


RESEARCH ARTICLE

Do religious beliefs matter for economic values?

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Abstract

Economic studies of religion tend to focus on religious affiliation and attendance at religious services to the exclusion of other dimensions of religion, including religious belief. We address this lacuna, using data from the World Values Survey to construct an index of religious beliefs based on whether an individual believes in God, heaven, hell, an immortal soul, and the afterlife. Following the approach in a seminal article, we compare the roles of religious beliefs and attendance in determining economic values related to cooperation, patriarchy, institutional trust, lawfulness, thrift, markets, and market fairness. Controlling for denominational, country and period fixed effects and a set of individual-level characteristics, we find that religious beliefs matter for six of these seven values, relative to five for attendance. In addition, beliefs are more important than attendance for promarket and patriarchal values and less important for thrift, market fairness, lawfulness, and institutional trust. We also consider the relationships between beliefs, attendance, and economic values for eight religious' affiliations: Protestant, Catholic, Orthodox Christian, Muslim, Buddhist, Hindu, other religions, and non-religious. Taken together, beliefs and attendance are most important for patriarchal values, promarket attitudes, lawfulness, and institutional trust. Relative to attendance, beliefs matter most for patriarchal attitudes and least for institutional trust. Our results suggest that religious beliefs constitute an important dimension of religious life. An exclusive focus on attendance may understate the role of religion in economic values.

Keywords: Economic values; religion; religiosity; religious attendance; religious beliefs

JEL Codes: A13; J16; N30; Z12

Introduction

While there is some variation in how we measure religiosity in economics, most studies rely on measures that reflect the frequency attendance at religious services (Deller *et al.*, 2018; Guiso *et al.*, 2003; McCleary and Barro, 2006; Noland, 2005; Sander, 2002). To many, attendance represents adherence to a specific institutional arrangement that varies from religion to religion. However, attendance measures provide at most a partial picture of an individual's religious life and, indeed, may become increasingly unreliable as proxies of religiosity, given the declining trend in attendance across denominations and countries over the past three decades (Brenner, 2016; Molteni and Biolcati, 2022). Here, we focus our attention on a separate dimension of religious life, one where individuals adhere to more informal institutional arrangements (Williamson, 2009), private religious beliefs (Kaufmann *et al.*, 2012; Walter and Waterhouse, 1999; Wilkins-Laflamme, 2016). Inattention to religious beliefs has created a potentially significant gap in our understanding of the role of religion in economic life.

We take a first step to addressing this gap by analysing the empirical relationship between religious beliefs and economic values. Our underlying conceptual model holds that religious beliefs are related to economic attitudes because they serve as a proxy for an individual's adherence to an orthodox religious belief system. For example, while we do not directly observe beliefs about the validity of religious teachings regarding gender relations or secular authority, an individual who espouses a greater number

of the religious beliefs that we measure may be more likely to be influenced to religious teachings related to these areas. An important implication of this framework is that the relationship between religious beliefs and economic values may vary across religions with differences in each tradition's teachings and practice.

The relationship between religious beliefs and values may also vary across traditions if the beliefs we measure map less well onto the beliefs of some traditions. For example, a belief in God does not fit well with orthodox belief systems of non-theistic religious traditions like Buddhism, and a belief in heaven or hell may map poorly onto the orthodox beliefs of religious traditions that espouse reincarnation. Indeed, an emphasis on religious belief may, itself, be informed by an inherently Christian perspective, e.g. Asad (1993), Khan (2016) and Ruel (2017). Similar concerns may also arise with respect to other measures of religiosity. In particular, attendance at religious services may be a poor measure of religiosity for members of Eastern religious traditions in which communal gathering is less important and many rituals are performed at home or privately at public shins, e.g. Nelson (2008), Rambelli (2010), and Sahney (2017).

We pattern our empirical analysis on the seminal work of religion and values by Guiso *et al.* (2003), who use World Values Survey (WVS) data to show how religious attendance and affiliation shape an individual's economic preferences. We augment their analysis by incorporating a measure of religious beliefs that reflects whether an individual believes in God, heaven, hell, an immortal soul, and an after-life. While the religious beliefs index is positively correlated with measures of attendance, it is clear from the data that the index reflects a separate dimension of religious life. For example, within our sample, fully 71% of individuals who attend religious services less than once per year believe in God and 67% believe in an immortal soul. Similarly, more than half of individuals in our sample who describe themselves as 'non-religious' believe in God and an immortal soul.

Following the approach in Guiso *et al.* (2003), we compare the roles of religious beliefs and attendance in determining economic values related to cooperation, patriarchy, institutional trust, lawfulness, thrift, markets, and market fairness. The analysis controls for a range of demographic and socio-economic variables, as well as denominational, period, and country fixed effects. Given the expectation that the relationships between beliefs, attendance and economic values will vary across religious traditions, the analysis considers the sample as a whole as well as subsamples of individuals belonging to eight categories of religious affiliation, Protestant Christianity, Catholicism, Orthodox Christianity, Islam, Buddhism, Hinduism, other religions, and the non-religious. Throughout the analysis, we compare the roles of attendance and beliefs in predicting economic values. In the interest of space, the primary analysis focuses on seven values indices that are constructed using the individual values variables from Guiso *et al.* (2003) for each of these domains.¹

Our findings suggest that beliefs and attendance are roughly of equal importance in explaining economic values. Considering the sample as a whole, religious belief matter for six of seven values indices, while attendance matters for five values indices. Comparing the magnitude of these relationships, we find that beliefs are more important than attendance for promarket and patriarchal values, and less important than attendance for thrift, market fairness, lawfulness, and institutional trust. Looking across religious traditions, provides a similar assessment. The beliefs variable is significant in 27 of 54 values regressions, while attendance is significant in 26 of these regressions. Taken together, we find that the two measures of religiosity matter most for patriarchy, promarket values, institutional trust, and lawfulness. Importantly, we also find that the relative importance of beliefs and attendance varies across values. Beliefs matter more for patriarchy and promarket values, while attendance matters more for institutional trust. Religious beliefs exhibit positive associations with lawfulness, patriarchy, promarket attitudes, and market fairness, but are negatively associated with thrift. Finally, our results do not support the concern that the beliefs index is a better measure of religiosity for individuals

¹Interested readers are referred to the Supplemental Appendix for results regarding the individual values variables: <https://www.union.edu/sites/default/files/economics/202408/davis-and-rodriguez-2024-supplemental-appendix.pdf>.

adhering to Western religious traditions. In particular, we find that beliefs are more predictive of values than attendance for non-Western religious traditions.

Understanding the relationship between religious beliefs and economic values matters for three distinct reasons. First, because beliefs are only weakly correlated with attendance, an exclusive focus on religious attendance tends to understate the impact of religion on economic values. The most relevant measure of religiosity will depend on the values domain under consideration. Second, understanding the role of religion in the formation of economic values may help to identify potential obstacles to policy initiative in areas that are closely influenced by religious beliefs. Finally, by highlighting values where religious doctrine is particularly important, understanding the distinct roles of religious belief and religious community may also help to guide efforts at religious reformation. While state-led efforts to treat religion as a policy variable inevitably verge on the totalitarian, religion is also constantly being reformed and reimagined from within. For reformers operating within various religious traditions, our work identifies particular values for which doctrinal reform should be a distinct locus of attention.²

This paper adds to a small literature in economics that explicitly addresses the role of discrete religious beliefs in economic life, as opposed to religious affiliation, religious attendance, or self-identification as ‘being religious.’ Barro and McCleary (2003) analyse how beliefs in heaven and hell affect economic growth, and Bénabou *et al.* (2015) consider how a number of dimensions of religion, including beliefs, affect innovation. A substantial literature investigates the consequences of belief in a moral high god for social norms (Voigt, 2022). In the paper closest to ours, Kirchmaier *et al.* (2018) use Dutch data to consider how different dimensions of religion, including religious beliefs, affect the moral positions. Our approach is distinct in that we address a wide set of religious beliefs and explicitly compare the roles of beliefs and attendance in determining economic values. Somewhat more broadly, our findings increase our understanding of the religious origins of informal institutions, which comprise of unwritten norms and cultural values, and while operating alongside formal institutional arrangements can substantially impact economic growth and performance (Dutta *et al.*, 2011; Williamson and Mathers, 2011).

Data

The WVS provides extensive data on economic values and religious beliefs across over 600,000 individuals from more than 100 countries, collected in seven waves since 1981. We measure three dimensions of religious life, religious beliefs, attendance at religious services, and religious affiliation. Our measure of religious beliefs, *beliefs*, is based on five dichotomous variables reflecting a respondent’s belief in God, heaven, hell, an afterlife, and an immortal soul. Fully 54% of respondents profess all five beliefs. The variable *attend* reflects an individual’s frequency of attendance at religious services. It equals one if an individual attends religious services yearly, two if they attend monthly, and three if they attend at least weekly. Overall, 37% of the sample attends religious services at least weekly, 49% attends at least monthly, and 83% attends at least yearly.³ Over half of the sample profess each of the five individual beliefs, with percentages range from 62% for belief in hell to 90% for belief in God. Not surprisingly, the individual religious beliefs are positively correlated with each other, with correlation coefficients ranging from 0.42 (God and hell) and 0.73 (heaven and hell). Religious affiliation comes from a question that asks respondents to identify as non-religious or as belonging to any of 99 different religious denominations, 73 of which are represented in our sample.⁴ We use this information to control for denominational fixed effects and to construct eight aggregate categories of religious affiliation, which we use to define population subsamples: Protestant, Catholic, Orthodox

²See, for example, Edmunds (2023) on recent attempts to reform the status of women in the Southern Baptist Convention.

³Table 1A in the Supplemental Appendix presents summary statistics for the religion variables: <https://www.union.edu/sites/default/files/economics/202408/davis-and-rodriguez-2024-supplemental-appendix.pdf>.

⁴Table 1B in the Supplemental Appendix presents the correlation matrix for our main religion variables: <https://www.union.edu/sites/default/files/economics/202408/davis-and-rodriguez-2024-supplemental-appendix.pdf>.

Christian, Muslim, Hindu, Buddhist, other religions, and non-religious.⁵ For expositional ease, we refer to these categories as *religious traditions*, even though that designation is a poor descriptor of the final two categories. The relationships between these variables support the contention that religious beliefs constitute an independent dimension of religious life. For example, the beliefs and attendance variables are positively but only modestly correlated, $\text{corr.} = 0.4181$, and on average non-religious individuals profess to hold 2.12 of the five religious beliefs.

To measure economic values, we use principal component analysis to aggregate the 25 values variables employed by Guiso *et al.* (2003) to create indices related to seven domains of economic life: cooperation, patriarchy, institutional trust, lawful behaviour, thrift, market fairness, and promarket sentiment. *Cooperation* is based on three variables reflecting social trust and tolerance of immigrants and people of other races. *Patriarchy* is based on five variables reflecting patriarchal values related to employment and education, whether women need children to be fulfilled, whether being a housewife is fulfilling, and whether women should contribute to household income. *Institutional trust* is based on four variables reflecting an individual's trust in the government, army, policy and courts. *Lawfulness* is based on five questions that reflect beliefs about the acceptability of claiming unlawful public benefits, avoiding a public transport fare, cheating on taxes, buying stolen good, and accepting a bribe. *Thrift* is based on a single question reflecting the importance of thrift as a child quality. *Market fairness* is based on four questions that reflect the taste for individual responsibility, the efficacy of hard work, whether the poor are lazy, and whether people get rich at the expense of others. *Promarket values* is based on three variables reflecting an individual's beliefs about the benefits of competition, the private ownership of business, and income differentials. For ease of comparison, the values indices are standardized. For a detailed description of the individual values variables, please see the Supplemental Appendix.⁶

Individual-level control variables include sex, age, educational attainment, health status, and household income, which is treated as continuous. The sample consists of 87,613 surveys from waves 2–4 (1989–2004) for which the religion variables and controls are available. Summary statistics are presented in Table 1.

Empirical results

We investigate the relationship between religious beliefs and economic values by considering a series of OLS regressions. These take the form:

$$y_{icdt} = \beta \text{beliefs}_i + \gamma \text{attend}^i + hX_i + \delta_c + \delta_t + \theta_d + \epsilon_{icdt} \quad (1)$$

in which i , c , d , and t index individuals, countries, denominations and time, y measures an economic value, *beliefs* is the index of religious beliefs, *attend* is our measure of attendance at religious services, X_i is a vector of individual characteristics, δ_c and δ_t are country and period (wave) fixed effects, and θ_d is a vector of denominational fixed effects. As noted previously, the vector of individual-level variables includes gender, household income, a four-unit measure of subjective health status and a nine-unit scale of educational attainment. The inclusion of these variables controls for their potential impact on economic values.⁷ The inclusion of denominational fixed effects controls for systematic differences in the economic values of individuals belonging to different religious denominations. The inclusion of

⁵See Supplemental Appendix for aggregation details: <https://www.union.edu/sites/default/files/economics/202408/davis-and-rodriguez-2024-supplemental-appendix.pdf>.

⁶The Supplemental Appendix is available at: <https://www.union.edu/sites/default/files/economics/202408/davis-and-rodriguez-2024-supplemental-appendix.pdf>.

⁷Both income and educational attainment are potentially endogenous to religiosity, indicating they may be bad regressors. However, failing to control for these variables may give rise to omitted variable bias. To investigate the sensitivity of our findings to the inclusion of these controls, we ran baseline regressions for the seven values indices with and without these controls. In all but two cases, the sign and significance of the coefficients on beliefs and attendance are the same in both specifications. In light of this broad similarity in our findings, we keep income and education as controls, which facilitates comparisons with other studies.

Table 1. Summary statistics

Variable	Obs.	Mean	Std. dev.	Min	Max
Beliefs	83,644	3.7584	1.6667	0	5
Attend	83,644	1.5961	1.2369	0	3
Protestant	83,644	0.1473	0.3544	0	1
Catholic	83,644	0.2470	0.4312	0	1
Orthodox Christian	83,644	0.1171	0.3215	0	1
Muslim	83,644	0.2604	0.4388	0	1
Buddhist	83,644	0.0074	0.0858	0	1
Hindu	83,644	0.0500	0.2179	0	1
Other religion	83,644	0.0349	0.1834	0	1
Non-religious	83,644	0.1361	0.3429	0	1
Cooperation	75,024	0.0006	0.9982	-2.4264	0.6961
Institutional trust	40,314	0.1004	0.9294	-1.9549	2.1601
Patriarchy	70,286	0.0116	0.9967	-2.0050	2.4606
Lawfulness	42,658	0.0102	0.9854	-5.2267	0.7638
Promarket	61,231	0.1547	1.0253	-2.6397	1.6941
Market fairness	32,870	0.0240	0.9970	-2.3489	2.5515
Thrift	83,644	0.3352	0.4721	0	1
Female	83,644	0.4971	0.5000	0	1
Age	83,644	39.0933	15.2369	13	99
Educ	83,644	4.6753	2.2451	1	8
Health	83,644	3.8132	0.8967	1	5
Income	83,644	4.4894	2.4220	1	10

country fixed effects control of the influence of omitted country-level variables on economic values, and wave fixed effects control for global values shocks.

As is common in much of the literature on the economics of religion, our empirical approach does not allow us to identify the causal impact of religious beliefs or to disentangle the complex relationships between attendance and beliefs. Doing so in a convincing manner would require identifying valid instruments for these variables, which are not available for our data. While we find it likely that beliefs and attendance influence each other, the relatively modest positive relationship between beliefs and attendance suggests this interdependence is not complete. As we control for both beliefs and attendance in all regressions, the coefficients we estimate are driven by the independent variation in these two variables.

Table 2 presents results for the cooperation index. The first column of Table 1 provides results for the full sample, and the following columns provide results for subsamples defined by the eight religious traditions. Each regression controls for a full set of individual level variables, including age, gender, educational attainment, subjective health status, and income, as well as denominational, period, and country fixed effects. The final row of the table reports the impact of a one-standard deviation increase in beliefs divided by a one-standard deviation increase in attendance. This row provides evidence on the relative importance of beliefs and attendance to explaining variation in a given value. Note that when a coefficient estimate is not significant, we treat that coefficient as a zero in computing relative effects. If neither coefficient is significant, the cell is left empty.

Table 2. Beliefs, attendance, and cooperation across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All	Protestant	Catholic	Orthodox Christian	Muslim	Buddhist	Hindu	Other religions	Non-Religious
Variables	Cooperation	Cooperation	Cooperation	Cooperation	Cooperation	Cooperation	Cooperation	Cooperation	Cooperation
Beliefs	0.00342 (0.00275)	0.0148** (0.00725)	0.00436 (0.00527)	0.0128** (0.00597)	-0.0146 (0.00938)	-0.0149 (0.0377)	-0.0606*** (0.0128)	0.0213 (0.0155)	0.00808 (0.00564)
Attend	-6.48e-05 (0.00352)	0.0188** (0.00916)	-0.0131** (0.00606)	-9.68e-05 (0.0113)	0.000786 (0.00747)	0.117* (0.0642)	-0.0160 (0.0182)	0.00710 (0.0197)	-0.0353*** (0.0115)
Age	6.26e-05 (0.000256)	-0.000740 (0.000574)	-0.000478 (0.000458)	0.000872 (0.000675)	0.000921 (0.000655)	-0.00256 (0.00472)	0.00313** (0.00155)	-0.000550 (0.00135)	-0.00110* (0.000580)
Female	0.0206*** (0.00698)	0.0399** (0.0163)	0.0150 (0.0126)	0.0333* (0.0191)	0.0134 (0.0168)	0.0253 (0.121)	-0.00480 (0.0393)	-0.0291 (0.0376)	0.0226 (0.0163)
Income	0.0149*** (0.00164)	0.0127*** (0.00354)	0.0124*** (0.00296)	0.00668 (0.00448)	0.0226*** (0.00425)	0.0504** (0.0254)	0.0333*** (0.00998)	0.0221** (0.00909)	0.00821** (0.00356)
Constant	-0.238*** (0.0552)	-0.449 (0.295)	-0.281 (0.531)	1.452 (0.970)	-0.340** (0.152)	0.497 (1.376)	0.728* (0.436)	-0.554 (0.815)	-1.015*** (0.156)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75,024	11,651	17,224	9,443	19,006	396	4,026	2,789	10,489
R ²	0.121	0.107	0.067	0.066	0.092	0.211	0.051	0.103	0.084
Beliefs vs. Attend	–	1.06	0.00	UND	–	0.00	UND	–	0.00

Notes: All regs control for educational attainment, health status, and religious denomination, country, and wave fixed effects. Asterisks reflect statistical significance: *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$. The variable *beliefs* varies from zero to five and reflects an individual's belief in God, an immortal soul, heaven, hell and an afterlife. The variable *attend* equals zero if an individual attends religious services less than once per year, one if they attend annually but not monthly, two if they attend monthly but not weekly, and three if they attend at least once per week. The last row presents the ratio of a one-standard deviation increase in beliefs to a one-standard deviation increase in attendance. In computing these ratios, insignificant coefficients are treated as zeros, UND indicates the ratio is undefined, and no value is recorded if both coefficients are insignificant.

Our results provide ample evidence that the relationship between beliefs and social cooperation varies across religious traditions. While beliefs are insignificant in the full sample, they are significant and positively related to the cooperation index for two religious traditions, Protestantism and Orthodoxy, and significant and negative for one tradition, Hinduism. Results for attendance are similarly disparate. Attendance is positively related to cooperation for Protestants and negatively related to cooperation for Catholics and the non-religious. Both beliefs and attendance are significant for only one tradition, Protestantism, and, as shown in the final row of [Table 2](#), the magnitude of these relationships are roughly equal.

[Table 3](#) presents results for patriarchal values. In this case, our results are much less disparate across traditions. In particular, the coefficient on beliefs is positive and significant for the full sample and for seven of the eight religious traditions. This relationship is strongest for Hindus, Muslims, Buddhists, for which the magnitude of the coefficient on beliefs is two to three times that for the sample as a whole, and weakest for Catholics, Orthodox Christians and the non-religious. The relationship between attendance and patriarchal values is somewhat weaker and less consistent. Attendance is positive and significant for the full sample and four traditions, Protestantism, Catholicism, Islam, and the non-religious. Turning to the final row, our results indicate that the relationship between beliefs and patriarchal values is similar to that for attendance for the full sample and for Protestants, Catholics, and the non-religious, while beliefs are significantly more important to patriarchal values for Orthodox Christians, Buddhists, Hindus, and Muslims. These results suggest that an exclusive focus on attendance as a measure of religiosity, and in particular the tendency to ignore the potential role of religious belief, significantly understates the role of religion in formation and persistence of patriarchal values.

[Table 4](#) presents results for institutional trust. While both beliefs and attendance are negatively related to institutional trust, this relationship is both stronger and more consistently estimated for attendance. The coefficient on attendance is negative and significant for six traditions, the exceptions being Buddhism and Hinduism, while the coefficient on beliefs is only significant for four religious traditions and among those it varies in sign, being negative for Catholics, Muslims, and the non-religious, and positive for Orthodox Christians. Among traditions where both beliefs and attendance matter for institutional trust, they appear to play relatively equal roles for Islam, while the role of attendance is greater for Catholics, Protestants, Orthodox Christians, members of other religions and the non-religious. These results are consistent with the perspective that, among the religious, church and state may be seen as rival institutions, and those more attached to the church as an institution, as indicated by more frequent attendance, may therefore view secular institutions less favourably. Note that our findings contrast with other work that identifies a positive relationship between institutional trust and religious affiliation (Brañas-Garza *et al.*, 2009).

[Table 5](#) provides evidence on the taste for lawful behaviour. Our results suggest that the relationship between attendance and lawful behaviour is more important than that for beliefs and lawfulness. While both measures of religiosity are significant in the full sample, the size of this empirical relationship is roughly 2.5 times larger for attendance than for beliefs. In addition, the coefficient for beliefs is significant for three religious traditions, relative to four for attendance. Strikingly, these significant relationships are only present for four of the religious traditions, the three Christian traditions and other religions.⁸ Neither beliefs nor attendance is significantly related to the justifiability of unlawful behaviour for Islam, Buddhism, Hinduism or the non-religious. As seen in the final row of [Table 5](#), among the traditions where religiosity matters for the justifiability of unlawful behaviour, among Catholics attendance and beliefs matter roughly equally, while attendance matters more than beliefs for Protestants, Orthodox Christians, and members of other religions.

[Table 6](#) presents results for promarket values. As seen in column 1, beliefs are positively related to promarket values for the sample as a whole, while the coefficient on attendance is not significant. Looking across religious traditions, we find significant variation in outcomes, particularly for attendance. The coefficient on beliefs is significant and positive for five of the eight religious traditions,

⁸These results align with North *et al.* (2013), who find that historically countries with more Protestants and Catholics have higher levels of rule of law and control of corruption.

Table 3. Beliefs, attendance, and patriarchy across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All	Protestant	Catholic	Orthodox Christian	Muslim	Buddhist	Hindu	Other religions	Non-Religious
Variables	Patriarchy	Patriarchy	Patriarchy	Patriarchy	Patriarchy	Patriarchy	Patriarchy	Patriarchy	Patriarchy
Beliefs	0.0358*** (0.00260)	0.0394*** (0.00754)	0.0202*** (0.00545)	0.0173*** (0.00598)	0.0867*** (0.00757)	0.0665*** (0.0240)	0.109*** (0.0130)	0.0151 (0.0141)	0.0328*** (0.00590)
Attend	0.0406*** (0.00322)	0.0553*** (0.00936)	0.0293*** (0.00618)	0.0163 (0.0116)	0.0468*** (0.00568)	0.0336 (0.0451)	0.0354* (0.0187)	0.0312* (0.0179)	0.0250** (0.0120)
Age	0.00505*** (0.000239)	0.00859*** (0.000597)	0.00545*** (0.000474)	0.00508*** (0.000681)	0.00225*** (0.000506)	0.00896*** (0.00306)	0.00411** (0.00160)	0.00366*** (0.00125)	0.00543*** (0.000611)
Female	-0.287*** (0.00646)	-0.259*** (0.0167)	-0.235*** (0.0129)	-0.279*** (0.0193)	-0.356*** (0.0131)	-0.241*** (0.0803)	-0.358*** (0.0402)	-0.288*** (0.0345)	-0.234*** (0.0171)
Income	-0.0208*** (0.00154)	-0.00780** (0.00366)	-0.0190*** (0.00313)	-0.0173*** (0.00454)	-0.0302*** (0.00330)	0.000687 (0.0165)	-0.0525*** (0.0104)	-0.0330*** (0.00831)	-0.0136*** (0.00374)
Constant	0.0972** (0.0488)	-0.0607 (0.291)	0.300** (0.121)	0.508** (0.202)	0.139 (0.108)	-1.305 (1.006)	-0.0319 (0.476)	0.521 (0.716)	0.193 (0.144)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	70,286	10,578	17,199	8,323	19,512	487	2,007	2,435	9,745
R ²	0.294	0.261	0.201	0.154	0.182	0.320	0.181	0.313	0.278
Beliefs vs. Attend	1.19	0.96	0.93	UND	2.50	UND	4.15	0.00	1.77

Notes: Please see notes to [Table 2](#).

Table 4. Beliefs, attendance, and institutional trust across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	All	Protestant	Catholic	Orthodox Christian	Muslim	Buddhist	Hindu	Other religions	Non-Religious
	Inst_trust	Inst_trust	Inst_trust	Inst_trust	Inst_trust	Inst_trust	Inst_trust	Inst_trust	Inst_trust
Beliefs	−0.00834*** (0.00313)	−0.00175 (0.00771)	−0.0265*** (0.00748)	0.0178** (0.00697)	−0.0497*** (0.0103)	−0.0315 (0.0339)	−0.0161* (0.00965)	−0.0375* (0.0193)	−0.0200*** (0.00741)
Attend	−0.0585*** (0.00477)	−0.0358*** (0.0108)	−0.0892*** (0.00900)	−0.0418*** (0.0134)	−0.0668*** (0.0134)	0.111* (0.0570)	−0.0227 (0.0138)	−0.0728*** (0.0250)	−0.0670*** (0.0169)
Age	−0.00329*** (0.000316)	−0.000458 (0.000669)	−0.00347*** (0.000662)	−0.00555*** (0.000792)	−0.00117 (0.000989)	0.000580 (0.00474)	6.51e-05 (0.00117)	−0.00392** (0.00191)	−0.00534*** (0.000763)
Female	0.0373*** (0.00882)	0.0757*** (0.0197)	0.104*** (0.0184)	−0.0333 (0.0227)	−0.00468 (0.0256)	0.00252 (0.108)	0.0184 (0.0296)	−0.0198 (0.0507)	0.0224 (0.0212)
Income	0.0115*** (0.00202)	0.0126*** (0.00419)	0.0118*** (0.00439)	0.0178*** (0.00537)	0.0165*** (0.00632)	0.00962 (0.0206)	0.0132* (0.00704)	−0.00900 (0.0111)	0.00786* (0.00455)
Constant	−0.137** (0.0666)	−0.0473 (0.751)	−0.654*** (0.204)	1.324* (0.746)	−0.913*** (0.168)	1.045 (1.214)	1.917*** (0.570)	1.698* (0.961)	0.0434 (0.346)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,314	7,097	9,776	7,106	4,910	247	2,919	1,204	7,055
R ²	0.139	0.160	0.121	0.081	0.134	0.207	0.025	0.228	0.146
Beliefs vs. Attend	0.19	0.00	0.39	−0.59	1.00	0.00	UND	0.69	0.40

Notes: Please see notes to [Table 2](#).

Table 5. Beliefs, attendance and lawfulness across religions

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All Lawful	Protestant Lawful	Catholic Lawful	Orthodox Christian Lawful	Muslim Lawful	Buddhist Lawful	Hindu Lawful	Other religions Lawful	Non-Religious Lawful
Beliefs	0.00957*** (0.00324)	0.0212*** (0.00765)	0.0241*** (0.00693)	-0.00762 (0.00773)	0.00802 (0.0111)	0.0280 (0.0351)	0.00936 (0.00829)	0.0453** (0.0185)	0.000423 (0.00867)
Attend	0.0308*** (0.00485)	0.0648*** (0.0106)	0.0306*** (0.00787)	0.0547*** (0.0148)	-0.0204 (0.0173)	0.0826 (0.0573)	0.00155 (0.0119)	0.0950*** (0.0235)	-0.0335* (0.0195)
Age	0.0120*** (0.000331)	0.0135*** (0.000667)	0.0115*** (0.000637)	0.0107*** (0.000876)	0.00419*** (0.00114)	0.00741 (0.00494)	0.00328*** (0.00101)	0.00654*** (0.00180)	0.0184*** (0.000896)
Female	0.0911*** (0.00911)	0.0999*** (0.0196)	0.0930*** (0.0168)	0.106*** (0.0250)	0.0353 (0.0283)	-0.0725 (0.114)	0.0589** (0.0254)	-0.0792* (0.0476)	0.107*** (0.0249)
Income	0.000289 (0.00209)	0.0130*** (0.00415)	0.0114*** (0.00412)	-0.0178*** (0.00594)	-0.0125* (0.00731)	-0.0227 (0.0207)	-0.0102* (0.00604)	0.0114 (0.0105)	-0.00208 (0.00531)
Constant	-1.211*** (0.0689)	-1.043 (0.752)	-1.201** (0.610)	-2.159*** (0.828)	-1.000*** (0.176)	-1.771 (1.244)	0.784 (0.493)	-1.356* (0.711)	-2.012*** (0.381)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,658	7,298	12,763	7,080	3,781	235	2,972	1,249	7,280
R ²	0.136	0.146	0.096	0.100	0.198	0.212	0.030	0.202	0.137
Beliefs vs. Attend	0.42	0.44	1.06	0.00	-	-	-	0.64	0.00

Notes: Please see notes to [Table 2](#).

Table 6. Beliefs, attendance and promarket values across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	All Promarket	Protestant Promarket	Catholic Promarket	Orthodox Christian Promarket	Muslim Promarket	Buddhist Promarket	Hindu Promarket	Other religions Promarket	Non-Religious Promarket
Beliefs	0.0263*** (0.00294)	0.0352*** (0.00785)	0.0145** (0.00649)	0.0390*** (0.00662)	0.0136 (0.0102)	-0.0567** (0.0236)	0.0548*** (0.0106)	-0.00835 (0.0156)	0.0216*** (0.00668)
Attend	0.00363 (0.00420)	-0.0323*** (0.00999)	-0.0111 (0.00752)	-0.0269** (0.0126)	0.0685*** (0.0119)	0.00987 (0.0464)	0.0336** (0.0152)	-0.0398** (0.0201)	0.000899 (0.0139)
Age	0.00170*** (0.000289)	0.00469*** (0.000632)	0.00589*** (0.000563)	-0.00503*** (0.000748)	0.00274*** (0.000942)	0.00345 (0.00308)	0.00143 (0.00130)	0.00168 (0.00138)	-0.00224*** (0.000696)
Female	-0.152*** (0.00805)	-0.152*** (0.0185)	-0.116*** (0.0155)	-0.220*** (0.0211)	-0.117*** (0.0243)	-0.234*** (0.0813)	-0.102*** (0.0330)	-0.0947** (0.0388)	-0.157*** (0.0198)
Income	0.0352*** (0.00186)	0.0372*** (0.00396)	0.0385*** (0.00367)	0.0290*** (0.00497)	0.0186*** (0.00636)	0.0472*** (0.0164)	0.0164** (0.00816)	0.0401*** (0.00918)	0.0397*** (0.00424)
Constant	-0.0773 (0.0605)	-0.102 (0.315)	-0.265* (0.149)	0.341 (0.782)	-0.253 (0.199)	0.890 (1.124)	0.310 (0.363)	1.401* (0.838)	0.0153 (0.189)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	61,231	10,282	16,974	9,000	8,023	563	3,632	2,619	10,138
R ²	0.102	0.111	0.098	0.145	0.083	0.206	0.064	0.147	0.111
Beliefs vs. Attend	UND	-1.48	UND	-2.02	0.00	UND	2.20	0.00	UND

Notes: Please see notes to [Table 2](#).

insignificant for two traditions, Islam and other religions, and negative and significant for one tradition, Buddhism. The strongest positive effects are for Hinduism, followed by Orthodox Christianity and Protestantism.⁹ In contrast, results for attendance are significantly more mixed. Of the five significant coefficients, those for Protestantism, Orthodox Christianity, and other religions are negative, while those for Islam and Hinduism are positive. These results provide additional support for the importance of considering beliefs as an independent dimension of religiosity. Not only does belief matter more than attendance for six of the eight traditions considered, but for two of the three traditions for which both variables are significant, the signs of these coefficients also differ. That is, for Protestantism and Orthodox Christianity, belief is associated with increased support for markets, while attendance is associated with decreased support.

Table 7 presents results for thrift. These relationships appear highly disparate. Both beliefs and attendance are significant and negatively related to thrift for the sample as a whole, with the relationship between attendance and thrift being basically twice as large as that for beliefs. However, each religiosity variable is significant for only two of the eight religious traditions when considered separately. Moreover, the two significant coefficients for beliefs have different signs: beliefs are negatively related to thrift for Orthodox Christians, but positively related to thrift for Hindus. Attendance is negatively related to thrift for Protestants and the non-religious. There is no religious tradition for which both beliefs and attendance appear to matter for thrift, precluding generalizations about the relative importance of these dimensions of religion across different traditions.

Table 8 presents results regarding beliefs, attendance, and market fairness across religious traditions. As seen in column one, both beliefs and attendance are positively associated with the belief in market fairness for the sample as a whole. While none of our results for individual religious traditions directly contradict these findings, the coefficients on beliefs and attendance are only positive and significant for two religious traditions. We find that beliefs matter for Hindus and the non-religious, and attendance matters for Protestants and Catholics.

Discussion

This section reviews and summarizes the information provided so far with an eye to addressing a number of questions that are central to our enquiry. How important are beliefs and attendance in explaining economic values? For which values are beliefs most important and for which is attendance more important? And, how do results for beliefs and attendance differ across religious traditions? In assessing the relative importance of beliefs and attendance, we focus on an admittedly crude measure, the number of significant coefficients for these variables for each economic value and religious tradition.

Table 9 summarizes information on the roles of beliefs and attendance in determining economic values and is based on the results in Tables 2–8. In columns 1–9, each cell of the table records whether the coefficient on beliefs or attendance is positive and significant (+), negative and significant (-), or insignificant (0), for a given economic value and religious tradition. The final three columns summarize this information for each value and dimension of religiosity, noting the number of coefficients in each category. Finally, the bottom two rows of the table provide information on the number of significant coefficients for beliefs and attendance for the sample as a whole and for each religious tradition.

Considering results for the sample as a whole and looking across all seven dimensions of economic values, 11 of 14 coefficients on beliefs and attendance are significant, suggesting an important empirical relationship between religiosity and economic values. Significant coefficients are relatively evenly divided between beliefs and attendance, with six and five significant coefficients, respectively. Results for the eight religious traditions also suggest that beliefs and attendance are roughly of equal

⁹Our finding of a negative relationship between beliefs and pro-market attitudes for Buddhists is broadly consonant with the tenets of the religion (Daniels, 2010a and 2010b). Similarly, Fungáčová *et al.* (2019) find that individuals who profess the importance of Hindu values have greater trust in banks.

Table 7. Beliefs, attendance and thrift across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	All Thrift	Protestant Thrift	Catholic Thrift	Orthodox Christian Thrift	Muslim Thrift	Buddhist Thrift	Hindu Thrift	Other religions Thrift	Non-Religious Thrift
Beliefs	−0.00261** (0.00126)	−0.00359 (0.00345)	−0.00397 (0.00265)	−0.0101*** (0.00312)	−0.000441 (0.00371)	0.00629 (0.0123)	0.0179*** (0.00485)	0.00114 (0.00702)	−0.00252 (0.00307)
Attend	−0.00540*** (0.00157)	−0.0104** (0.00430)	0.000649 (0.00300)	0.00485 (0.00592)	−0.00307 (0.00282)	−0.00896 (0.0242)	−0.00183 (0.00692)	−0.0120 (0.00897)	−0.0180*** (0.00632)
Age	0.00167*** (0.000117)	0.00261*** (0.000272)	0.00190*** (0.000233)	0.00169*** (0.000354)	0.000411 (0.000250)	0.00144 (0.00163)	−0.00115* (0.000588)	0.00175*** (0.000620)	0.00240*** (0.000320)
Female	−0.00212 (0.00317)	−0.0164** (0.00770)	−0.0152** (0.00631)	0.0184* (0.0100)	0.00546 (0.00646)	0.00369 (0.0429)	0.000579 (0.0150)	0.0261 (0.0172)	−0.000258 (0.00901)
Income	−0.00475*** (0.000751)	−0.00322* (0.00169)	−0.00195 (0.00152)	−0.00195 (0.00235)	−0.00541*** (0.00163)	−0.00622 (0.00859)	−0.00607 (0.00379)	−0.00619 (0.00414)	−0.00778*** (0.00196)
Constant	0.451*** (0.0254)	0.431*** (0.143)	0.447*** (0.0620)	0.523 (0.385)	0.627*** (0.0604)	0.132 (0.603)	0.123 (0.161)	0.696* (0.379)	0.459*** (0.0879)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	83,644	12,317	20,656	9,791	21,779	621	4,182	2,916	11,382
R ²	0.099	0.108	0.082	0.076	0.117	0.092	0.123	0.132	0.096
Beliefs vs. Attend	0.54	0.00	–	UND	–	–	UND	–	0.00

Notes: Please see notes to [Table 2](#).

Table 8. Beliefs, attendance and market fairness across religions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	All Market fairness	Protestant Market fairness	Catholic Market fairness	Orthodox Christian Market fairness	Muslim Market fairness	Buddhist Market fairness	Hindu Market fairness	Other religions Market fairness	Non-Religious Market fairness
Beliefs	0.0104*** (0.00369)	-0.000540 (0.00966)	0.00684 (0.00882)	0.00452 (0.00689)	-0.00123 (0.0117)	0.0648 (0.0396)	0.0560** (0.0220)	0.0111 (0.0233)	0.0288*** (0.00859)
Attend	0.0205*** (0.00570)	0.0374*** (0.0136)	0.0221** (0.0105)	-0.00613 (0.0133)	0.0124 (0.0154)	0.0596 (0.0675)	-0.0179 (0.0323)	0.0260 (0.0299)	0.0263 (0.0201)
Age	0.00238*** (0.000375)	0.00573*** (0.000849)	0.00393*** (0.000793)	-0.00110 (0.000790)	-0.000306 (0.00114)	0.0140** (0.00571)	0.00194 (0.00280)	0.00291 (0.00233)	0.00155* (0.000886)
Female	-0.0720*** (0.0104)	-0.0777*** (0.0248)	-0.0808*** (0.0218)	-0.0726*** (0.0226)	-0.0545* (0.0293)	-0.0477 (0.132)	0.0415 (0.0685)	0.0473 (0.0617)	-0.0911*** (0.0247)
Income	0.0325*** (0.00238)	0.0600*** (0.00525)	0.0490*** (0.00520)	0.00705 (0.00538)	-0.00688 (0.00737)	0.0248 (0.0234)	0.0279* (0.0155)	0.0273** (0.0137)	0.0302*** (0.00525)
Constant	-0.523*** (0.0696)	-1.282 (0.846)	-0.803 (0.692)	0.0516 (0.225)	-0.0300 (0.175)	0.274 (1.266)	-1.711 (1.068)	-0.914 (0.808)	-0.180 (0.351)
Health and education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denomination fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32,870	5,711	7,898	6,425	4,504	207	985	1,009	6,131
R ²	0.146	0.179	0.154	0.043	0.106	0.268	0.087	0.254	0.136
Beliefs vs. Attend	0.68	0.00	0.00	-	-	-	UND	-	UND

Notes: Please see notes to [Table 2](#).

Table 9. Summary of results for reliefs and attendance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
	All	Protestant	Catholic	Orthodox	Muslim	Buddhist	Hindu	Other religions	Non-Religious	+	–	0
Cooperation												
Beliefs	0	+	0	+	0	0	–	0	0	2	1	5
Attend	0	+	–	0	0	0	0	0	–	1	2	5
Patriarchy												
Beliefs	+	+	+	+	+	+	+	0	+	7	0	1
Attend	+	+	+	0	+	0	0	0	+	4	0	4
Inst Trust												
Beliefs	–	0	–	+	–	0	0	0	–	1	3	4
Attend	–	–	–	–	–	0	0	–	–	0	6	2
Lawfulness												
Beliefs	+	+	+	0	0	0	0	+	0	3	0	5
Attend	+	+	+	+	0	0	0	+	0	4	0	4
Promarket												
Beliefs	+	+	+	+	0	–	+	0	+	5	1	2
Attend	0	–	0	–	+	0	+	–	0	2	3	3
Thrift												
Beliefs	–	0	0	–	0	0	+	0	0	1	1	6
Attend	–	–	0	0	0	0	0	0	–	0	2	6
Market fairness												
Beliefs	+	0	0	0	0	0	+	0	+	2	0	6
Attend	+	+	+	0	0	0	0	0	0	2	0	6
Sum												
Beliefs	6	4	4	5	2	2	5	1	4	27		

(Continued)

Table 9. (Continued.)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
	All	Protestant	Catholic	Orthodox	Muslim	Buddhist	Hindu	Other religions	Non-Religious	+	–	0
Attend	5	7	5	3	3	0	1	3	4	26		
Total	11	11	9	8	5	2	6	4	8	53		

Notes: Columns 1–9 summarize regression results from Tables 1–7. A zero (0) indicates the variable was not significant in our regression for a given value and religious tradition, a plus sign (+) indicates a significant positive coefficient, and a minus sign (–) indicates a significant negative coefficient. The final three rows record the total number of significant coefficients for beliefs, attendance and the two variables taken together for each religious tradition. The final three columns record the number of positive, negative and insignificant coefficients for each variable and value for the eight religious traditions.

importance in their relationship to economic values. Out of 56 coefficients for each variable, 27 coefficients are significant for beliefs, while 26 significant coefficients for attendance.

Our results also have implications for the concern that the beliefs index may be more relevant for Western religious traditions. While we find that both beliefs and attendance are more likely to be significant for Western traditions, beliefs perform better than attendance, both absolutely and in relative terms, for non-Western religious traditions. Summing across the four Western religious traditions, the three branches of Christianity and Islam, the coefficient on beliefs is significant in 15 regressions, while that on attendance is significant in 18 regressions. In contrast, summing across the non-Western traditions, Buddhism, Hinduism and the other religions category, the coefficient on beliefs is significant in eight regressions, while that on attendance is only significant in four. The most straightforward reading of these outcomes is that we find evidence of Western bias for both beliefs and attendance variables, but the relative bias is less for the beliefs variable.

Finally, looking across religious traditions, religiosity is most consistently related to economic values for Protestantism, with 11 significant coefficients out of a possible 14, Catholicism, with nine significant coefficients, and Orthodox Christianity and the non-religious, with eight significant coefficients each. At the other end of the scale, religiosity is least related for economic values for Buddhism, with two significant coefficients, and other religions, with four significant coefficients. Variations in the number of significant coefficients across religious traditions may in part reflect differences in sample size. There are over five thousand observations for each of the four traditions with the greatest number of significant coefficients, and less than three hundred observations for Buddhism. However, these variations may also give some credence to concerns that our measures of religiosity are more relevant to Western religious traditions.

Next, we consider how the roles of beliefs and attendance vary across the seven dimensions of economic values. Based on the number of significant coefficients, religiosity matters most for patriarchal values, pro-market attitudes, institutional trust, and lawfulness. Religiosity matters least for trust, market fairness, and thrift.

The relationship between religiosity and patriarchal values is noteworthy for a number of reasons. First, it is the dimension of economic values for which our results are the most consistent: all eleven significant coefficients indicate that religiosity is positively related to patriarchal values. Second, beliefs matter for patriarchal values for seven of the eight religious traditions, and attendance matters for four religious traditions. It is, thus, the dimension of economic values for which beliefs most consistently matter and for which they play their most important role relative to attendance. Thus, our findings suggest that focusing on attendance to the exclusion of beliefs is particularly misguided when attempting to understand the relationship between religion and patriarchal values.

With eleven significant coefficients, religiosity also matters for pro-market attitudes, and again, with the majority of the significant coefficients, beliefs are at least as important as attendance to understanding pro-market attitudes. However, with seven positive and four negative coefficients, this is the dimension of economic values for which our results are the most disparate. Moreover, beliefs are generally positively related to pro-market values, and attendance is nearly evenly split between positive and negative coefficients. This has two implications. First, taken alone, attendance is likely to provide a distorted view of the relationship between religiosity and pro-market attitudes. Second, this is the dimension of economic values for which it matters the most to account for differences in religiosity across religious traditions. (Understanding how different religious traditions correlate to values related to private markets and, perhaps, economic institutions, is a major challenge going forward.)

With ten significant coefficients, religiosity is also closely related to institutional trust. This is also the dimension of economic values for which attendance plays the greatest role, with six of eight possible coefficients significant, relative to four for beliefs. The relationship between religiosity and lawful behaviour is also highly consistent, with nine of the ten significant coefficients indicating that religiosity is associated with lower levels of institutional trust.

Finally, our result for the relationship between religiosity and lawfulness are somewhat mixed. First, all seven significant coefficients indicating a positive relationship between religiosity and lawfulness,

and these significant coefficients are relatively evenly divided between beliefs and attendance, suggesting that these two dimensions of religiosity play similar roles in determining the justifiability of unlawful behaviour. However, all seven significant coefficients are restricted to four religious traditions, three of which are branches of Christianity, suggesting the relationship between religiosity and lawfulness is highly tradition dependent and concentrated in Western religious traditions.

This section highlights how the relationship between religious beliefs and economic values varies across world religious traditions. Considering subgroups within these major traditions would likely reveal additional diversity in these relationships.

Conclusion

Work in the economics of religion has tended to equate religiosity with the frequency of attendance at religious services, to the neglect of other important dimensions of religious life including religious belief. We depart from this approach by explicitly examining the relationship between religious beliefs and economic values. We pattern our investigation on seminal work on religion and economic values by Guiso *et al.* (2003). We use the WVS to analyse the relative difference between a robust definition of religious beliefs and religious attendance and how they relate to social and economic attitudes.

Broadly, we find that both beliefs and attendance matter for economic values and, as crudely measured by the number of significant coefficients, are roughly equally important for explaining economic values. In addition, the relative importance of beliefs and attendance varies depending on the value in question. Beliefs are most important for explaining patriarchy and promarket attitudes, while attendance matters most for lawful behaviour and mistrust of secular institutions. These findings suggest that in attempting to understand the relationship between religion and values, the importance of accounting for the role of religious beliefs depends to some degree on the value in question.

Finally, looking across religious traditions, our results indicate that beliefs and attendance are more closely related to economic values for members of Western than non-Western religious traditions. While it may be that religion matters more for values in Western religious traditions, this result may also in part reflect the need for new instruments of economic analysis that more effectively capture important dimensions of non-Western religious life and practice. In lieu of this, religious beliefs appear to be more relevant than attendance for explaining economic values for adherents of non-Western religious traditions.

Our most meaningful results in this analysis have to do specifically with the strong relationships found between religious belief and patriarchal attitudes across all of the major world religions. In finding the greater religiosity is associate with support for patriarchal values and more traditional gender roles, our results align with many other studies that find strong relationships between religion and patriarchal norms (Basedau *et al.*, 2018; Davis and Gao, 2020; Dildar, 2015; Seguino, 2011). However, these studies have tended to focus on religious affiliation or attendance at religious services, neglecting the potential role of religious belief. Overall, our results support considering religious belief when discussing women's empowerment and social reform. Religious reformers working to change the economic and social status of women within various traditions, for example, might more profitably focus their efforts on the realm of religious beliefs than religious practice.¹⁰ Importantly, it does not concentrate in any one religion, as few studies have looked at the effect of beliefs on patriarchal attitudes outside of Islam (Corekcioglu, 2021; Lata *et al.*, 2021). Thus, further research into the economics of religion is needed to better understand the complex relationship between religious belief and patriarchy.

The analysis presented in this paper has a number of notable limitations. First, wherever possible, we have followed the research design in Guiso *et al.* (2003), particularly in their list of outcome variables that we examine. This approach limits the scope for subjective judgments to influence our analysis, it also comes with limitations. For example, using alternative measures of economic values might

¹⁰See, for example, Edmunds (2023) on the efforts of Southern Baptists to reform the status of women in the Southern Baptist Convention.

significantly increase the number of individuals and countries included in the analysis. In addition, it has constrained our choice of control variable. Alternative controls may render somewhat different results. Second, like Guiso *et al.* (2003), we restrict attention to economic values. A natural extension of our focus on religious beliefs and economic values would be to look at the relationship between beliefs and economic and institutional outcomes. In addition, the role of religious beliefs in shaping economic values may also depend on important national characteristics, as suggested by Akaliyski *et al.* (2021), including the level of economic development and national political institutions. While these considerations are beyond the scope of this study, we hope that our findings motivate additional investigations along these lines.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S1744137424000262>.

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