Erroneous Ecumenicism:
The folly of faith fund fungibility

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Abstract

This paper examines two often-associated religious beliefs, Roman Catholicism and Protestantism, and whether their respective faith based investment funds systematically differ. We find that Catholic- and Protestant- oriented investment funds exhibit different risk and return characteristics, especially in how they relate to common asset pricing factors. Also, these superficially similar faith foci have become increasingly distinct over time and show only a moderate relationship with Islamic- and Israeli- focused investment indexes. Further, we provide strong evidence of the existence of different, religion-specific asset pricing factors that are strongly (weakly) associated with more similar (dissimilar) religious funds. An extensive examination of the extant literature and these beliefs' underlying theology augment these empirical findings. Together, our findings clearly show that different faith based funds from different faiths exhibit different risk and return characteristics and that these different funds are suitable only to particular investor clienteles. This study concludes by providing implications and recommendations to academics for future research and investment participants regarding best practices; that all should avoid the easy call of investment related erroneous ecumenicism.

Keywords: Socially Responsible Investing, Faith Based Investing, factor models, time-varying correlations, faith, belief, Roman Catholicism, Islam, Jewish, Protestantism, non-financial utility, sin stocks, saint stocks, investment management, portfolio management, asset pricing models.

JEL Codes: C32, G11, G12, G18, G23, Z11

I. INTRODUCTION

The universe of Socially Responsible Investing (SRI) literature is indeed a vast and ever growing pool of knowledge, synthesizing an array of economic, financial, econometric, psychological, historical, social, and political fields into a combined body. Adding to the size and complexity of the SRI literature is that the very concept of what constitutes SRI is equally large. The SRI umbrella covers a broad investment landscape of partially-overlapping interests such as environment, sustainability, governance, and even denomination-specific religious investments. This paper examines a particular aspect of the SRI universe, Faith-Based Investing (FBI), and a largely unaddressed topic that potentially and subtly biases both researchers and market participants, alike: erroneous ecumenicism.

Specifically, we examine the four dominant FBI categories, Roman Catholicism, the more Biblically-literal Protestantism, and for contrast the Islamic and Jewish faith traditions, to examine whether these faiths should be treated as equivalents within the FBI and SRI space or whether they should be treated as very distinct categories of investment interest. If these faiths are indeed equivalent, there are implications to investment managers and investors, alike. For

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example, funds of various faiths may be offered to those seeking risk- and sin- diversification, relative to the overall secular market, and that employing a combination of diversely-focused FBIs is appropriate; that is: treating funds of different faiths as fungible investment tools. However, if these faiths cannot be treated as equivalents, then managers and investors should be cautioned in promoting or participating in cross-faith investing; that clearly different investment foci fulfill very different investor non-financial utility demand.

This study uses three main approaches to address two questions: "are faith funds fungible?" and "is investment ecumenicism erroneous?". First, we provide a comprehensive review of the SRI and FBI literature, especially as it relates to how FBI funds differ and how different faith-driven investors also differ. We show from the prior literature that FBI supply and FBI demand show clear distinctions as both individual groupings and in their interactions; that faith-specific FBI funds are designed to, and are successful at, fulfilling faith-specific FBI demand of the funds' clients.

Second, we perform a detailed analysis (see Literature Review and Appendix) between the two main distinctions among Christian-oriented FBI funds: Roman Catholicism and Biblically-literal Christianity of which Protestantism, in its purest form, most closely aligns. Using the backdrop of Biblical Christianity, we show that Roman Catholicism and Biblical Christianity are not easily reconciled, with very strong differences existing between the two with respect to vital concepts revolving around the mechanisms and methods of salvation, the authority given to and within their respective ecclesiastical structures, the sources and fixedness of spiritual knowledge, the religious compliance believers must maintain, and more.

As such, we make a compelling case that Roman Catholic and Biblically-literal Christians have very different views on walking their respective spiritual paths, and that these different views explain the clear, consistent differences found between their associated FBI funds in the academic literature. For additional contrast, we also compare elements of godhead, salvation, assurance, and obedience within these already-distinct Christian faiths against those of the Islamic faith. Here, we show that the Islamic tradition is vastly different from Roman Catholicism and Biblical Christianity and on grounds that simply cannot be bridged; that where notions of the godhead and of salvation are so different, ecumenical mending between Christianity and Islam is simply not tenable. As such, investment managers and investing clients are encouraged to maintain vigilance over ecumenical calls, especially in the investment space, when it comes to exclusionary screening behavior. Catholic, Biblical Christian, and Islamic followers are also cautioned of efforts made by ecclesiastical bodies, and their related investment advising groups, to blend the faiths together to common practices for the purpose of advancing potentially conflicting, human secular goals.

Third, we examine 65 Catholic- and Protestant- based funds for potential differences in their time series behavior, particularly relating to their comovement and sensitivity to various asset pricing factors. Looking only at unconditional correlations, both across the sample and in a time-varying manner, we show that Catholic and Protestant funds are fairly similar, initially lending credibility to those who treat the two religions, and their faith-specific investing clienteles, similarly. Yet, using a multi-factor model, we show that Catholic and Protestant funds respond differently to common asset pricing factors with Protestant funds generally experiencing a larger range of variation in factor sensitivities and regardless of official fund labels. Using this common factor model across the funds, we find that the conditional correlations (i.e. correlations across model-filtered returns) between Catholic and Protestant funds are largely near zero, indicating little to no relationship between "religious residuals" or "faith-specific factors".

Examining rolling, time-varying conditional correlations shows an even richer picture with different faiths comoving differently and ever-more distinctly over time.

Exploring this concept of a systematic, faith-based factor further, we conduct risk- and interfaith- factor regressions on Catholic and Protestant indexes. Here, we find that Catholic and Protestant index returns are largely determined by common asset pricing factors and that the factor loadings differ to a non-trivial degree between the faiths. Thus, even after accounting for fund-idiosyncratic factors, there are systematic outcome differences between Catholic and Protestant funds, indicating systematic differences in their management. Further, modeling Catholic index returns as a function of common asset pricing factors along with the Protestant index, shows that the influence of the common factors decrease sharply while the Protestant index coefficient is significant, both statistically and economically. Furthermore, when separately modeling both the Catholic and Protestant indexes as a function of the common risk factors and indexes of Islamic and Israeli funds, only the Israeli index is significant; statistically, but not economically. Not only do we again show that Catholic and Protestant funds are mostly distinct, but that we also show that more-distant religious traditions are treated more-distinctly by FBI investors.

Thus, confirming, clarifying, and extending the existing pool of SRI and FBI literature, we demonstrate that different faiths have different underlying beliefs, which in turn, lead to different investment management practices and, by consequence, different investment risk and return outcomes for investors. We show that the tendency by SRI and FBI participants, academic researchers in particular, towards faith ecumenicism is erroneous, that faith-specific funds are not fungible, and that different funds applying different screening criteria according to different faiths should be treated differently.

This paper continues in Section Two with a detailed examination of the SRI and FBI literature. Section Three details our empirical methodology and Section Four presents the results of our empirical findings. Section Five augments these findings with a discussion of the implications-to and recommendations-for FBI participants, including academic researchers, investment fund managers, the investors themselves, and financial regulators. Finally, an Appendix has been provided at the end which performs a comparison and contrast of the three, ecumenically-conflated religious faiths: Roman Catholicism, Biblical Christianity, and Islam.

II. ACADEMIC LITERATURE

Faith based basics

At the highest level, Socially Responsible Investing (SRI) can be thought of as allocating any portion of one's limited investment funds towards non-financial purposes (Dunfee, 2003). And, despite there being a large variation in, and overlap among, the definitions of various SRI fund labels (Junkus & Berry, 2015), SRI tends to be segmented according to green-, ethical-, social-, and religious- investing styles (Ito et al., 2013). Thus, Faith Based Investing (FBI) is a niche subset of SRI (Adams & Ahmed, 2013).

The root of both SRI and FBI is grounded in portfolio theory and its inability to completely account for or explain non-financial aspects of investing utility, such as social welfare, faith, and so on (Markowitz, 1952; Wan-Ni, 2012). As such, portfolio optimization and stock selection are not entirely driven by financial factors (Kim & Venkatachalam, 2006) as investors have multi-factor utility functions that take into account non-financial aspects. More specifically, investors not only consider utilitarian, performance-based factors when allocating across and within their portfolios, but also according to expressive, non-financial utility drivers (Statman, 2004; Bollen, 2007). As such, while investors certainly have performance considerations within their utility optimization decisions, non-financial considerations are also at play; a significant one being faith and salvation (Hood et al., 2013).

FBI, then, is a byproduct of investors making allocation and selection decisions on non-financial, faith-based grounds. What's more, as different investors hold sometimes very different perspectives on what constitutes "sinful" or unacceptable behavior (Borgers & Pownall, 2014; Niszczota & Bialek, 2021a, 2021b; Meunier & Ohadi, 2023), these different perspectives create investor clienteles and segmented markets (Renneboog et al., 2011; Hood et al., 2013), even along faith-based lines. Thus, FBI can be defined as integrating any spiritual, non-financial aspect into one's investing criteria, aligning one's investing behavior with spiritual beliefs (Czerwonka, 2014), and where outcomes may include the pursuit of faith-driven returns, abnormal returns, or a combination of the two (Wan-Ni, 2012).

FBI is not, by any means, a new concept. Negative screening effectively began in the 1600s with the Quakers eschewing slave-trade investments (Kinder & Domini, 1997; Louche et al., 2012), 1920s Methodists banning alcohol, defense, and gambling investments (Renneboog et al., 2008b), and the very first SRI/FBI fund (The Pioneer Fund; 1928) applying active alcohol, gambling, and tobacco screening filters to its investment decisions (Kinder & Domini, 1997; Junkus & Berry, 2015). Since those early days, FBI has been a growing trend within the United States, seeing widespread acceptance in 1971 of the Quaker- and Methodist- influenced Pax World Fund (Kreander et al., 2004), and even internationally with, for example, Christian churches being instrumental in the South African apartheid divestment movement (Teoh et al., 1999).

Negative screening sin

To address their clients' unique investing criteria and objectives, FBI managers generally use negative screening (i.e. avoiding unacceptable investments), positive screening (i.e. seeking acceptable investments), engagement strategies (i.e. interacting with less-than-acceptable investments in hopes of initiating internal change), and impact strategies (i.e. actively participating in or with an investment in hope of enacting external change). Based on their examination of 100, largely Christians institutional investors, Louche et al. (2012) find that 87% of respondents use negative screening, 79% various positive approaches, and 88% shareholder activism approaches, with the top five US negative screens focusing on nuclear weapons, defense, tobacco, abortion, and pornography. Diener and Habisch (2022b) find similar results for Christian-focused funds with 100% of surveyed funds utilizing negative screening, 78% positive approaches, and 64% shareholder activism. Interestingly enough, 70% of these Christian-oriented funds employed non-financial, "green" criteria revolving around the environment and society. Statman and Glushkov (2009) found similar negative screening filters within the broader category of SRI funds: alcohol, defense, gambling, and tobacco.

Over time, FBI funds have shifted their focus from negative screening alone towards active, impact investing (Diener, 2022). Yet, the efficacy of non-exclusionary approaches is questioned with some (e.g. Derwall et al., 2011; Slager & Chapple, 2015) seeing no positive influence on constituent firm behavior, others (e.g. Clementino & Perkins, 2020) finding an unintended negative effect, while still others show a positive influence on the firms (e.g. Diener

& Habisch, 2022a). This is not surprising in that Enete and Kiss (2018) find that about half of all firms in the Vanguard S&P 500 Index have one or more anti-Christian attributes: 88 firms violating abortion screens, 50 pornography, 26 gambling, 12 entertainment, 8 tobacco, and 1 human rights.

Negative screening by SRI and FBI managers is not without its reported downsides. Specifically, negative screening may attenuate risk-adjusted returns, depending on the assumed pricing model (Chang & Witte, 2010) and with greater screening intensity causing greater impairment (Renneboog et al., 2008b). Renneboog et al. (2008a) clarify that while raw returns are impaired by about 2.2% to 6.5% per year, risk adjusted returns are not impacted. In addition to being a potential drag on upside returns, negative screening imposes direct costs to the fund of about 0.17% to 2.40% per annum and with these costs impacting investors both immediately and cumulatively (Adler & Kritzman, 2008). Geczy et al. (2005) find that negative screening (unscreened) SRI funds have an average 1.3% (1.1%) annual expense ratio. Finally, negatively screened funds face lower diversification benefits due to these funds' restricted asset universes (Rudd, 1981; diBartolomeo & Kurtz, 1999; Barnett & Salomon, 2006).

Negative screening funds tend to have size, scalability, and sustainability issues (Davis et al., 2017). Further, and despite the 67% of surveyed Christian-focused funds having ten or more investment screens (Diener & Habisch, 2022b), negative screening funds may simply fall short of their clients' screening expectations (Schwartz, 2003). Kurtz and diBartolomeo (2005) note the difficulty in detecting firms for exclusion in screening criteria, stem cell research being a prime example. Dion (2009) finds that, when applying United States Conference of Catholic Bishops (USCCB) -influenced investment screens, at least one of the three Christian-focused funds contained almost 30% of the "controversial companies" that should have been screened out. Gellman (2013) finds that one popular Catholic-oriented fund's criteria only screens out about 5% of the firms from the Russell 3000 Index, most of which would have been screened out on performance grounds alone. This type of "screening slippage" means that fund screens and moral stances may not fully predict what a fund actually achieves.

Nevertheless, negative screening can come with positive benefits. Some find that socially screened funds (Sauer, 1997; Boasson et al., 2004; Bauer et al., 2006; Bauer et al., 2007; Cortez et al., 2009) and faith screened funds (Boasson et al., 2006; Lyn & Zychowicz, 2010) do not underperform unscreened funds. Others find that stricter exclusion screens lead to higher investment returns with, according to some authors, returns being the highest for the most extreme high- and low- levels of screening intensity (Barnett & Salomon, 2006; Lee et al., 2010). Diltz (1995) finds a more nuanced picture where screening for environmental and defense sectors leads to positive performance gains but that other screening types do not. Geczy et al. (2005) find that negative screening leads to lower fund turnover while Renneboog et al. (2011) note that employing in-house screening teams produces positive, risk-adjusted returns. Further, Liston and Soydemir (2010) find that imposing negative screens does not lead to a diversification cost or benefit.

Despite the costs negative screening may impose on clients, these clients have shown a willing to pay (Enete & Kiss, 2018), given their moral stances. Vrecko and Langer (2013) find that investors are willing to pay between 3.31% (4.03%) across a one (five) year investment window in order to customize their returns distribution via altering their investment product. Meunier and Ohadi (2023) find that two-thirds of US investors are willing to pay 2.3% of their initial investment to specify excluded industries. Thus, despite the numerical costs of negative screening, investment managers are not necessarily short-changing clients (Boasson et al., 2004).

Faith based results

Given faith-based investors' unique, non-financial investment preference sets and some of the real-world costs of implementing FBI, we next look at how FBI performs relative to both non-faith and secular-SRI investments; not surprisingly, there is a range of research findings on this issue. Some find that FBI performance is not statistically different from secular-benchmarks (Boasson et al., 2006; Wan-Ni, 2012) or conventional funds (Davis et al., 2017). Kurtz and diBartolomeo (2005) show that the KLD Catholic Values 400 Index performs about the same as the S&P 500 Index while Naber (2001) shows that Catholic-screened funds do not underperform unscreened funds. Thus, according to some of the literature, faith-based indexes are suitable for those wanting to adhere to their faith without expecting abnormal returns (Wan-Ni, 2012); that the lack of underperformance suggests that FBI managers can apply ethical screens without sacrificing financial performance or potentially violating their fiduciary duty to their clients (Boasson et al., 2006).

Other portions of the literature contend that US-based FBI funds outperform both secular-SRI and market indexes (Lyn & Zychowicz, 2010) whereas others suggest that any FBI overperformance is a product of time variation; that negative screening can weed out unethical firms and those with poor governance, hence avoiding crash and crisis risk (Boasson et al., 2004). Still others demonstrate that so-called "sin investments" not only outperform the market as a whole, but FBI in particular; that FBI also underperforms the market (Liston & Soydemir, 2010). Carosella et al. (2012) find that the KLD Catholic Values 400 Index underperforms on a risk-adjusted basis and that lower SRI-scoring stocks have higher risk-adjusted returns. It is not surprising, then, that Ferruz et al. (2012) find FBI mutual fund managers underperform the market and secular mutual funds due to FBI managers eschewing sin stocks and not being able to time style changes within the market.

Faith based differences

Looking more broadly into the distinctions between the secular world and those of faith, we find clear differences and at multiple levels. From the corporate world, we know that greater general religiosity within a region leads to less risky firm policies (Hilary & Hui, 2009), less risk taking (Callen & Fang, 2015), less firm financial distress (Gharbi et al., 2020), better financial reporting quality (Montenegro, 2017), and less opportunism against minority stockholders (Chen et al., 2016). Christianity and Judaism, in particular, are associated with greater economic freedom and activity, entrepreneurial activity, gender and minority equality, social progress, care for the environment, lower corruption (Russell et al., 2023), and greater tax compliance (Boone et al., 2013). Further, self-identification with Christianity is positively associated with ecological, social, and ethical activities (Gutsche, 2019), including SRI participation (Czerwonka, 2014). Christian-identifying higher education institutions are relatively more involved with SRI activities, ESG concerns, and rejecting sin stocks; Catholic and Baptist institutions being the most strict (Smith & Smith, 2016).

On an individual level, religious distinctions play a definite role in risk aversion and risk taking, with higher levels of religiosity being associated with more risk aversion (Miller & Hoffmann, 1995; Diaz, 2000; Bartke & Schwarze, 2008), Catholics and Protestants, in particular (Leon & Pfeifer, 2017). Religious households tend to hold less risky assets, develop more savings, and are more thrifty (Renneboog & Spaenjers, 2012). This effect is only weakly related to religious upbringing, yet is positively related to current religious activity (e.g. church attendance; Noussair et al., 2013). Shu et al. (2012) disagree with the above by saying that Catholics (Protestants) are actually more (less) risk-seeking than the general population. Yet, this disagreement may be due to a need to parse risk-types, given that Catholics are equally risk-adverse as the general population for *pure* risks (i.e. risks with no potential for upside) but more risk-seeking for *speculative* risks (i.e. risks with both upside and downside; Halek & Eisenhauer, 2001).

Looking particularly at religiosity and financial decisions, believers align their investing behavior with their beliefs (Czerwonka, 2014). Religiosity impacts not only attitudes on risk taking and gambling, but also non-gambling decisions (Kumar, 2009) such as portfolio choices at the individual level and asset prices at a macro level (Kumar et al., 2011; Page & Spalt, 2011). Thus, religiosity can influence financial markets via a risk aversion channel and individual gambling preferences (Hilary & Hui, 2009), can lower stock volatility (in Catholic countries; Blau, 2017), and even influence the performance of sin-related stocks (Salaber, 2013). These influences can alter the behavior of investment vehicles like hedge funds, causing those funds in strongly Catholic countries to hold less risky stocks, have better cross-industry diversification, lower total- and idiosyncratic- risk, and all of this especially during times of market crises (Gao et al., 2017).

As Leon and Pfeifer (2017) note, "*...it is necessary to control for underlying general risk-taking preferences due to the heterogeneous attitudes of Christians and Muslims regarding financial risk taking...*", meaning that specific religiosity can impact asset pricing and returns differently. But what about the differences between seemingly-similar faiths such as Catholicism and Protestantism? Areas of high Christian Protestantism are positively correlated with economic freedom (Hillman & Potrafke, 2018), creditor rights (Stulz & Williamson, 2003), and the likelihood of regional venture capital firms being risk-averse and IPO-active, than with Catholic-intense areas (Chircop et al., 2020). Evangelical Protestantism, in particular, is negatively correlated with financial statement irregularities (McGuire et al., 2012).

On the subject of different sin perspectives and relative to Catholics, Protestants generally view gambling as sinful (Ellison & Nybroten, 1999), live in areas that are less likely to adopt state lotteries and have robust lottery sales (Kumar et al., 2011), are less likely to legalize gambling (Johnson & Meier, 1990), while supporting gambling and liquor regulations (Fairbanks, 1997). Catholics, on the other hand, tend to be more permissive towards gambling, including bingo and other charitable games, and even use these activities as fundraising sources (Hoffman, 2000; Halek & Eisenhauer, 2001).

At the asset level, even though different religious faiths exhibit common, overlapping screening criteria (Wan-Ni, 2012), these overlaps are non-trivial in nature; clear distinctions exist among how inter-Christian faiths participate in asset markets. For example, Protestants, relative to Catholics, are more "sin adverse", are less likely to hold sin stocks (Hood et al., 2013; Kumar & Page, 2013), and require a greater return premium for investing in sin stocks (Salaber, 2007; Salaber, 2009). As noted above, religious differences can even impact secular, sin-related stocks where these stocks' prices are more undervalued in Protestant countries, leading to an approximate 8.5% sin stock return premium; an effect not seen in Catholic countries. This is consistent with Protestant investors' relative aversion to sin stocks and is consistent with a form of the Segmented Market Hypothesis, based on religious preferences (Salaber, 2013).

Looking specifically at risk and return preference differences, Protestants are more risk averse than Catholics (Noussair et al., 2013). Parsing risk shows that both Catholics and

Protestants are equally risk averse for *pure* risks but with Catholics being more risk seeking for *speculative* risks (Shu et al., 2012). Investors within predominantly-Catholic (relative to Protestant) regions tend to hold stocks with lottery features (i.e. firms with high idiosyncratic risk) and prefer employee stock option plans (Kumar et al., 2011; Page & Spalt, 2011). Further, mutual funds in predominantly-Catholic areas have higher fund risk taking, volatility, investment concentration, turnover, inter-reporting-period trading aggressiveness, and tournament risk taking behavior (i.e. chasing lagging first half returns with more aggressive risk taking in the second half of a given year; Shu et al., 2012).

There are also differences among religious orientations at the portfolio screening level. Specifically, Islamic funds tend to negatively screen firms focused on usury, pork, and entertainment, whereas Catholic funds tend to screen out firms dealing with adult entertainment and alternative lifestyles. In fact, across a variety of different investment screening criteria, 37.5% of these screening categories are very different between Catholic and Islamic funds; they are both, also, very different in their respective negative screening behaviors for "green" or "ethical" concerns (Ghoul & Karam, 2007).

Looking only between Catholic and Protestant funds, Diener and Habisch (2022b) note that "*...by and large, there is no 'Christian investing' in the sense of an ethical investment policy that most fund providers have similarly implemented... the policies are determined by differing approaches to interpreting Biblical texts and by divergent social and political influence factors...*". Here, they find that Catholics and Protestants differ most in their screening behavior regarding contraception, embryonic stem cell research, alcohol, defense, gambling, and environmental concerns. And, while they find that political and social factors are important drivers of screening behavior, the Biblical-interpretation motivation is the most influential factor. As is found in our analysis of Roman Catholicism and Biblically-literal Christianity (see Appendix), these findings are not surprising: Catholic funds are being driven by the use of a more-dynamic, progressive interpretation of the Bible whereas Biblically-literal funds base their screening and investing behavior on a more-fixed, conservative interpretation of the Bible.

Finally, the differences seen above can be interdenominational in nature. Specifically, Evangelical (i.e. Fundamentalist or Biblical Literalists), relative to both Catholics and (moderately-literal) Protestants, are more likely to avoid companies that deal with abortion, alcohol, gambling, homosexual lifestyles, and pornography (Statman, 2005). Also, some Christian denominations (e.g. Lutherans) are adverse to altering fund objectives based on changing, secular social norms (e.g. "social justice"; Inskeep, 1992).

Erroneous ecumenical license

Yet, despite the prior literature consistently highlighting clear-cut differences in interreligious- and interdenominational- screening propensities, risk tolerances, risk outcomes, and more, the existing literature is still prone to erroneous ecumenicism in its use of terms like "faith", "religion", "Christian", and "Bible"; glossing over real-world differences among very different religious beliefs which, in turn, may gloss over important differences among different faiths' investment behavior and outcomes. This is not to say that this ecumenicism is intentional or even malicious to any degree, but that as academic researchers and industry practitioners alike, we should always strive to strain out nuanced gnats from our results.

One of the ways that studies ecumenically gloss over important differences among religions, and even denominations, is to speak of different religions, implicitly or explicitly, as being one. An example of this is when religiosity is homogenized to include any type of religious practice, regardless of potentially differing underlying beliefs (Miller & Hoffmann, 1995; Chen et al., 2016). Another example is when religious designations are simply left ambiguous (Gharbi et al., 2020). A common way this appears in the literature is for different faiths-centric investment indexes or funds to be aggregated into a single index, and all religions within implicitly treated as one (e.g. Areal et al., 2010; Liston & Soydemir, 2010; Lyn & Zychowicz, 2010; Ferruz et al., 2012; Nofsinger & Varma, 2014; Davis et al., 2017).

Alternatively, some studies will treat one faith, for example Roman Catholicism, as being representative of all of Christianity (e.g. Ghoul & Karam, 2007; Czerwonka, 2014; Harjoto & Rossi, 2019; Rossi et al., 2019). Naturally, some Protestants and Biblical Literalists would suggest that Roman Catholicism's focus on works-based salvation, claims made regarding Jesus' mother Mary, the use of non-inspired additions to the previously-closed canon of the Bible, and so on, may disqualify Catholicism as "Christianity's" unitary representative. Still other literature provides excellent, religiously-disaggregated results that show non-trivial differences between religious investing behavior (e.g. negative screening criteria), and yet go on to gloss over their clearly different results with suggestions of marginal differences (e.g. Ghoul & Karam, 2007). Other authors knowingly homogenize different religious distinctions when presenting or summarizing their results, even though their empirical analyses contain disaggregated results with material differences in investing behavior or outcomes (e.g. Boasson et al., 2004; Bartke & Schwarze, 2008; Chen & Diaz, 2012; Beer et al., 2014; Gao et al., 2017; Mao et al., 2024).

More subtle than the above, is when academic studies understandably look for and to common FBI management standards, but where these standards, and standards-generating bodies, are unwarrantedly ecumenical in their efforts. Examples of some of these groups and efforts include: Socially Responsible Investment Guidelines for the United States Conference of Catholic Bishops (USCCB), Investing Guidelines of the (Catholic) Austrian Bishop's Conference, Catholic Papal Encyclicals, guidelines produced by various Protestant denomination and Christian-adjacent groups, and even the human-secularist UN Sustainable Development Goals (SDGs) and Ecumenical Office of the United Nations. The Catholic-oriented Interfaith Center on Corporate Responsibility (ICCR), as another example, includes such far-flung Christ-centric traditions as Benedictine-, Dominican-, Jesuit-, and Marian- Catholicism, the Episcopalian Church, Presbyterians, Evangelical Lutherans, Methodists, and even Christ-optional Unitarian Universalists. Aiding and assisting the ICCR's efforts is its Laudes- and Open Society- Foundation supported Investor Alliance for Human Rights, which brings together more than 240 investment firm titans, representing 21 countries, and over $14 trillion in assets; creating a common platform for coordinating and communicating industry standards, even to some of the largest and most well-recognized Christ-centric investment companies (investorsforhumanrights.org/about).

These coordinating bodies introduce, both implicitly and explicitly, shared investment standards that have the potential to overshadow FBI managers' faith-based efforts with largely human secular endeavors revolving around themes like the climate, world governance, cross-national migration, race and culture, economic egalitarianism, corporate and societal transformation, and more; sometimes with these efforts being couched, however loosely, in and with religious undertones. In net, ecumenical pressures are being exerted by and within the implicit nexus of ecclesial bodies, supranational entities, private foundations, investment companies, and even academic research.

Underlying faith differences

Naturally, with such clear differences being seen in the prior literature regarding different faith-focused funds being managed differently, demanded differently, and empirically responding differently, it warrants a review of whether these differences are justifiably attributed to faith differences or some other factor. Should different religions be considered and kept as distinct, or simply merged into a type of ecumenically blended set of faith "best practices"?

To start, various efforts over many centuries have attempted to lump the so-called "Abrahamic faith traditions" into ecumenical equivalency. This includes, recently, the various United Nations endeavors (e.g. the Ecumenical Office of the United Nations) and the Higher Committee of Human Fraternity's Abrahamic Faith House, both of which are working to bring the Catholic, Islamic, and Jewish traditions together under a common umbrella. Here, ecumenicism is seen by non-fundamentalists as a chance to bridge seemingly minor doctrinal gaps that, once spanned, will allow the faiths to work together in terms of peace, prosperity, and other typically human-centric objectives.

Yet, even a cursory examination of the core, distinguishing features among Biblical Christianity, Roman Catholicism, and Islam reveal stark contrasts in how these three faiths handle critical issues of both deity and salvation. We provide a detailed analysis of these differences in the Appendix of this paper. We encourage readers unsure of the differences among these faiths, or the concerns of erroneous ecumenicism, to examine the Appendix for a nuanced discussion. For the purposes of a summary: the Appendix makes clear that Biblically-literal Christianity, Roman Catholicism, and Islam are three, very different faiths with stark differences in their views of God's attributes, the foundational source-material for their faith, the depravity of man, the mechanisms of salvation necessary to resolve issues of sin, and how one continues to maintain obedience to God. These differences, in turn, shape how investment participants view risk and return tradeoffs, faith-consistent investment behavior, and more. Consequently, we should not be surprised if the investing behavior of faith-based managers, and the investment demand of faith-based investors, should differ markedly among the oftentimes erroneously homogenized faiths. As a foreshadowing: our empirical results show exactly that.

III. METHODOLOGY

Sample construction

Our sample of FBI funds primarily includes the two, main seemingly-related Christ-centric faiths: Roman Catholic-aligned funds and Biblically-literal Protestant funds. By examining the extant literature and performing various internet searches, we find a total of 150 Christ-oriented FBI funds, 19 of which are Exchange Traded Funds and 131 are mutual funds. Where possible, the institutional class of each mutual fund is employed. From this initial sample, we delete funds that are classified as real estate, hedge funds (e.g. strong derivatives exposure, long-short funds, etc.), target date funds, and fixed income strategies. Additionally, we choose a minimum fund inception date of January 3rd, 2017; balancing the desire for as many funds as possible, while ensuring a robust sample size and stability of trading volume. This deletion process leaves us with 65 funds: 12 Catholic-focused and 53 Protestant-focused. The table below reports various characteristic statistics of the remaining funds:

Table 1: Sample Statistics

The following table reports the number and percentage (of total) of each type of Chris-focused fund represented in the sample. The sample representations are for both the universe of identified, publicly-traded, Christ-focused investment funds without (Pre-Truncate) and with (Post-Truncate) fund elimination for investment strategy (i.e. Real Estate, Hedge Fund, Fixed Income, and Target Date) and inception date (i.e. funds with inception dates before January 3rd, 2017) filters. Differences in the various samples are provided for illustration. Additional classifications are made according to funds' investment overall strategy (Type), size preference (Size), detailed strategy (Strat), location preference (Loc), and religious focus (Rel). All investment funds noted in the Post-Truncate, Catholic, and Protestant samples have data spanning on or before January 2nd, 2018 to the end of the sample of December 31st, 2024.

		Pre-Truncate		Post-Truncate		Diff	Catholic		Protestant		Diff
Type	Blend	76	62.3%	39	60.0%	-2.3%	6	50.0%	33	62.3%	-12.3%
	Growth	23	18.9%	16	24.6%	5.8%	5	41.7%	11	20.8%	20.9%
	Value	23	18.9%	10	15.4%	-3.5%	1	8.3%	9	17.0%	-8.6%
Size	Large	73	59.8%	43	66.2%	6.3%	7	58.3%	36	67.9%	-9.6%
	Medium	34	27.9%	12	18.5%	-9.4%	2	16.7%	10	18.9%	-2.2%
	Small	15	12.3%	10	15.4%	3.1%	3	25.0%	7	13.2%	11.8%
Strat	Divid	3	3.0%	2	3.1%	0.1%	1	8.3%	1	1.9%	6.4%
	Equity	86	85.1%	52	80.0%	-5.1%	11	91.7%	41	77.4%	14.3%
	Mixed	12	11.9%	11	16.9%	5.0%	0	0.0%	11	20.8%	-20.8%
	Real Est	2									
	Hedge	8									
	Target	11									
	Fix Inc	28									
Loc	US	129	86.0%	53	81.5%	-4.5%	10	83.3%	43	81.1%	2.2%
	World	21	14.0%	12	18.5%	4.5%	2	16.7%	10	18.9%	-2.2%
Rel	Catholic	35	23.3%	12	18.5%	-4.9%					
	Protest	115	76.7%	53	81.5%	4.9%					

From Table 1, we note that the Pre- and Post- Truncation samples are very similar, indicating that the filtering of funds for strategy- and date- characteristics does not artificially bias the fund Type (i.e. Blend, Growth, and Value), Size (i.e. Large, Medium, and Small), Strategy (i.e. Dividend, Equity, and Mixed), Location (i.e. US and World), or Religious (i.e. Catholic and Protestant) foci. Additionally, when looking across the Post-Truncation sample and across Religious classifications, we see that both the Catholic and Protestant samples are mostly balanced among the various fund classification types. Granted, the Catholic funds tend to be relatively more focused on Growth Styles and Smaller Sizes, yet the samples are still mostly matched. This finding means that any future results, especially those regarding factor loadings or fund classifications, will not be biased by our sample construction method. Ultimately, the sample's daily price data, collected from Yahoo!Finance spans January 2nd, 2018 to December 31st, 2024; allowing late-inception funds (i.e. those that started near 2017) at least a full year to mature and stabilize trading.

Factor and Filtering Regressions

Throughout this study, we examine the various FBI funds using both raw- and filtered- returns as well as the estimated factor loadings from the following regression:

$$r_{i,t} = \alpha_i + \beta_{1,i} MKT_t + \beta_{2,i} SMB_t + \beta_{3,i} HML_t + \beta_{4,i} INV_t + \beta_{5,i} MOM_t + \beta_{6,i} WLD_t + \varepsilon_{i,t} \tag{1}$$

which combines elements from the Fama French (1995) Five Factor Model and the Carhart (1997) Four Factor Model (mainly: the Momentum factor). Here, factors are selected to capture the likely investment style characteristics of each fund and allow filtered returns (i.e. estimated regression residuals) to be free of non-Religious influences; the estimated residuals will, hence, be approximate measures of a given FBI fund's religious dynamics.

Also, for Equitation 1 and beyond, *MKT* proxies for systematic market risk (i.e. SPDR S&P 500 ETF returns), *SMB* proxies for the small minus big factor (i.e. Vanguard Small-Cap ETF returns minus Vanguard Mega Cap ETF returns), *HML* proxies for the high book-to-market (i.e. value) minus low book-to-market (i.e. growth) factor (i.e. Vanguard Value ETF returns minus Vanguard Growth ETF returns), *INV* proxies for the conservative minus aggressive factor (i.e. iShares Core Conservative Allocation ETF returns minus iShares Core Aggressive Allocation ETF returns), *MOM* proxies for the momentum factor (i.e. iShares MSCI USA Momentum Factor ETF returns), and *WLD* proxies for an international investment factor (i.e. iShares Core MSCI Total International Stock ETF returns). Note that we use ETF-based returns to proxy for the various risk factors for two reasons. First, at the time of writing, the factor returns generously made available on the Kenneth R. French Data Library did not extend to the full sample length of our study. Second, using ETF-based risk factors allows our factors to be explicitly market-based as opposed to the more implicitly-based Fama French Factors.

Faith Indexes and comovements

In addition to the above Factor-only model, we also estimate OLS regressions for religious-centric models. Specifically, we estimate the following OLS regression for an equally-weighted index of Catholic ($r_{C,t}$) and Protestant (variously $Prot_t$ and $r_{P,t}$) fund returns:

$$\begin{aligned} r_{C,t} = \alpha_0 + \beta_{1,C} MKT_t + \beta_{2,C} SMB_t + \beta_{3,C} HML_t + \beta_{4,C} INV_t + \beta_{5,C} MOM_t + \beta_{6,C} WLD_t \\ + \lambda_{1,C} \Pr ot_t + \varepsilon_{C,t} \end{aligned} \tag{2}$$

We also estimate the following OLS regression on Catholic ($r_{C,t}$) and Protestant ($r_{P,t}$) fund returns using equally-weighted indexes of Islamic and Israeli fund returns:

$$\begin{aligned} r_{i,t} = \alpha_i + \beta_{1,i} MKT_t + \beta_{2,i} SMB_t + \beta_{3,i} HML_t + \beta_{4,i} INV_t + \beta_{5,i} MOM_t + \beta_{6,i} WLD_t \\ + \lambda_{1,i} Islam_t + \lambda_{2,i} Israel_t + \varepsilon_{i,t} \end{aligned} \tag{3}$$

and where $Islam_t$ is an equally-weighted measure of Islamic-centric fund returns (i.e. Wahed FTSE USA Shariah ETF, SP Funds Dow Jones Global Sukuk ETF, and SP Funds S&P 500 Sharia Industry Exclusions ETF) and $Israel_t$ is an equally-weighted measure of Israeli-centric fund returns (i.e. VanEck Israel ETF and ARK Israel Innovative Technology ETF). Note that the primary focus of this study is Catholic and Protestant- centric funds whereas a limited number of Islamic- and Israeli- investment funds are incorporated into the analysis in the form of faith-specific indexes (see below) and for the limited purpose of contrasting the Christ-centric funds with non-Christ-centric funds. The results from the Equation 2 and 3 estimations are not intended to be exhaustive, but only illustrative. The rationale for this more limited, non-Christ-centric fund approach is this: if empirical differences can be detected between Catholic and Protestant funds representing ostensibly-similar faiths, then equal or larger differences should be found outside of these two faiths. Additionally, taking a more limited approach to the non-Christ-centric funds limits the dimensionality of the analysis. Future research is encouraged to tackle this issue more comprehensively.

IV. EMPIRICAL RESULTS

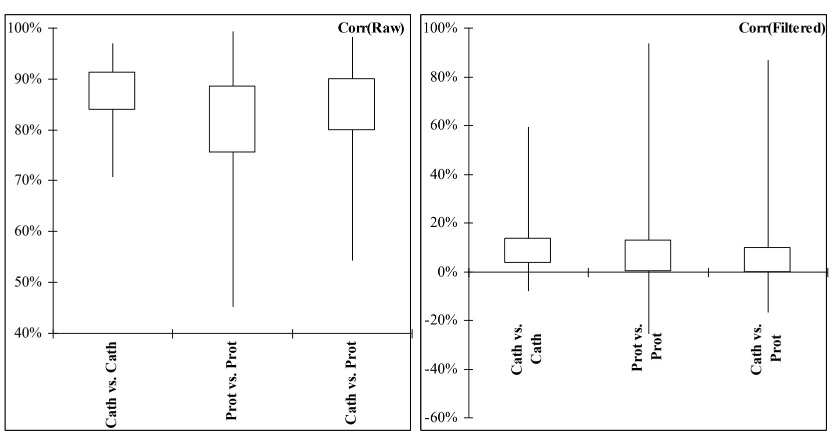
Having shown that Roman Catholicism and the more Biblically-literal Protestantism have very different characteristics in the existing literature (Section Two) and in their respective religious beliefs (see Appendix), we now examine whether such differences can be systematically detected through correlation and factor sensitivity analyses.

Correlation Box Plots

The Figure 1 box plots below report the minimum, 25th percentile, 75th percentile, and maximum pair-wise correlations among Catholic- and Protestant- centric funds. Examining the left box plot of raw return correlations, we see that all fund pairs are highly correlated regardless of whether the fund pair is Catholic/Catholic, Protestant/Protestant, or Catholic/Protestant. We find that the range of variability in Protestant/Protestant pair correlations is higher than for the Catholic/Catholic and Catholic/Protestant pairs. This theme of Protestant fund variability will be seen across most of the subsequent results.

Figure 1: Fund Correlations

The following box plots display various correlation coefficients calculated on both the raw and filtered returns of 65 Christ-focused funds (12 Catholic and 53 Protestant) across the entire sample (January 2nd, 2018 to December 31st, 2024; n = 1,761). Filtered returns are the estimated residuals from a full-sample, OLS estimation of Equation 1. Each box plot reports the maximum, 75th percentile, 25th percentile, and minimum correlation coefficient values with the left box plot depicting the raw return correlations and the right box plot depicting the filtered return correlations:



In general, the raw return correlations indicate that the different faith fund classifications are superficially correlated, suggesting that the different faith funds are not different in outcomes. This also initially appears to suggest that differences between the Catholic and Protestant faiths are not reflected in the funds based on these religions.

Yet, when examining the right box plot of factor-filtered return correlations, we find that the own- and cross- faith correlations drop to near zero. With the exception of outlier correlations, Catholic/Catholic and Protestant/Protestant fund pair correlations are weakly positive and the Catholic/Protestant pair grouping less so. Thus, filtering for common fund style, size, and other investment factors indicates that Catholic- and Protestant- centric funds are substantially different; that different faith funds are achieving different market outcomes due to them being managed in very different ways. Thus, we have preliminary evidence that different faiths are being reflected in their respect funds in the form of demonstrably different outcomes.

Regression Box Plots

Figure 2 presents the results of various OLS estimations of Equation 1 for the 65 faith-based funds. For the coefficient box plots below, we separate the results into three main classifications: all funds (All), Catholic funds (Cath), and Protestant funds (Prot). Additional fund- and style-classification groupings were examined in unreported results, providing consistent evidence as the aggregated categories presented here. Detailed results from the factor regressions are available upon request.

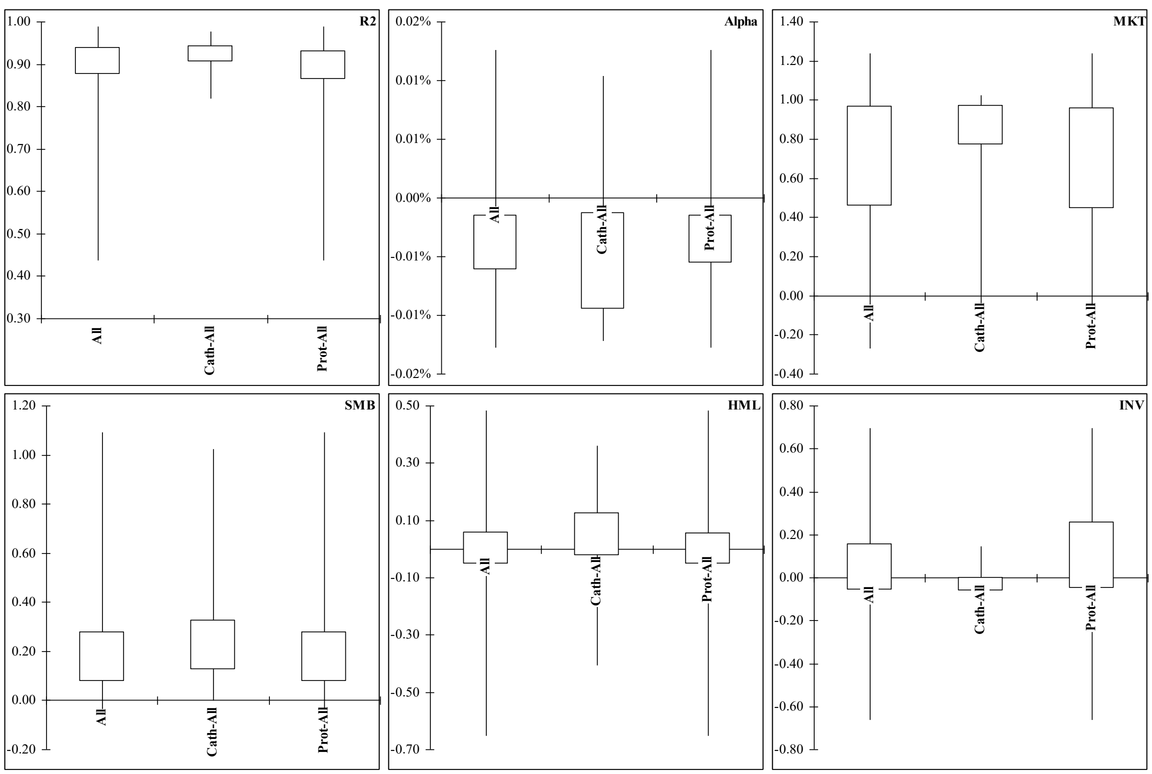
From the Adjusted-R^2 results in Figure 2, we see that the multi-factor model (Equation 1) does an exemplary job at modeling and explaining faith fund returns. While there are outlier estimations, Adjusted-R^2s north of 0.85 are the norm. As seen in the correlation box plot results and most elsewhere, the Protestant funds have the highest range of variability in terms of both the 25th/75th percentile range and maximum/minimum range. While the differences detected in the Adjusted-R^2 results are not as stark as the correlation box plot results or subsequent estimation results, the theme remains: Catholic and Protestant funds are exhibiting non-negligible different market outcomes. Also, given the greater range of Adjusted-R^2 variability for the Protestant-centric funds, Protestant funds may be driven by faith-specific influences more so than the factor-explained Catholic funds.

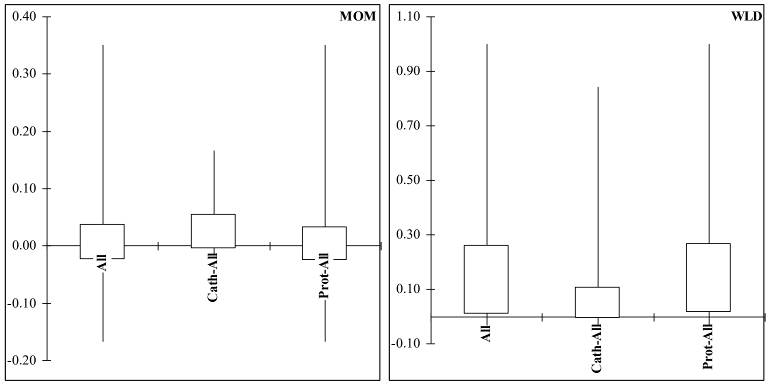
Examining the estimated Alphas, we find in Figure 2 that, with the exception of outlier results, most faith funds have negative alphas indicating that most faith fund managers are not producing superior risk-adjusted performance nor are they adept at timing the market. Unlike the Adjusted-R^2 results, the differences in Catholic and Protestant funds is more pronounced. For the *MKT* factor loading, we find that Catholic- and Protestant- focused funds are highly related to overall, systematic market risk and that, in general, Protestant fund factor loadings are much more varied than those of Catholic funds. Again, this suggests that Protestant-related funds are being driven by other risk factors as well as idiosyncratic, religion-specific aspects. Put differently: Protestant-centric investment funds experience different asset pricing characteristics, likely due to their underlying screening- and investment management- practices; all being driven by differences in the way Protestants view their religious beliefs.

Examining the *SMB* (Small-minus-Big) factor loadings in Figure 2, we find that both Catholic and Protestant fund types are exposed to non-trivial levels of Size-related risk with the Catholic funds being slightly more sensitive to Size-based dynamics. In unreported figures that disaggregate Catholic and Protestant funds by size, we find supporting evidence that the relatively larger amount of loading variability for Protestant funds is not due to the sample's construction (i.e. more Protestant funds lend to more Protestant fund variation) but is due to the religion-specific aspects of Protestant funds relative to Catholic funds. Thus, the absolute- and relative- representations of funds included in the sample does not impact the results themselves. It is, then, not the sample that is driving the results but an underlying process we attribute to the differences between the Catholic and Protestant religions. Detailed factor loading results available upon request.

Figure 2: Factor Regressions

The following box plots display various estimation results for OLS regressions performed on each of the 65 Christ-focused funds (12 Catholic and 53 Protestant) across the entire sample (January 2nd, 2018 to December 31st, 2024; n = 1,761), using Equation 1, where MKT proxies for systematic market risk, SMB proxies for the small minus big factor, HML proxies for the high book-to-market (i.e. value) minus low book-to-market (i.e. growth) factor, INV proxies for the conservative minus aggressive factor, MOM proxies for the momentum factor, and WLD proxies for an international investment factor. Each box plot reports the maximum, 75th percentile, 25th percentile, and minimum coefficient values.

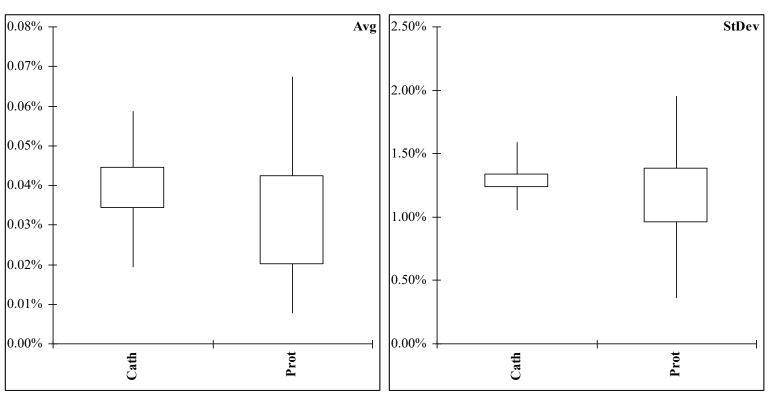


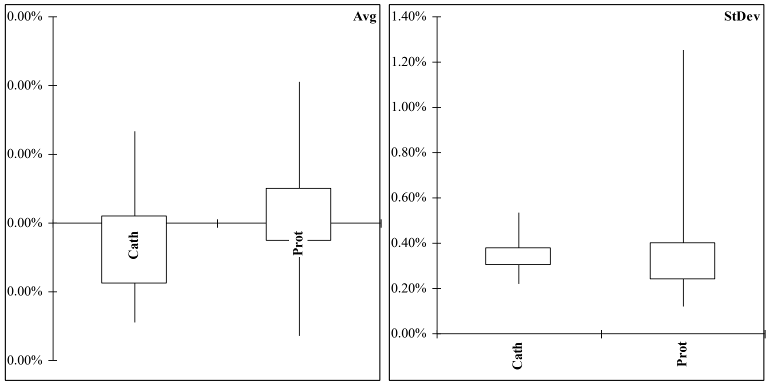


Continuing on the *HML* (i.e. High-minus-Low) factor loadings, we see that all fund groupings have a high level of coefficient variability and that the Protestant-based funds have more coefficient variability than the Catholic-based funds. The *INV* (i.e. Conservative minus Aggressive factor) and *MOM* (i.e. Momentum factor), coefficients in Figure 2 affirms the above results. Again, we find that Protestant funds tend to have a higher level of coefficient variability and that different religiously-focused funds have different patterns of factor loadings. For example, Protestant funds tend to be more sensitive to the *INV* factor indicating that, holding all else constant, Protestant funds tend to invest in companies that are more conservative in their investing styles. Further, looking at the *MOM* factor, Catholic funds tend to exhibit higher own-momentum and persistency than Protestant funds. Ending our analysis of the factor-based box plots, we examine *WLD* (i.e. World factor) loadings. Again, Figure 2 shows substantially higher levels of coefficient variation in the Protestant-centric funds relative to the Catholic-centric funds.

Figure 3: Religious Moments

The following box plots display various sample averages and standard deviations of 65 Christ-focused funds (12 Catholic and 53 Protestant) across the entire sample (January 2nd, 2018 to December 31st, 2024; n = 1,761). Each box plot reports the maximum, 75th percentile, 25th percentile, and minimum raw returns (top panels) and filtered returns (bottom panels) in term of these returns' average (left panels) and standard deviations (right panels), reported for different religious classifications. Filtered returns are the estimated residuals from full-sample OLS regressions using Equation 1:





Finally, we examine the impact of filtering on the various funds' returns in the Figure 3 box plots above. Here, we find that both Catholic and Protestant funds have positive daily raw returns throughout the sample, that Protestant funds have a higher degree of raw return variation, and that Catholic funds tend to have higher levels of raw returns than Protestant funds. Yet, when examining the filtered daily returns (i.e. the estimated residuals of Equation 1), we find that the raw returns results are largely reversed. That is, Catholic funds predominantly have negative risk-adjusted returns while a substantial proportion of Protestant funds still exhibit positive (risk-adjusted) returns.

Further, the 25th/75th percentile range of filtered returns is lower for Protestant funds than for Catholic funds. Again, this is a systematic difference that cannot be explained by the sample in terms of style, size, conservativeness, momentum, or location preferences; nor is this a function of unexplained risk factors not being incorporated into the model, as the Adjusted-R^2s (see Figure 2) are very high for all fund groupings. Rather, Protestant funds tend to have different-asset pricing and risk-sensitivity characteristics than Catholic funds. All of this, once again, collectively continues a consistent message seen throughout all of the various factor loading box plots and associated analyses: different religiously-oriented funds exhibit different empirical outcomes that can, ultimately, only be a manifestation of their systematically-different underlying religious beliefs.

Rolling Correlation Results

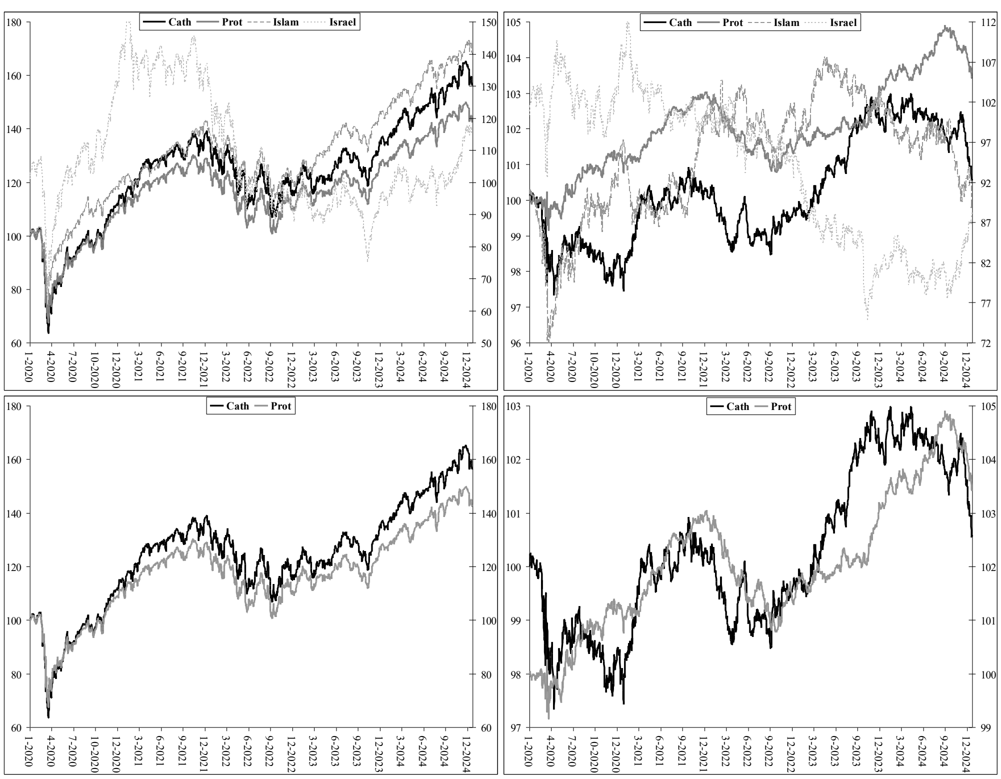
As noted in the findings above in Figure 3: on average, there are systematic differences in the Catholic and Protestant fund grouping returns after filtering for a large variety of potential asset pricing drivers. In other words, there appears to be a religion-specific asset pricing factor embedded within FBI funds and that this asset pricing factor is distinct for Catholic funds relative to Protestant funds. We further explore this unique facet of FBI fund dynamics by plotting equally-weighted indexes of Catholic, Protestant, Islamic, and Israeli investment funds.

The left panels of Figure 4 (below) are for raw faith index returns and show that, with the exception of the Israeli index prior to 2021-Q1, all FBI indexes exhibit high levels of synchronicity, moving largely in lockstep fashion. Granted there are differences in the end-sample levels, yet the comovement among the funds, especially after 2021-Q1, is unmistakable. However, when examining the indexes constructed from model-filtered (Equation 1) returns in the right panels of Figure 4, the strong cross-religion index comovement breaks down. Catholic and Protestant funds are still relatively correlated but now they differ in terms of timing and magnitude. The correlations are even more different for the Islamic and Israeli model-filtered indexes. Collectively, these results further point to religion-specific pricing dynamics that impact different funds differently. Further, adding the Islamic and Israeli indexes shows preliminary evidence that relatively-similar (largely-different) religions have relatively-similar (largely-different) religious-specific systematic risk exposure.

Honing in on this notion of religion-specific asset pricing factors that are less (more) different for less (more) different religiously-oriented funds, we plot the 90-day rolling index raw return correlations across a shortened sample in Figure 5. Figure 5 shows that Catholic/Protestant index raw return rolling correlations are the highest across the sample and exhibit the lowest level of variability. Thus, the relatively-similar Catholic and Protestant religion indexes are highly related and stable across market conditions. The Islamic/Israeli relationship, in stark contrast, is lower in magnitude across the sample and exhibits significant bouts of time variation; increasing during periods of heightened systematic market volatility. In both cases, the benefits to diversifying across religions are largely lacking: the high Catholic/Protestant correlations mean that diversification benefits are low across all market conditions whereas the crisis-heightened Islamic/Israeli correlations mean that diversification benefits are lowest when they are most needed.

Figure 4: Index Comparisons

The following figures display index values (Index = 100 on January 6th, 2020) for four, faith-based classifications: a Catholic index of 12 underlying Catholic-focused investment funds, a Protestant index of 53 Protestant-focused funds, an Islamic index of 3 Islam-focused funds, and an Israeli index of 2 Israel-focused funds across a sample shortened to accommodate the Islamic funds (January 6th, 2020 to December 31st, 2024; n = 1,256). The left figures display indexes constructed using raw returns whereas the right figures display indexes constructed from the estimated residuals of shortened-sample OLS regressions using Equation 1.



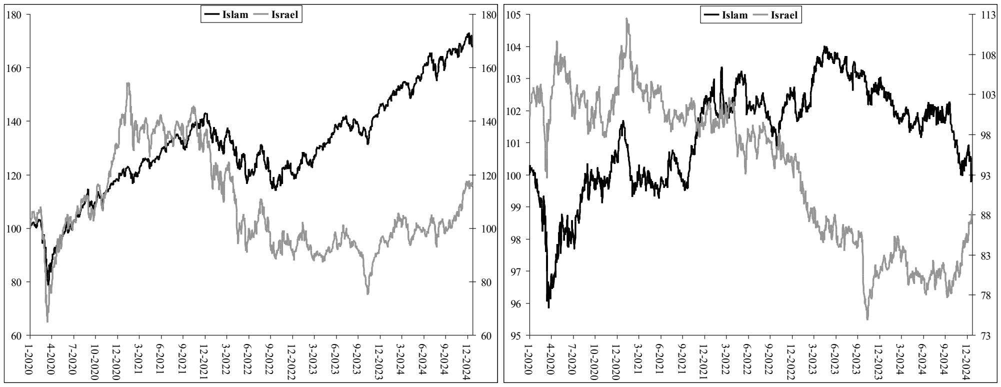
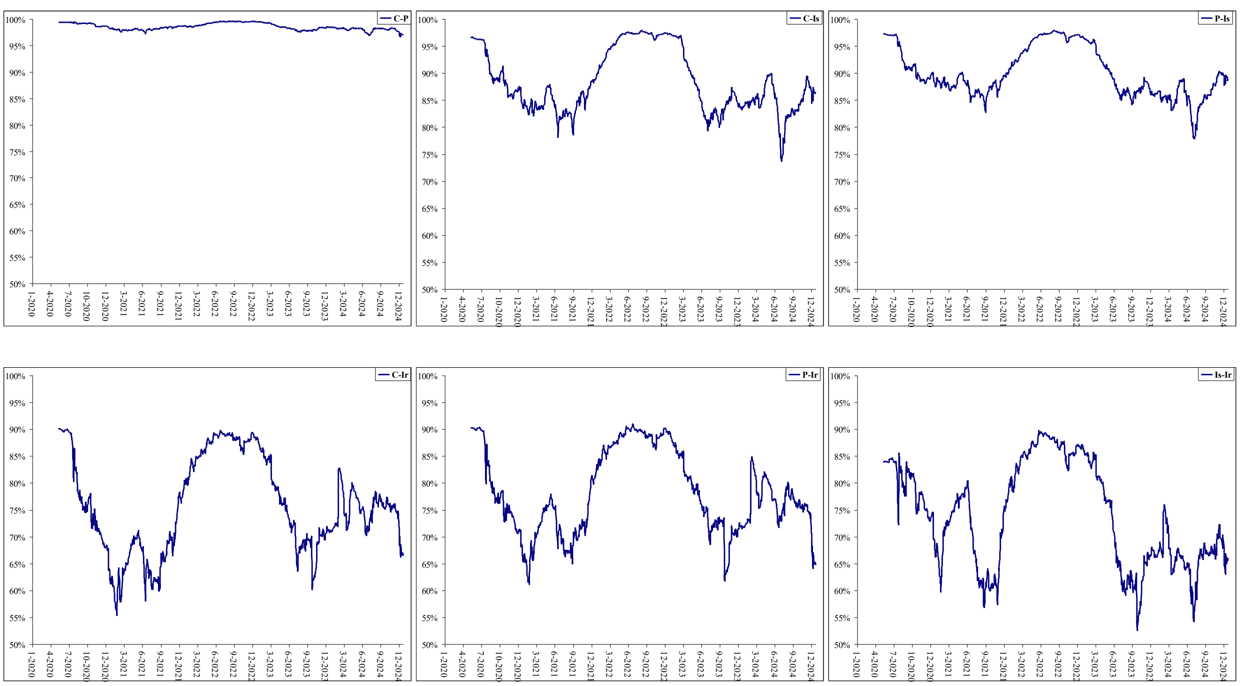


Figure 5: Raw Rolling Correlations

The following figures display the 90-day rolling correlation coefficients among the raw returns of four, faith-based indexes: a Catholic index of 12 underlying Catholic-focused investment funds (C), a Protestant index of 53 Protestant-focused funds (P), an Islamic index of 3 Islam-focused funds (Is), and an Israeli index of 2 Israel-focused funds (Ir) across a sample shortened to accommodate the Islamic funds (January 6th, 2020 to December 31st, 2024; n = 1,256).



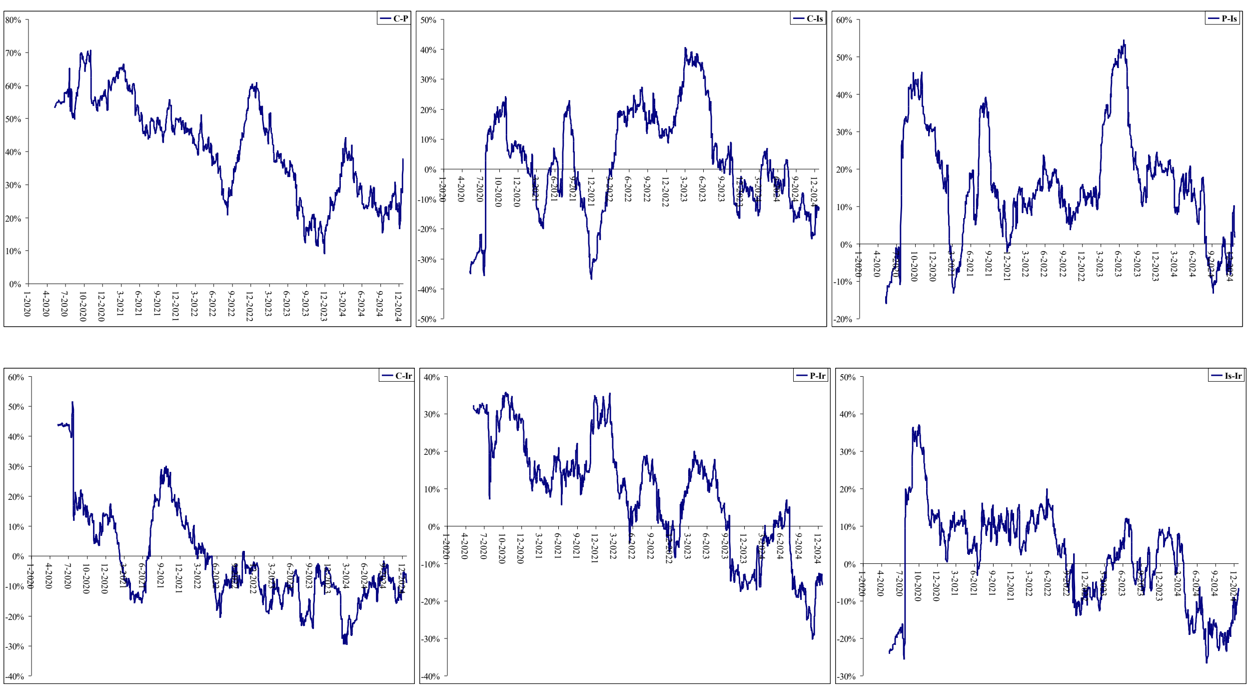
Evidence of religious-specific asset pricing factors becomes even more pronounced when looking at the model-filtered (Equation 1) index return correlations in Figure 6. Similar to what we found in Figure 1, the time-varying filtered index return correlations show that accounting for common style, size, conservatism, momentum, and location factors significantly reduces cross-religion correlations. This indicates that perceptions of commonality among faith funds is largely an aberration driven by common asset pricing factors. In addition to what is found in Figure 1,

Figure 6 highlights that the time varying nature of cross-religion correlations is significant and trends in two separate ways. First, cross-religion correlations tend to increase during periods of relative market stress. This crisis effect is found even for the Catholic/Protestant pair that, in the raw correlations, was universally high and time invariant across the sample.

Second, and with the exception of the Catholic/Islamic and Protestant/Islamic correlations for the first half of the sample, the time-varying correlations are negatively trending across time, indicating that cross-religious distinctions among faith funds is increasing. Inferentially, this could mean that faith fund managers are more adept at filtering investments according-to and in compliance-with their clients' respective religious beliefs. In accordance with the filtered religious indexes in Figure 4, and the raw religious correlations in Figure 6, we again find that relatively more (less) similar religious indexes are more (less) correlated. This last result suggests that different religious-focused funds will have systematically-different screening behaviors and, hence, different systematic religious pricing impacts.

Figure 6: Filtered Rolling Correlations

The following figures display the 90-day rolling correlation coefficients among the filtered returns of four, faith-based indexes: a Catholic index of 12 underlying Catholic-focused investment funds (C), a Protestant index of 53 Protestant-focused funds (P), an Islamic index of 3 Islam-focused funds (Is), and an Israeli index of 2 Israel-focused funds (Ir) across a sample shortened to accommodate the Islamic funds (January 6th, 2020 to December 31st, 2024; n = 1,256). All returns used to calculate the various rolling correlations are the estimated residuals from shortened sample OLS regressions using Equation 1.



Interfaith Index Regressions

We end our empirical analysis by elaborating into this last finding: that different funds have different, religion-specific asset pricing factors. We do this by modeling equally-weighted

Catholic fund index returns with the factor filtration model of Equation 1 and equally-weighted Protestant fund index returns (Equation 2).

Table 2: Catholic vs. Protestant Religious Regressions

The following table reports the estimation results of two OLS regressions performed on a Catholic Index of 12 Catholic-focused investment funds across a shortened sample (January 6th, 2020 to December 31st, 2024; n = 1,256). The first estimation includes an index of 53 Protestant-focused investment funds (Equation 2) whereas the second estimation only includes six risk factors (Equation 1). For both estimations, MKT proxies for systematic market risk, SMB proxies for the small minus big factor, HML proxies for the high book-to-market (i.e. value) minus low book-to-market (i.e. growth) factor, INV proxies for the conservative minus aggressive factor, MOM proxies for the momentum factor, and WLD proxies for an international investment factor.

	Coef	Se	t-Stat	p-Value	Coef	Se	t-Stat	p-Value
Alpha	0.000	0.000	-0.473	0.637	0.000	0.000	-1.355	0.176
MKT	0.486	0.026	18.772	0.000	0.868	0.011	80.563	0.000
SMB	0.164	0.009	18.600	0.000	0.263	0.007	38.690	0.000
HML	0.052	0.005	10.848	0.000	0.064	0.005	12.436	0.000
INV	-0.076	0.018	-4.143	0.000	-0.002	0.020	-0.122	0.903
MOM	0.001	0.006	0.185	0.853	0.003	0.007	0.395	0.693
WLD	-0.010	0.011	-0.907	0.364	0.120	0.008	14.363	0.000
Prot	0.550	0.034	15.937	0.000	--	--	--	--
	Adjusted R^2 = 0.988				*Adjusted R^2 = 0.986*			

From Table 2, we find that Catholic index returns are well-explained by the *MKT*, *SMB*, *HML*, and *WLD* factors. Each of these loadings are statistically significant at less than the 1% level and, with the exception of the *HML* loading, are economically significant. The sum of significant estimated coefficients is 1.315 and the Adjusted-R^2 is a lofty 0.986. When augmenting the base factor model with equally-weighted Protestant index returns (i.e. $Prot_t$), we find in Table 2 that the Adjusted-R^2 is slightly increased to almost unitary, all previously statistically significant coefficients are of similar statistical significance and of the same coefficient sign (with the exception of *WLD*), and the *INV* factor has become significant. However, the economic significance of the statistically significant factor loadings has decreased by about a third on average. This drop in the factors' economic significance is explained by the Protestant factor being significant both statistically and economically. In fact, the *Prot* coefficient of 0.550 is stronger than any other pricing factor and is almost equivalent to the sum of other, statistically significant factor loadings (0.625).

Combined, Table 2's results clearly indicate that, first, Protestant funds have a common pricing component with Catholic funds that transcends traditional asset pricing factors. Second, the Protestant pricing factor does not dominate other pricing factors nor is the Protestant factor of unitary value. Thus, third, Catholic and Protestant funds share a common, but not identical, asset pricing feature; there is still religion-specific variation that exists with the Catholic index returns that cannot be accounted for by the Protestant index returns. Put differently: despite their supposed religious similarities, Catholic and Protestant funds are treated as being different by the market.

Tables 3 and 4 largely back up the results seen above when modeling Catholic and Protestant equally-weighted index returns as a function of the Equation 1 asset pricing factors as well as equally-weighted Islamic and Israeli index returns.

Table 3: Catholic Index Religious Regressions

The following table reports the estimation results of two OLS regressions performed on a Catholic Index of 12 Catholic-focused investment funds across a sample shortened to accommodate two non-Christian indexes (January 6th, 2020 to December 31st, 2024; n = 1,256). The first estimation includes the Islam and Israel equity indexes (Equation 3) whereas the second estimation only includes six risk factors (Equation 1). For both estimations, MKT proxies for systematic market risk, SMB proxies for the small minus big factor, HML proxies for the high book-to-market (i.e. value) minus low book-to-market (i.e. growth) factor, INV proxies for the conservative minus aggressive factor, MOM proxies for the momentum factor, and WLD proxies for an international investment factor.

	Coef	**Se**	**t-Stat**	**p-Value**	**Coef**	**Se**	**t-Stat**	**p-Value**
Alpha	0.000	0.000	-1.276	0.202	0.000	0.000	-1.355	0.176
MKT	0.882	0.018	48.909	0.000	0.868	0.011	80.563	0.000
SMB	0.253	0.008	32.134	0.000	0.263	0.007	38.690	0.000
HML	0.068	0.007	10.178	0.000	0.064	0.005	12.436	0.000
INV	0.006	0.020	0.282	0.778	-0.002	0.020	-0.122	0.903
MOM	0.001	0.007	0.212	0.832	0.003	0.007	0.395	0.693
WLD	0.117	0.009	13.656	0.000	0.120	0.008	14.363	0.000
Islam	-0.030	0.022	-1.364	0.173	--	--	--	--
Israel	0.015	0.006	2.624	0.009	--	--	--	--
	Adjusted R^2 = 0.986				*Adjusted R^2 = 0.986*			

Here, we again see that the *MKT*, *SMB*, *HML*, *WLD*, and *INV* (Protestant-only) factor loadings are both statistically- and economically- significant. Further, the sum of estimated coefficients is large for both Equation 1 estimations (Catholic = 1.315 and Protestant = 1.269) and the Adjusted-R^2s are very high. Furthermore, and for both Equation 3 estimations, the Islamic factor loading is statistically insignificant while the Israeli factor loading is statistically significant at the less than 1% level. However, and unlike the Equation 2 estimations found in Table 2, the Equation 3 estimations found in Tables 3 and 4 indicate that adding religiously-different index returns does not substantially alter or improve the Catholic or Protestant models; the Adjusted-R^2s and coefficient sums are largely unchanged when adding the cross-religious returns.

Further, the Israeli factor loading for both the Catholic and Protestant estimations is lower in economic significance (individually) than any other statistically significant coefficient by an average of 1-to-21.4 and 1-to-8.68, respectively. Collectively, the Israeli coefficient is 1.17% and 2.30% the size of the other significant factor loadings added together, respectively. Thus, while there is a small, cross-religious impact of Israeli funds onto both Catholic and Protestant funds, the impact is extremely low and not of practical economic significance. This is made all the more clear in that the Protestant coefficient from Table 2 is approximately 35.68 times larger than the Israeli coefficient in Table 3. For the Islamic factor loadings, we find that they are not statistically different from zero in either of the Catholic or Protestant estimations. While caution must be applied in comparing these insignificant coefficient estimates with statistically significant coefficients, we note that the Islamic coefficients are smaller in absolute magnitude than any of the significant coefficients (individually or combined) and are smaller in relative magnitude than the Israeli index coefficient. These results indicate that different religions have different, cross-religious asset pricing effects but that more (less) similar religions have a higher (lower) cross-religious impact. Put differently: different religious FBI funds have different religion-specific asset pricing factors, but that more (less) similar religions will have more (less) similar religion-specific asset pricing factors.

Table 4: Protestant Index Religious Regressions

The following table reports the estimation results of two OLS regressions performed on a Protestant Index of 53 Protestant-focused investment funds across a sample shortened to accommodate two non-Christian funds (January 6th, 2020 to December 31st, 2024; n = 1,256). The first estimation includes the Islam and Israel equity indexes (Equation 3) whereas the second estimation only includes six risk factors (Equation 1) For both estimations, MKT proxies for systematic market risk, SMB proxies for the small minus big factor, HML proxies for the high book-to-market (i.e. value) minus low book-to-market (i.e. growth) factor, INV proxies for the conservative minus aggressive factor, MOM proxies for the momentum factor, and WLD proxies for an international investment factor.

	Coef	**Se**	**t-Stat**	**p-Value**	**Coef**	**Se**	**t-Stat**	**p-Value**
Alpha	0.000	0.000	-2.123	0.034	0.000	0.000	-2.244	0.025
MKT	0.673	0.013	50.607	0.000	0.695	0.008	86.187	0.000
SMB	0.161	0.006	27.840	0.000	0.181	0.005	35.568	0.000
HML	0.040	0.005	8.081	0.000	0.023	0.004	5.858	0.000
INV	0.140	0.015	9.591	0.000	0.134	0.015	9.195	0.000
MOM	0.001	0.005	0.124	0.901	0.003	0.005	0.550	0.582
WLD	0.227	0.006	35.999	0.000	0.236	0.006	37.876	0.000
Islam	0.018	0.016	1.084	0.279	--	--	--	--
Israel	0.029	0.004	6.606	0.000	--	--	--	--
	Adjusted R^2 = 0.990				*Adjusted R^2 = 0.989*			

V. CONCLUDING DISCUSSIONS

This paper has provided a detailed review of the existing literature on Socially Responsible Investing (SRI) and Faith Based Investing (FBI), a systematic analysis of various faith traditions' core beliefs, and a comprehensive empirical analysis of individual- and index- level FBI funds. In and throughout all of this, we have shown unmistakable and consistent evidence that differences exist among the three primary FBI faith-classifications: Roman Catholicism, Biblical Christianity as proxied by Protestantism, and Islam. With each of the three modes of analysis we use, the extant literature, the underlying beliefs, and the empirical examination, a clear picture emerges: different faiths have different underlying beliefs, that these beliefs are reflected in FBI funds' screening and investment behavior, and that all of this is reflected in empirical market outcomes.

Based on what is presented in this study, we make a call for academics, investment managers, the investors themselves, and financial regulators to be aware of and take consistent action regarding these faith traditions' differences. We encourage all to resist the siren call of easy ecumenicism which attempts to blend faiths and, especially in an investments context, can lead to suboptimal results for all. For academic researchers: erroneous ecumenicism glosses over potentially rich results that could be found when parsing out effects by faith. While certainly done without malice or intent, academics' past willingness to conflate all faiths as one, or treat one faith as all, subtly paints a picture that is not accurate either from a faith-perspective or from the perspective of financial market outcomes.

Amazing insights have been gleaned throughout the years from studies that have marginalized, however implicitly and passively, the differences in the faiths. Now is the opportunity for academics to revisit the existing literature for opportunities to parse the results out according to various faiths. Further, and as has been noted throughout this analysis, there are clear avenues for furthering the literature beyond simply distinguishing among the faiths. Opportunities abound, including: examining intradenominational distinctions; time-varying behavior among secular funds, secular-SRIs, and FBIs; exploring the notion of systematic faith-based asset pricing factors; and more.

For investment management professionals: this study provides clear evidence that specializing one's management practice or funds toward a particular faith, is a wise strategy. In doing so, faith-focused clients have their faith-idiosyncratic demand addressed through negative screening approaches and, with mixed results, active advocacy and activism. As is seen in the literature, investors have faith-specific components as part of their overall, multi-dimensional investment utility functions and show a strong willingness to pay for tailor-managed funds. Further, as seen in the rolling, time-varying conditional correlations, both Catholic- and Protestant- focused FBIs are increasingly specializing within (and apart from) Christ-centric (non-Christ-centric) FBIs. In short, this study provides a good rationale for investment professionals to avoid erroneous ecumenicism and that, with constant vigilance, they can continue to provide unique investment opportunities to their clients.

Yet, investment management professionals should also be cautious of efforts, driven indirectly by ecclesiastical efforts and supranational organizations, and more directly by these efforts' industry-facing advocacy groups, to soften faith distinctions. Investment managers are called to maintain their fiduciary duty to their clients' financial and non-financial utility maximizing needs; not allowing interests and encouragements, from unrelated faiths or even human secular concerns, to get in the way of ensuring that faith-specific clients are being served with faith-specific efforts. Further, given the understandably wide net these ecumenical efforts are casting, it is not surprising that an equally wide ranging set of participants are being brought together. Yet, and not exclusively for US-based, Biblically-literal Christians, associations with potentially spiritually misaligned groups warrant particular caution, whether these associations are with the human-secularist United Nations or Open Society Foundation; the increasingly-globalist Roman Catholic Church and its ecumenical endeavors; or even Christ marginalizing, optional, or denying faith traditions such as Universal Unitarianism and others.

For faith-driven investors: they should, also, be aware of and respond appropriately to investment managers' faith-specific offerings; ensuring that the managers they hire, or funds they participate in, are unambiguously aligned with their particular faith. While this study has found that similarities do exist, for example, among Catholic- and Protestant- focused funds, it is also clear that these similarities are not one-to-one, the performance of these funds differ, and these funds are driven by systematically different investment management behaviors and philosophies. Catholic-focused funds and investment management professionals may or may not be suitable for Protestant-focused investors, and vice versa; investment decisions should be made on a case-by-case basis and only after considerable research and discerning reflection. Faith-oriented investors are encouraged to have conversations with their investment professionals and fund providers about some of the issues addressed in this paper and balance financial, risk and return considerations with non-financial faith, activism, and ethical concerns.

Finally, for financial regulators: we encourage consistent vigilance in ensuring that all market participants are clearly informed of the distinctions within and among faith-focused funds, what is being offered to investors, and what is not. Based on the results on this study, and only looking at fund managers' abilities to distinctly manage distinctly different faith needs, it appears that many Catholic- and Protestant- oriented funds are doing exactly that: meeting the faith-specific needs of their clients. Still, we encourage regulators to ensure that FBI managers and funds are fully disclosing their spiritual alignment, related screening methodologies, and any activist positions taken. Regulators are also encouraged to ensure that investors are well aware that FBI fund financial performance may, depending on market conditions and the fund at hand, have different raw- and risk adjusted- return characteristics than market- and secular-benchmarks; but also that differing financial performance is not necessarily indicative of a breach of fiduciary duty of those managers and funds charged with co-maximizing faith-based, non-financial utility with traditional financial utility.

We pray that this study serves as an enlightening, edifying waypoint on the path of future studies.

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Appendix A: Scriptural Foundations

This study would not be complete without a detailed examination of Biblically-literal Christianity, Roman Catholicism, and the Islamic tradition. While the purpose of this paper is not to apologetically hammer out the nuanced differences of various religions, our cursory treatment should be more than sufficient to show that Biblically-literal Christianity, Roman Catholicism, and Islam are different and, consequently, should be treated differently by investment market participants. All Bible references within this Appendix are from the King James Version of the Bible where references are formatted as "Book Chapter:Verse".

Using the perspective of Biblically-literal Christianity as the backdrop for this discussion, mankind was cursed by God for the rebellious act of the first man, Adam, in the Garden of Eden (Genesis 3). From there, this physical- and spiritual- curse extended to all mankind (Romans 5:12), starts at birth for all (Psalm 51:5), and extends throughout one's life; even the Apostle Paul battled his sin nature during his life (e.g. Romans 7:19) and Mary praised her Son as her savior (Luke 1:46-47). Each person's sin nature essentially extends the original Adamic rebellion against God, manifests in different ways throughout their lives (e.g. Galatians 5:19-21; Romans 1:29-31; 1st Corinthians 6:9-10; 2nd Timothy 3:1-5), and separates a person from God (Isaiah 59:2). This freewill sin nature (Proverbs 8:36; James 1:13) extends to all humans (Romans 3:10-11,18,23), covers even the most minor of transgressions against God and His commandments (James 2:10), and includes all people, regardless of their knowledge, or lack thereof, of Christianity, Jesus, salvation, and other key Biblical concepts (Romans 1:19-20; 2:15-16; 3:20).

In Biblical Christianity, the consequence of being in sin at the point of death is temporary confinement in torment (2nd Peter 2:9; Luke 16:22-23), eventual bodily resurrection (Acts 24:15), judgment based on one's deeds throughout their life (Revelation 20:11-12), being found lacking due to the righteous inadequacy of one's deeds (Isaiah 64:6), and being cast into the lake of fire for an eternity of torment (Revelation 20:14-15; 14:10; 2nd Thessalonians 1:8-9). Concepts of reincarnation and "do overs" are inferentially denied in Biblical Christianity (Hebrews 9:27) as are concepts of soul sleep (Luke 16:22-23) and annihilationism (Revelation 20:10); death brings about immediate and eternally lasting results.

Yet, despite the assurance of one having a sin nature throughout one's life and the dire, eternal consequences thereof, Biblical Christianity also teaches that God has provided a way out: payment for one's sin by the atoning work of Jesus Christ. Specifically, while the Biblically-literal God is of unitary *essence* (Deuteronomy 6:4; 1st Corinthians 8:6), He is expressed in the three, eternally-existing *persons* of Father, Son, and Holy Spirit (a.k.a. the Triune God; Isaiah 40:1; 2nd Corinthians 13:14), each of Whom have distinct, yet inseparable operations in salvation (1st Peter 1:2). The second of the Triune, the Son, became a man (Luke 1:26-33; John 1:14), without losing His simultaneous position as God in the Triune (i.e. the Hypostatic Union; Colossians 2:9; John 10:30), without having a sin nature (Hebrews 4:15), and who committed no sin throughout His life (1st Peter 2:22). Jesus Christ experienced hardened resistance and persecution during His brief ministry (John 11:53; Luke 22:3-4), was put to death by crucifixion on a Roman cross (Matthew 27:33-46; John 19:34), and was buried in a guarded- and sealed-tomb (Matthew 27:62-66). Despite this, a bodily-resurrected Jesus Christ (Luke 24:36-43) exited the tomb after three days (Matthew 28:1-6; Mark 16:9-19), ministered for a short period of time to His disciples, then ascended into heaven in the presence of hundreds of witnesses (Acts 1:10-11; Hebrews 1:1-4), where He will remain until the time of His prophesied return (Acts 3:21; Jude 14-15).

Biblical Christianity, thus, exhorts that Jesus Christ's work on the cross paid a one-time substitutionary atonement for all entirety of believers' sins (Hebrews 9:12; 1:3; John 19:30) and Who also imputes onto these believers His perfect righteousness (2nd Corinthians 5:21). In essence, Christ's righteousness covers a believer's unrighteousness (Romans 3:10-18) with His own, reconciling the believer with God (Romans 5:1), averting eternal punishment (Romans 5:9), securing a co-inheritance of God's kingdom (Titus 3:7), and without the possibility of diminishing or losing one's "saved" status (Romans 8:1-2; John 6:37-40; John 10:27-28); that is: the believer with a true, saving faith is eternally assured of their salvation.

The process of this salvation starts with the electing to salvation by the Father (1st Peter 1:2-4; Ephesians 1:4), a drawing of the believer to faith by God (John 6:44), the drawn hearing and believing the Bible regarding Jesus Christ (Romans 10:17; Ephesians 1:13), confessing their belief of Jesus' resurrection and lordship (Romans 10:9-13; Matthew 10:32-33), and then repenting (i.e. confessing and turning away) from past and future sins (1st John 1:9-10). Biblical Christianity states that, while such salvation is certainly the product of a believer's action to believe (Ezekiel 18:32; Romans 3:5-6), it is primarily the act of faith, apart from works (Genesis 15:6, Habakkuk 2:4; Ephesians 2:8-9; Romans 4:4-5; Titus 3:5; 2nd Corinthians 3:5), that brings salvation, even though such faith *causally* produces good works (2nd Corinthians 5:17; 3:18; Philippians 2:13; Ephesians 2:10). Thus, under Biblical Christianity, a saving faith leads to justification which then causally leads to good works; not that good works, themselves or in combination with faith, are a causal agent of salvation from sins.

We've labored to describe as precisely and concisely as possible, the process of salvation under Biblical Christianity so that we can now discuss the superficially-subtle, yet eternally-consequential differences among the so-called Abrahamic faiths; using Biblical Christianity as a foundation and reference for comparison. We'll begin with Roman Catholicism (Reeves, 2010; Mortenson, 2015). First, Roman Catholicism derives its knowledge of and asserted authority not only from the sixty-six books of the Christian Bible but also from additions to the Old Testament by sources of questioned authenticity (e.g. Tobit) and inspiration (e.g. Maccabees I and II). Additionally, Roman Catholicism employs Papal Encyclicals, council pronouncements, Canon Law, and so on, carrying the same if not superior authoritative weight as the sixty-six books seen in Biblical Christianity. This immediately presents a difference between Roman Catholicism and Biblical Christianity in that the latter asserts that additions and subtractions should not be made (Proverbs 30:6; Deuteronomy 4:2; Revelation 22:19) to the completed work of the Bible (Jude 3; Luke 24:44), especially changes not directly inspired by the Holy Spirit (2nd Peter 1:20-21) or that include human traditions or worldly philosophies (Colossians 2:8).

What's more is that Roman Catholicism bases its authority, not only on its ever evolving body of spiritual understandings, but also from an ecclesiastical structure not directly defined in the Bible: the Roman Catholic Church and its human hierarchy, most prominent of whom is the Pope. Roman Catholicism claims their authority on their own interpretation of Scripture, most particularly Matthew 16:18-19, as well as other non-Biblical pronouncements originating from within the Roman Catholic Church itself. Biblical Christians refute this claim based on the charge of interpretive license as well as through the Bible itself which, Biblical Christianity asserts, denounces ecclesiastical elitism (1st Peter 5:2-4) and promotes Christ-centric church headship (Ephesians 1:22-23; 2:20-22; 1st Corinthians 3:11). What's clear is that both Biblical Christianity and Roman Catholicism differ markedly in Scriptural authority and permanence, with the former asserting a fixed, "Bible-only" view where the Bible itself is the ultimate authority; the latter asserting a dynamic, "Bible-plus" view that may include human changes, dynamic interpretations, and human-deity authoritative equivalence.

These differences, we note, are not trivial matters; they directly shape the religious practices of both the church and its members. Roman Catholicism's Bible-plus perspective results in views that differ markedly from Biblical Christianity. For example, and under authority not found in the Bible itself, Roman Catholicism asserts that Jesus' mother, Mary, died a virgin, was without sin, and has taken a place of prominence within the heavenly order as a "co-redemptrix" or co-mediator with Christ. These beliefs are countered by Biblical Christians who note that the Bible unambiguously infers to Mary's loss of virginity (Galatians 1:19), her need of salvation and her subservience to the Lord Jesus (Luke 1:46-48), and that she nor anyone else is capable of serving in any mediatorial capacity other than Jesus Christ (John 14:6; Acts 4:12; 1st Timothy 2:5). These are two, very different belief systems which have their beliefs, worship, and religious practices at direct odds. Further, these are not points that can be easily addressed by ecumenical efforts, but are core beliefs that cannot be bridged by human endeavors.

Directly impacting the actions of Roman Catholics is Roman Catholicism's sacramental system that begins with infant baptism, believed to purge the recipient of original sin, and continues across time in the form of various church-mediated sacramental acts, the most prominent of which is the Mass. Here, Roman Catholics believe that the officiating priest is able to bring the literal person of Jesus Christ from heaven, transubstantiate (i.e. turn) ceremonial bread and wine into the literal body and blood of Christ, respectively, so that practicing Roman Catholic parishioners may partake in a periodic, quasi-sacrifice of Christ. This practice, along with other works of obedience and penance, is believed by Roman Catholics to reduce their time in a post-death limbo state of spiritual refinement called Purgatory; a concept believed by Roman Catholics since Catholicism's early days (e.g. Augustine) but formally accepted by the Roman Catholic Church with their inclusion of the uninspired Maccabees II into canon at the Council of Trent (1546 A.D.).

Biblical Christians strongly refute the need for a continual sacrifice of Christ's one-time atonement for sins (Hebrews 10:10-12), do not believe in the literal transformation of ceremonial bread and wine elements into the body and blood of Christ (John 6:47-54; Leviticus 17:12), and do not agree with the concept of a heaven-hell limbo state (i.e. Purgatory; Hebrews 9:27). This puts Biblical Christianity and Roman Catholicism at odds in that the former places unitary allegiance and obedience to Christ as noted in the Bible, whereas the latter places a combined allegiance and obedience to Christ and the Church. Further, as seen in this one example, this allegiance and obedience of the former is fixed and regulated only by the Bible, whereas the allegiance and obedience of the later is dynamic, evolving, subject to change, and delineated by more than the Bible alone.

Thus, from the discussion above, we see that Biblical Christianity and Roman Catholicism differ to a large degree on the ultimate authority of spiritual matters and what is required to obtain salvation. Biblical Christianity, in its most pure form, derives its authority from the Bible alone and an as-literal-as-possible interpretation thereof. Further, once saved by the one-time atoning work of Christ on the cross, Biblical Christians believe that additional good works are not a causal factor of maintaining salvation; salvation for the Biblical Christian can never be lost. Roman Catholicism, on the other hand, derives its authority from the Bible *and* other, man-originated pronouncements that may or may not fully align with the Bible in its original form or of the early Christian church. Further, practicing Roman Catholics are responsible for maintaining obedience to both Christ and the Roman Catholic Church on penalty of post-death punishment in Purgatory or even damnation in the lake of fire; salvation for the Roman Catholic is never assured in this lifetime and can even be lost.

All of these differences, then, will necessarily translate into how investment managers allocate clients' wealth within Christian-centric or Catholicism-centric investment funds; the former being based on a fixed, literal interpretation of the Bible and the latter being based on a dynamic, set of Biblical interpretations and human-centric edicts. Similarly, Biblically Christian- and Roman Catholic- investors will necessarily have their own, faith-specific investment utility functions that will only partially and imperfectly overlap with one another: demonstrably different faiths with clearly different bases for salvation, obedience, compliance, and so on, will almost assuredly translate those beliefs into different investment screening practices. In short, Biblically Christian- and Roman Catholic- investment participants should differ, the funds they participate in should differ, and these differences should be reflected in the performance, attribution, and style characteristics of those investments.

Thus, the seemingly-equivalent Biblically Christian and Roman Catholic religions that ecumenicists are so quick to call "brother faiths" are, clearly, very different in beliefs, practices, and outcomes. This stark difference between Biblical Christianity and Roman Catholicism is, relatively speaking minor, compared to the unbridgeable differences in beliefs between Christ-centric faiths and the Islamic tradition (Caner, 2015). For example, Islam refutes the deity and atoning work of Christ, instead asserting that Christ was only a prophet and messenger of Allah. In Christianity, there is no salvation without Christ, meaning that Christianity and Islam differ on salvation, right out of the gate. Even the concept of deity and the Godhead is different between Christianity and Islam. Biblical Christianity and Roman Catholicism rest on a shared concept of a time-and-creation independent Triune God (i.e. one monotheistic *essence* expressed in three *persons*); monotheistic in *essence* but separated in *personhood*. Islam, equally asserts a monotheistic deity, but that this deity is monomodal or unitarian in nature; there is no distinction within the godhead. Hence, and by consequence, while the Islamic deity is capable of transcendence relative to humanity, it is not transcendent in a fully, self-sufficient, creation- and time- independent manner; the Islamic deity is constantly-evolving as its interaction with creation co-shapes the two over time.

Further, Islam utilizes a very different source of information than the Bible. Biblical Christianity, for example, insists that its spiritual understanding comes explicitly from the work of the Holy Spirit (i.e. God) inspiring Old- and New- Testament authors to write God's words. Islam, on the other hand, derives its spiritual understanding from the recorded oral traditions of the Prophet Muhammad's various proclamations throughout his lifetime, most important of which is his reported interactions with Allah's messenger angel, Gabriel. The Qur'an was finalized some 500 years after the early Christian church had completed its canon and, in similar fashion to the Roman Catholic canon, has been evolving over time. Further, despite Biblical Christians' insistence of their Bible's unchanging validity over time and translations (i.e. transmissible fidelity), and Islam's own use of Biblical themes within the Qur'an, Islam asserts that both the Old and New Testament were intentionally corrupted and, thus, invalid for representing spiritual truth in their current forms. Furthermore, while Biblical Christianity, and to a much lesser degree Roman Catholicism, asserts that a believer's salvation is assured throughout all time and cannot be lost, Islam's concept of salvation has no "resting point" during one's lifetime; its is only during a post-death judgment that the Islamic believer discovers their eternal resting place. And, finally and consequently, as the Islamic deity is evolving over time, as is the body of understanding within and around the Qur'an, Islamic believers' adherence to a lifetime of obedience to the Qur'an may similarly evolve.

Thus, while again this paper is not intended to be an authoritative reference on faith traditions or comparative apologetics, we can see from the detailed discussion above, that Biblical Christianity, Roman Catholicism, and Islam are all three very different religions. Consequently, we should not be surprised if the investing behavior of faith-based managers, and the investment demand of faith-based investors, should differ markedly among the oftentimes erroneously homogenized faiths. We believe that the empirical results presented within this study demonstrate exactly that.