elsevier B.V., 32, pp. 149–160.

Salisbury, W. S. (1958) 'Religion and secularisation', *Social Forces*, 36(3), pp. 197–205.

Samet, M. and Jarboui, A. (2017a) 'CSR, agency costs and investment-cash flow sensitivity: a mediated moderation analysis', *Managerial Finance*, 43(3), pp. 299–312.

Samet, M. and Jarboui, A. (2017b) 'How does corporate social responsibility contribute to investment efficiency?', *Journal of Multinational Financial Management*, 40, pp. 33–46.

Sassen, R., Hinze, A. and Hardeck, I. (2016) 'Impact of ESG factors on firm risk in Europe', *Journal of Business Economics*. Springer Berlin Heidelberg, 86(8), pp. 867–904.

Sepe, J. *et al.* (2012) *Intermediate Accounting IFRS Global Edition*. 7th edn. Mc Graw Succeed.

Shiner, L. (1967) 'The concept of secularization in empirical research', *Journal for the Scientific Study of Religion*, 6(2), pp. 207–220.

Sila, V., Gonzalez, A. and Hagendorff, J. (2016) 'Women on board: Does boardroom gender diversity affect firm risk?', *Journal of Corporate Finance*, 36, pp. 26–53.

Singh, M. and Davidson III, W. N. (2003) 'Agency costs, ownership structure and corporate governance mechanisms', *Journal of Banking & Finance*, 27, pp. 793–816.

Sipon, S. *et al.* (2014) 'The impact of religiosity on financial debt and debt stress', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 140, pp. 300–306.

Smolo, E. and Mirakhor, A. (2010) 'The global financial crisis and its implications for the Islamic financial industry', *International Journal of Islamic and Middle Eastern Finance and Management*, 3(4), pp. 372–385.

Sommerville, C. . J. (1998) 'Secular society/religious population: our tacit rules for using the term "secularization"', *Journal for the Scientific Study of Religion*, 37(2), pp. 249–253.

Staiger, B. Y. D. and Stock, J. H. (1997) 'Instrumental Variables Regression with Weak Instruments', *Econometrica*, 65(3), pp. 557–586.

Stulz, R. M. and Williamson, R. (2003) 'Culture, openness, and finance', *Journal of Financial Economics*, 70(3), pp. 313–349.

Suchman, M. C. (1995) 'Managing legitimacy: Strategic and institutional approaches', *The Academy of Management Review*, 20(3), pp. 571–610.

Swatos, W. H. and Christiano, K. J. (1999) 'Secularization theory: the course of a concept secularization', *Sociology of Religion*, 60(3), pp. 209–228.

Szekely, R. D., Opre, A. and Miu, A. C. (2015) 'Religiosity enhances emotion and deontological choice in moral dilemmas', *Personality and Individual Differences*. Elsevier Ltd, 79, pp. 104–109.

Trinks, J. P. and Scholtens, B. (2017) 'The opportunity cost of negative screening in socially responsible investing', *Journal of Business Ethics*. Springer Netherlands, 140(2), pp. 193–208.

Umar, Z. (2017) 'Islamic vs conventional equities in a strategic asset allocation framework', *Pacific-Basin Finance Journal*. Elsevier B.V., 42, pp. 1–10. doi: 10.1016/j.pacfin.2015.10.006.

Visser, H. (2009) *Islamic finance principles and practice*. Cheltenham: Edward Elgar Publishing Limited.

Vozlyublennaia, N. (2013) 'Do firm characteristics matter for the dynamics of idiosyncratic risk?', *Journal of International Financial Markets, Institutions & Money*. Elsevier B.V., 27, pp. 35–46.

Waddock, S. A. and Graves, S. B. (1997) 'The corporate social performance-financial performance link', *Strategic Management Journal*, 18(4), pp. 303–319.

Walker, A. G., Smither, J. W. and Debode, J. (2012) 'The effects of religiosity on ethical judgments', *Journal of Business Ethics*, 106, pp. 437–452.

Walker, M. (2013) 'How Far Can We Trust Earnings Numbers? What Research Tells Us about Earnings Management', *Accounting and Business Research*, 43(4), pp. 445–481.

Wang, T. and Hsu, C. (2013) 'Board composition and operational risk events of financial institutions', *Journal of Banking & Finance*. Elsevier B.V., 37(6), pp. 2042–2051.

Ward, S. J. and King, L. A. (2018) 'Moral self-regulation, moral identity, and religiosity', *Journal of Personality and Social Psychology*, 115(3), pp. 495–525. doi: 10.1037/pspp0000207.

Weaver, G. R. and Agle, B. R. (2002) 'Religiosity and ethical behavior in organizations: A symbolic interactionist perspective', *The Academy of Management Review*, 27(1), pp. 77–97.

Weber, M. (1930) *Protestant ethic and the spirit of capitalism*. London: Routlege.

Wooldridge, J. M. (2010) *Econometric Analysis of Cross-section and Panel Data*. Second. London: MIT: Cambridge, Mass.

Wright, P. *et al.* (1996) 'Impact of corporate insider, blockholder, and institutional equity

ownership on firm risk taking', *Academy of Management Journal*, 39(2), pp. 441–463.

Zhang, G. (1998) 'Ownership concentration, risk aversion and the effect of financial structure on investment decisions', *European Economic Review*, 42, pp. 1751–1778.

Zou, H. and Adams, B. M. (2008) 'Corporate ownership, equity risk and returns in the People's Republic of China', *Journal of International Business Studies*, 39(7), pp. 1149–1168.

Zucker, L. G. (1987) 'Institutional theories of organization', *Annual Review of Sociology*, 13, pp. 443–464.