Ensuring Liberties:
Understanding State Restrictions on Religious Freedoms

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Forthcoming in the Journal for the Scientific Study of Religion
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Abstract
Promises of religious freedoms have become the standard in national constitutions. Yet, despite these assurances, religious freedoms are routinely denied. Combining new data collections with expanded theoretical explanations, this research explores how dimensions of governance and measures of the religious economy contribute to government restrictions on religion. Consistent with recent work on the judicialization of politics, we find that the absence of an independent judiciary is an important predictor of government restrictions on religious freedoms, whereas free elections and government effectiveness are insignificant in our full models. Consistent with the religious economy theory, we find that social restrictions and government favoritism toward a religion(s) are persistent predictors of the government’s restrictions. Although the proportion of the population Muslim holds a strong bivariate association with government restrictions ($r=.57$), the relationship is reduced to insignificance in our full models. We briefly discuss the implications of these findings.
ENSURING LIBERTIES:

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Promises of religious freedom have become the standard in national constitutions. A series of data collections by political scientists, sociologists and legal scholars have all found that the vast majority of nations offer constitutional promises of religious liberty (Fox and Flores 2009; Fox 2011a; Grim and Finke 2011; Marshall 2008). Although the exact percentage varies by study and time period, approximately 90 percent of nations offer legal assurances of religious freedom. This percentage seems to be rising when we examine the most recent constitutions.¹

Despite these assurances, however, religious freedoms are routinely denied. Using multiple measures coded from diverse sources, recent data collections confirm that restrictions are frequently placed on both the expression and practice of religion (Fox 2008; Grim and Finke 2007; Marshall 2008). Supporting the claims of the United Nations’ Human Rights Council and multiple advocacy groups, these studies have found that 86% of all nations have laws restricting religious practice (Grim and Finke 2011) and 75% openly discriminate against minority religions (Fox 2008:81). Legislative actions are typically the most obvious violations of the promised freedoms, but the discretionary power of administrative units often leads to the most frequent restrictions.

Yet, despite detailed overviews of restrictions on religious freedoms, few attempts have been made to uncover the sources of these restrictions.² Uncovering these sources is important for many reasons, but the most significant is that denying religious freedoms has powerful

¹ Some 89% of countries explicitly guaranteed the freedom of conscience or worship in their constitutions in 1991, and that figure steadily rose to 92% by 2002. These figures were produced through analyzing the Religion and State Constitutions dataset, 1990-2002, PIs Jonathan Fox and Shmuel Sandler; retrieved February 12, 2012 from the Association of Religion Data Archives (http://www.thearda.com/Archive/Files/Descriptions/CONST02.asp).

² For initial overviews of religious freedom and some of the related variables, see Grim and Finke (2007, 2011) and Fox (2008). Their work and a recent article by Buckley and Mantilla (2013) use the new data to offer some initial insights on the sources of restrictions on religion.
political and social consequences. A series of recent studies, often using the new data, have found that restricting religious freedoms is associated with higher levels of physical persecution and open discrimination against religions (Grim and Finke 2007; Fox 2008; Akbaba and Fox 2011; Sarkissian, Fox, and Akbaba 2011) and an increase in religiously motivated violence (Philpott 2007; Akbaba and Taydas 2011; Finke and Harris 2011; Toft, Philpott and Shah 2011; Henne 2012; Finke and Martin 2012). When seeking to understand the decline of liberal nationalism and the rise of fundamentalism in Egypt, Syria, Iran and Algeria, Mansoor Moaddel (2005) stressed the importance of allowing religions to enter into the public discourse and the cultural conversations. Whether the movements are pro-democracy or pro-theocracy, past work has shown that religious movements are often instrumental in political change (Toft et al. 2011).

Beyond the political and social consequences of religious freedoms, understanding these freedoms will also contribute to our understanding of other civil liberties. This research will test multiple theoretical explanations on why freedoms might be denied and assess how religious freedoms compare with other civil liberties. Finally, understanding the origins of these freedoms will help to explain why restrictions are currently far higher in Muslim majority countries.

Combining the new data with expanded theoretical explanations, this research strives to understand how and why these state restrictions arise. Building on religious economy arguments, we propose that the relationship between religion and the state is strongly associated with the religious freedoms ensured. But we also explore how dimensions of governance are related to the protection of these freedoms. Building on a growing body of research on the judicialization of politics, we move beyond summary measures of democracy to investigate the relationship freedoms hold with an independent judiciary. Finally, we will assess the relationship religious freedoms hold with other economic, demographic and cultural measures that have
proven important when explaining the protection of other human rights. In particular, we are interested in the percent of the population that is Muslim. Past research reports a strong bivariate relationship between the proportion Muslim and the denial of religious freedoms. But does this relationship hold when measures of governance are added?

**The Distinctiveness of Religion and Religious Freedoms**

At their core, religious freedoms can be viewed as an extension or even a duplication of other human rights.\(^3\) For example, the statements on religious freedom (Article 18) in the U.N.’s “Universal Declaration of Human Rights” overlap with the two articles that follow. The freedom to hold, to teach, and to change religious beliefs in public or private, as articulated in Article 18, can be viewed as a more specific example of the freedom of opinion and expression stated in Article 19. Likewise, the freedom to worship and observe religion publicly overlaps with the freedom of peaceful assembly and association (Article 20).\(^4\) For this reason we expect religious freedoms to rely on many of the same social and political supports as other human rights.

Despite these similarities, however, religion holds a distinctive relationship with the state and larger culture. While all human rights depend on political support and state protections, the nature of religion-state relationships poses unique challenges for protecting religious freedoms and carries increased risks if these freedoms are not protected. One difference is institutional. Religion is organized into distinctive institutions that hold a myriad of relationships with the

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\(^3\) Religion is also listed as a “status” category in most covenants and formal statements on human rights. For example, Article 2 of the Universal Declaration reads as follows: “Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.”

state. In some countries, strong alliances form between the state and the dominant religion, while minority religions face harsh restrictions. A few Muslim-majority countries supporting a strict version of Sharia law provide the most prominent examples today, but all world religions can form these types of alliances with the state. In other countries a strong secular ideology designates religious organizations as potential threats to be regulated heavily, and perhaps even eliminated. Mao’s Cultural Revolution (1966-1979) in China provides an obvious example of a state’s attempt to eliminate religious institutions, but the Chinese government of today, and many other governments, continue to target select religions as dangerous and heavily regulate all religions (Yang 2006; Richardson and Edelman 2004; Grim and Finke 2011). Beyond these two extremes, there is an endless array of relationships that form between religious institutions and the state. From alliance to opposition to independence, these institutional relationships often compromise assurances of religious freedoms.

A second area where religion is distinctive from other human rights is the historical and cultural relationship it holds with the larger society. Both the dominant religion and dominant cultural groups can appeal to their country’s history and culture as motives for denying or restricting religious freedoms. For example, following the breakup of the Soviet Union and the relaxing of restrictions placed on all religions, the Russian Orthodox Church soon called for greater controls on the minority religions in Russia. The Archbishop’s Council (Sobor) stated their case forcefully and clearly in 1994: “[the new sects] destroy the spiritual and moral ideal that is common to all of us; and they threaten the integrity of our national consciousness and our cultural identity” (Shterin and Richardson 2000:263). Similar concerns have been expressed in many nations. National and cultural identities are often so closely interwoven with selected religions that ensuring religious freedoms for all is perceived as challenging those identities.
The third area is closely related to the first two: religion has the capacity to foster individual devotion and mobilize group action. Although groups seeking human rights on other grounds can secure support and commitment, religion has proven particularly effective at securing a commitment that surpasses nationality or loyalty to the state. The Pew Research Center's 2006 Global Attitudes Survey illustrates this vividly. For nine out of the ten countries surveyed, Muslims were more likely to "think of themselves first as a Muslim rather than as a citizen of their country" (Pew Research Center 2006:10). The countries with the greatest support for that statement were Great Britain (81%) and Pakistan (87%), which highlights the borderlessness of this religious identity. Among Christian respondents the United States and Nigeria contained the highest percentages of those thinking of themselves as Christians first rather than as citizens of their country, 42 and 53 percent respectively. This devotion and commitment to religion can threaten the state and other religions.

Whether through religious institutions, social movements, or political parties, religious groups have proven capable of organizing membership around a common cause. Sometimes religious groups threaten the state because they seek political power, with the Taliban in Afghanistan serving as an obvious example. Other times groups have few political aspirations, but their unity threatens the state. When more than 10,000 Falun Gong adherents surrounded a Beijing leadership compound in a silent protest in 1999, they sought only to be recognized as a legitimate spiritual movement. Within a few months, however, an estimated “35,000 practitioners had been detained, 300 jailed, 5,000 sent to labor camps, and 50 committed to mental hospitals” (Richardson and Edelman 2004: 368). Perceived threats from religious groups at the individual, community or national level often supply states with new motives for denying religious freedoms.
Each of these distinctive qualities – an established institutional base, strong cultural and historical ties, and the ability to generate devotion and mobilize activity – raises both the stakes and the challenges for ensuring religious freedoms. As noted earlier, the consequences of denying religious freedoms go far beyond individual liberties or religious institutions.

The explanations we explore acknowledge the distinctiveness of religious freedoms as well as the similarities between these freedoms and other civil liberties. Our final models include measures of governance that are common to all liberties and measures for the distinctive relationships religious institutions hold with the state and the larger culture. We begin this exploration by turning to the theoretical work on religious economies and the implications this work holds for how religion and state relations can lead to restrictions on religious freedoms.

**Religious Economies and Religious Freedoms**

The religious economies model has laid the theoretical foundation for explaining the sources and origins of religious restrictions and freedoms (Finke 1990; Gill 2008; Finke 2013). Although little empirical work has directly tested these arguments, a series of historical and contemporary case studies point to the promise of this approach (Stark 1996; Iannaccone et al. 1997; Stark and Finke 2000; Finke and Stark 2005; Lu 2008; Gill 2008; Grim and Finke 2011; Finke and Martin 2012). The starting point of this model is that religious institutions are in competition for resources, including the resources of the state. As a result, the dominant religion will often strive to form an alliance with the state, seeking government favors for its own institutions and increased restrictions on other religions. For the dominant religion this alliance increases their competitive advantage over other religious and cultural groups. For state leaders the alliances are often a necessity for securing political survival. But once their political tenure
is more secure, or the costs of monitoring other religions increases, the alliances between religion and the state often erode (Gill 2008).

The formal alliances between state and religion are the most obvious avenue for increasing religious restrictions for minorities, however, religious institutions and the larger culture can sway the state even without formal alliances. Working through social and political movements, as well as more formal political and religious institutions and leaders, the majority groups can reduce religious freedoms by advocating formal legislation or by applying informal pressures to local institutions. Local administrative units, such as religious bureaus, are especially vulnerable to such pressures. Given substantial discretion on how to interpret laws for registering, defining or tolerating religions, their discretion often serves to favor the majority. Thus, social and cultural pressures can lead state agencies to actively deny freedoms through formal state actions, or the agencies can simply overlook the violations of promised freedoms. In either case, the freedoms are denied. Evidence of these pressures has been documented at length in qualitative research and formal documents reporting on religious freedoms (Richardson and Introvigne 2001; U.S. Department of State 2010; Jahangir 2007; Marshall 2008)

Finally, the religious economies model also suggests that the state has motives for denying freedoms that go beyond the alliances with or pressures from dominant religions or the larger culture. Like the more general freedoms of open expression and peaceful assembly, religious freedoms can threaten the state. In the case of religion this threat is heightened because religion is frequently supported by a formal organizational structure as well as adjoining movements. For some states the motives for responding to this threat result from a competing ideology. The most obvious examples are communist governments proposing atheism as an official ideology. Paul Froese (2004) has carefully documented the former Soviet Union’s “plot
to kill God” and multiple historical accounts have chronicled the Cultural Revolution’s attempt to wipe out religion in China (see MacInnis 1972; Morton and Lewis 1995; Zuo 1991). For these regimes, any form of religion is an unwelcome ideological competitor. Moreover, restrictions on religion under former Communist regimes may become institutionalized, persisting through a form of “taken-for-grantedness” that may continue beyond the life of the regime that enacted the restrictions (Jepperson 1991:152; see also Breznau et al. 2011). For most states, however, only select religions are viewed as potentially harmful or threatening. As reviewed earlier, the Protestant sects in Russia are often viewed as a threat to the national culture. This is a common practice where religious minorities (often majorities in other countries) are treated as dangerous to the society as a whole.

Building on the religious economies arguments just reviewed we propose to test three related hypotheses. First, we will look at the formal alliances formed between religion and the state. Based on the theoretical model and recent research (Fox 2008; Gill 2008), we expect that favors shown for one or a select group of religions will result in fewer freedoms for others. A second hypothesis builds on previous work suggesting that cultural and social pressures influence states to enact restrictions on religion (Grim and Finke 2007; 2011). The third hypothesis suggests that states can perceive religious institutions and beliefs as threatening and restrict them accordingly. Sometimes this threat is limited only to the most ‘extreme’ religions that are considered dangerous to the society at large, while other times it encompasses any religion that offers a competing ideology or simply fails to provide complete allegiance to the state (Richardson 2004). In brief the religious economies model proposes that formal alliances, social and cultural pressures, and competing ideologies can all fuel increased restrictions. The three hypotheses are formally stated as follows:
H1: When states form alliances or grant privileges to select religions, the state's restrictions on religious freedoms will tend to increase.

H2: When cultural and social pressures arise against select religions, the state's restrictions on religious freedoms will tend to increase.

H3: When the state views religion as an alternative or competing ideology, the state's restrictions on religious freedoms will tend to increase.

**Governance Dimensions and Religious Freedoms**

Each of the above hypotheses implies that the restrictions placed on religion are intentional actions by the state and are based on political motives. But religious restrictions can also arise more passively. Protecting any liberty can be costly, inconvenient and difficult, and in many cases the state is simply unwilling, unable or disinterested in protecting freedoms. As a result, religious freedoms and other liberties can often be denied because the state cannot or will not protect such freedoms. To understand this failure to protect religious liberties, we look more closely at the relationship between dimensions of governance and religious freedoms.

Although democracy is often treated as a panacea for social ills and a means of protecting civil liberties, there is less agreement on why democracy tends to promote such liberties when it does so at all (Witte and Green 2009). To be sure, a large body of research has shown a strong and persistent link between higher levels of democracy and respect for human rights (e.g., Davenport and Armstrong 2004; Poe, Tate and Keith 1999; Poe and Tate 1994). Yet much of this research relies on a multidimensional, index-based conception of democracy, a conception that is of limited use for making concrete policy prescriptions or for identifying the specific elements of democratic government that promote greater respect for human rights (Bueno de
Moreover, to the extent that liberties are included in the measure of democracy, any relationship between democracy and respect for civil liberties becomes tautological. To understand why democracy and respect for human rights are associated, we need to explore the mechanisms that underlie this relationship.

Free elections, where all votes are counted equally, are often viewed as the essential component of democracy. But evidence about the effect of elections on human rights practices is mixed and contingent. David L. Richards and Ronald D. Gelleny (2007), for instance, suggest that the effect may vary by type of election (i.e., depending on whether it is a legislative or presidential election) and by the lag between the time of measurement and the date of the election. Moreover, scholars and policymakers have long acknowledged the potential dangers of majority rule. When assessing the young American democracy Alexis de Tocqueville (1945 [1835]: 270-271) warned of the “tyranny of the majority” and the ability of the majority to impose its will without regard to the rights of all people. Yet studies have shown that elections may curb rights abuses if they are legitimately competitive and relatively free from fraud. Free multiparty elections appear to help hold the state accountable for violating promised freedoms (Bueno de Mesquita et al 2005; Keith 2002). This general finding on free elections and human rights can also be applied and tested for restrictions on religious freedoms.

Following de Tocqueville’s lead, however, we move beyond free elections and explore the relationship an independent judiciary holds with religious freedoms. When de Tocqueville warned of the "tyranny of the majority" through open and free elections, he identified the judiciary as curbing this potential tyranny. He explained that "the power vested in the American courts of justice of pronouncing a statute to be unconstitutional forms one of the most powerful barriers that have ever been devised against the tyranny of political assemblies (1945 [1835]: 270-271)".
A growing body of research, commonly referred to as the judicialization of politics, has found that the courts are increasingly addressing issues related to individual rights and that the role of the judiciary is expanding over time and across the globe (Murphy 1993; Vallinder 1994; Ferejohn 2002; Hirschl 2008). Holding an impartial and independent judiciary has been identified as important for protecting constitutional promises of many human rights (Chavez 2008; Vanberg 2008; Howard and Carey 2004; Keith 2002). In agreement with de Tocqueville, this work concludes that the court's power and freedom to review and challenge the constitutionality of legislative and executive actions is often essential for protecting constitutional promises on human rights.

Initial studies have confirmed that the judiciary is important for protecting religious freedoms. A systematic data collection of 1,226 free exercise court cases in America from 1981 to 1996 shows that even subtle judiciary changes have significant impact on the freedoms granted to minority religions (Wybraniec and Finke 2001). Using global examples, James T. Richardson (2006) illustrates how the autonomy of courts can serve to protect religious minorities from the whims of leaders and the legislative power of majorities. Although past attention has often focused on the enactment of Sharia law or other forms of religious law, the relationship between judicial independence and religious freedom needs to be tested more broadly. When the judiciary falls under the control of other religious or political institutions and leaders, this influence compromises the ability of the court to protect the promised freedoms, even when such freedoms are clearly promised in the constitution. In short, an independent judiciary holds the state accountable for the freedoms promised in the constitution.

A closely related argument is that the state must be capable of supporting human rights. The protection of any freedom relies on the government's ability to monitor, enforce and protect.
Even when an independent judiciary and free elections hold the state accountable for supporting freedoms promised in the constitution, the state must possess the power and authority to do so (Fox and Flores 2009). Indeed, David T. Buckley and Luis Felipe Mantilla (2013) have recently argued that state effectiveness helps to explain the relationship between economic development and the state's regulation of religion. They note that "[e]conomic development endows states with greater capacity to legislate and enforce policy decisions regarding religion (329)."

Buckley and Mantilla maintain that the relationship between state effectiveness and regulation of religion is positive, as increased state capacity opens new possibilities for state engagement in the religious sphere (2013:332). We are suggesting, however, that increased effectiveness can heighten states’ abilities to enforce the religious freedom guarantees enshrined in the overwhelming majority of their constitutions. Hence, we expect government effectiveness to improve the promotion of promised freedoms.

This brief review on dimensions of governance and human rights offers three additional hypotheses that should be tested.

**H4:** When a country has free elections, the state's restrictions on religious freedoms will tend to decline.

**H5:** When a country has an independent judiciary, the state's restrictions on religious freedoms will tend to decline.

**H6:** When constitutional religious freedoms are supported by an effective government, the state's restrictions on religious freedoms will tend to decline.

In addition to the six hypotheses reviewed, we will also control for other alternative explanations. Of special interest is if the strong bivariate relationship between percent Muslim and lower religious freedoms holds when other controls are entered. In addition, economic and
demographic indicators associated with cross-national religious activity and support for human rights will be added to the analysis (Norris and Inglehart 2004). Below we review our plan for testing the multiple hypotheses.

**DATA SOURCES AND MEASURES**

Our measures are drawn from an array of cross-national data sources compiled in the first decade of the 21st century. Summary statistics of these measures are provided in Table 1. Most of our measures on religious restrictions and favoritism are derived from coding of the 2003, 2005 and 2008 International Religious Freedom (IRF) Reports issued by the U.S. Department of State. The annual Report details the status of religious freedom in every country in the world except the United States. These reports are based on a wide variety of sources including, though not limited to: national and local government records, local NGO’s, newspaper accounts, and reliable anecdotal evidence provided by clergy, religious leaders, and other key individuals. Embassy officials are trained to follow standardized reporting procedures and are required to carefully document the times, places, perpetrators, and numbers of victims of religious freedom violations that affect persons of any faith, from Ahmadis to Zoroastrians. The final annual reports are publicly available and are scrutinized by many, including an independent, bipartisan commission to “monitor facts and circumstances of violations of religious freedom.” The end result is a detailed and standardized report for 196 countries. Our assessments, and the assessments of others, have found these reports to be reliable and remarkably free of bias.

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Perhaps the most serious shortcoming is the underreporting of events (e.g., restrictions on religions) when access to full information is limited.

The 2003, 2005 and 2008 IRF Reports were coded by researchers at the Association of Religion Data Archives (theARDA.com) and have been used and evaluated extensively in past research; the full file is available for free download from the ARDA’s website: www.theARDA.com (Grim and Finke 2006; Grim and Finke 2011). A number of trained staff members independently read and coded each country’s entry in the Reports. The level of reliability between the coders was extremely high, with most measures exceeding an alpha of 0.9. Data were coded for countries and territories covered by the Report, but we will limit our analysis to the countries with populations of at least 500,000.

Based on this coding of the IRF Reports from each of these three years, the Government Restrictions Index (GRI) measures our primary dependent variable, the level of restrictions placed on religious freedoms by the state. Included in this index are restrictions placed on the practice, profession, or selection of religion by the official laws, policies or administrative measures.

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6 We acknowledge, however, that what the State Department does with the reports is clearly biased by diplomatic considerations. For example, since 2001 Saudi Arabia’s report has stated in the opening sentence on the “Status of Religious Freedom” section that “Freedom of religion does not exist.” The reports go on to explain “[n]on-Muslim worshippers risk arrest, imprisonment, lashing, deportation, and sometimes torture for engaging in religious activity that attracts official attention.” The reports directly point out government’s responsibility: “Government continued to commit abuses of religious freedom.” It was not until 2004, however, that Saudi Arabia was listed as a Country of Concern (the State Department’s designation for countries with serious religious freedom violations).

7 For a complete discussion on the International Religion Freedom Reports and measures of religious freedom, see Grim and Finke (2006).

8 When initially constructed, the index was labeled the Government Regulation Index. The measure is a continuous eleven-point index, and a higher score connotes greater levels of restriction. Note also that we measure government restrictions using countries’ average GRI scores from across the 2003, 2005 and 2008 waves. Scores on the Government Favoritism Index and Social Restrictions Index are also averaged from across these three waves.
actions of the state. The six items in the index include the government’s restrictions on mission work, proselytizing, preaching, conversion and worship, as well as more general legal and policy actions.

We also rely on data coded from the 2003, 2005 and 2008 IRF Reports for measures on the state's alliance with and support of select religions (Hypothesis One). Our first measure, the Government Favoritism Index or GFI, measures the level of favoritism and benefits shown to religious groups by the state. This index is composed of five measures on government favoritism, which produce a measure that can range from 0 to 10. Where favoritism exists, the state typically supports a single religion or a small group of religions. This favored treatment might include explicit endorsements and funding from the government, or favored treatment in state institutions, such as how religion is presented or taught in schools.

To measure the social and cultural pressures of Hypothesis Two, we draw on a third index constructed from the ARDA’s coding of the 2003, 2005 and 2008 IRF Reports. The Social Restrictions Index or SRI captures multiple dimensions of societal and cultural pressures on religious belief and practice. Ranging in values from 0 to 10, the SRI is constructed from five indicators. Two of the measures are about societal attitudes and citizens’ tolerance of “nontraditional faiths,” two others measure the receptivity of clerics and citizens toward

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9 We define religion as explanations of existence based on supernatural assumptions that include statements about the nature and workings of the supernatural and about ultimate meaning. Whereas some define religion based on the functions it performs for individuals or for society at large, our definition confines religion to beliefs and practices that are based on supernatural assumptions.

10 The measures used to create this index, also described in Grim and Finke (2006), is available in the reviewers’ appendix.

11 The five indicators used to construct the GFI assess (1) whether the religion funds religious activities, (2) the general proportionality of government funding of some religious groups compared with other religious groups in the society, (3) whether there is a favored or official religion or religious group, (4) the proportion of religious groups that receive government subsidies, and (5) a composite measure indicating the sort of religious activities and imperatives, such as education, religious buildings and charity, that are funded as well as the equality of funding these activities and imperatives across religions. Values on the GFI range from zero to ten. See Grim and Finke (2006) for more detail.

12 The SRI utilized in this paper is a modification of the index of the same name described by Grim and Finke (2006). The construction of the modified SRI is detailed in the reviewers’ appendix.
proselytizing by other religions, and the final measure asks if “established or existing religions try to shut out new religions in any way?” Each of these social and cultural indicators taps into pressures and restrictions on religion that won’t be captured in the government restrictions index.

The final hypothesis proposed by the religious economy model is that when religion is viewed as a competing ideology, the state's restrictions on religious freedoms will increase. As a proxy for one type of ideological competition we created a dichotomous variable indicating whether a state has or had a Communist government based on the Infoplease Database’s (2011) listing. This list includes the five current Communist states—China, Cuba, Laos, North Korea and Vietnam—as well as the 39 former Communist states in Europe, Asia and Africa with populations greater than 500,000.\(^\text{13}\)

The second group of hypotheses requires measures on dimensions of governance. Each of the variables we use to test these hypotheses were measured in 2005, the midpoint of the three waves of the IRF Reports coded to obtain our primary dependent variable. Three measures of government form are needed: the presence of an independent judiciary, the existence of open political participation and free elections, and the effectiveness of the government in serving the public (H 4-6). The measures of judicial independence and free political participation derive from the Cingranelli-Richards (CIRI) Human Rights Data project (2010). Recoded from the original CIRI measure, the judicial independence measure is a dichotomous variable that assesses whether or not a country’s judicial system is generally independent from external control or influence by other branches of government or the military. Free political participation is defined as the ability for citizens to change their laws and leaders through free and fair elections. The measure we use collapses a three-variable CIRI indicator into a dichotomous

\[^{13}\text{Although the former Communist states no longer have governments that hold to the ideological beliefs of communism, the perceived dangers of religious ideologies often persist – especially the state’s concerns about minority religions.}\]
variable measuring whether or not citizens’ right to change their government through free and fair elections is generally respected. The final government measure is an effectiveness index developed by Kaufmann et al. (2010) and is one of the World Bank’s Worldwide Governance Indicators (2005); this normally-distributed index measures perceptions of the quality of public and civil service and the government’s commitment to implementing its policies. Given the virtual omnipresence of constitutional religious freedom guarantees, we use this measure alone to test our Hypothesis Six. As noted earlier, 92 percent of countries guaranteed religious freedoms in their constitutions or basic law as of 2002.\textsuperscript{14} The useful distinction in understanding government guarantees of religious freedom, we argue, is not between states that do or do not make these guarantees, but between states that are more or less effective in enforcing these guarantees in practice.

The last set of measures allows us to test for effects based on countries’ religious composition and standard of living. We control for the Muslim composition of each country’s population using the World Christian Database’s (2005) mid-year population estimates.\textsuperscript{15} Standard of living is measured using log per capita income as reported by the United Nations Development Programme’s Human Development Report (2007).\textsuperscript{16}

\textsuperscript{14} See the Religion and State Constitutions dataset, 1990-2002, PIs Jonathan Fox and Shmuel Sandler; retrieved February 12, 2012 from the Association of Religion Data Archives (http://www.thearda.com/Archive/Files/Descriptions/CONST02.asp).

\textsuperscript{15} We transformed this measure using a logit transformation due to its non-linear relationship with our dependent variable and its strong right skew. Because this transformation is undefined with original proportions of 0, we adjusted the proportions by adding a constant of 1/3 (the denominator is 2 times our sample size), following de Smith et al. (2007:30).

\textsuperscript{16} Other variables we considered in our models but which were found to have no effect on restrictions include national population, educational enrollment rates, the state’s susceptibility to external disruption, the duration of the current chief executive’s time in office, and the country’s geography location on a divide between “civilizations,” following Huntington (1996). In addition, we used religious demographic data circa 2005 from the World Religion Dataset (Maoz and Henderson 2013) to construct a Herfindahl index of religious monopoly. We likewise found that this measure, substituted for our Muslim population indicator in models due to these variables’ dependence on one another, had no effect on restrictions in our full models.
We replicate all of our primary models using an alternative measure for restrictions on religion based on data from Round Two of Jonathan Fox’s Religion and State (RAS) project (Fox 2011b, 2011c). Because RAS has separate composite measures for minority and majority religions, we combine select indicators from the RAS dataset to create an additive index of restrictions on all religions during the period from 2003 to 2008. Using this measure in conjunction with the GRI allows us to test the robustness of our findings with two measures of government restrictions on religion.

All of the analysis is based on data from 158 countries with populations greater than 500,000 in 2005. We account for missing data using multiple imputation. Using the mi impute command in Stata 13, we generated \( m = 20 \) complete datasets under the multivariate normal model for both of our dependent variables (Allison 2001). These datasets were combined to produce the estimates reported in Tables 2 and 3. With the exception of the measure for per capita income, where approximately five percent of the cases were missing values, most measures in our analysis were missing values for only one or two cases.

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17 Indicators were omitted from the composite measure if they regarded the political activity of religious groups or if the restrictions measured by the indicator were measured by other indicators as well. To construct this composite measure, we divided the sum of scores on each of the two types of indicators by the maximum possible score on these indicators (54 for indicators of restriction on all or majority religions and 84 for indicators of restriction on minority religions). This yielded minority and majority restriction scores with possible ranges from 0 to 1. We then summed these two scores and divided by two to produce an average composite restriction score. The full list of indicators used to construct this composite measure is available in the reviewers’ appendix.

18 When compared to the ARDA data, the advantages of the RAS collection are that it collected a more diverse range of measures on religion and state relations and that the sources of data went beyond the IRF reports. The disadvantages are that it lacked any social and cultural restrictions measures and the information sources were not standardized for all nations. The IRF reports relied on many sources, but required embassy representatives to report on specific categories and gave criteria for the information included in each category.

19 The only countries omitted from our analysis with populations greater than 500,000 in 2005 are the United States (due to the lack of International Religious Freedom Report data) and the country of Serbia and Montenegro (which split into two countries during the period of analysis).

20 Following von Hippel (2007), we generated imputed datasets using information from all countries with populations greater than 500,000, even those (i.e., the United States and Serbia and Montenegro) with missing values on our dependent variable. However, we removed these two countries from our final analytic sample thereafter.
We use tobit regression modeling to account for the left-censored nature of our dependent variable. The most serious limitation of the measure for our dependent variable is the possibility of not capturing all restrictions by the state due to limited access to information. Despite the great deal of variation in countries’ GRI scores, 21 of the 158 countries received scores of zero. Tobit regression assumes a latent dependent variable whose values may not be observable above or below some measurement limit. We argue that the clustering of GRI scores at zero represents such an occurrence. When compared to ordinary least squares regression, tobit regression will provide more stable and consistent estimates given the shape of the data we analyze (Long 1997:189).

**Testing the Models**

Table 2 presents three tobit regression models predicting restrictions using the ARDA’s Government Restrictions Index (GRI) as the dependent variable. Model 1 tests the first three hypotheses proposed by the religious economies theory: the relationships between the state’s restrictions on religious freedoms and the favoritism shown toward religious groups by the state, social pressures opposing religious freedoms, and status as a Communist or post-Communist state. Each measure is strongly associated with increased state restrictions on religion, and the relationships are statistically significant with at least 95% confidence. As proposed by the religious economy theory, governments bestowing privileges on a select number of religions are more likely to impose religious restrictions. Likewise, higher levels of social restriction on religion are associated with higher levels of state restriction on religion and Communist states (current and former) restrict religion with greater severity. Each of these relationships persists when controlling for countries’ log income per capita and Muslim composition of the population.
When entered into the full model (Model 3) two of the three religious economies predictors remain statistically significant ($p < .01$). One-point increases on the Social Restrictions (SRI) and Government Favoritism (GFI) Indexes are associated with .501- and .214-point increases on the Government Restrictions Index (GRI), respectively. However, the positive association between having a Communist past and levels of government restrictions on religion is attenuated when holding all variables in this model constant. In sum, both Models 1 and 3 provide evidence for the utility of religious economies arguments in explaining why states choose to restrict the religious lives of their citizens.

Model 2 demonstrates support for dimensions of governance as explanations for state restrictions on religion. Lower levels of restrictions on religion are found in states where the judicial system is generally independent of influence from other branches of government ($p < .001$) and where citizens participate in free and fair elections ($p < .05$). These findings offer initial support for our Hypotheses Four and Five. But the final coefficient for Model 2, measured by the World Bank’s governance effectiveness indicator, is weak, statistically insignificant and offers no support for Hypothesis Six. Moreover, when all of the governance dimensions measures are entered into the full model, only the measure for an independent judiciary remains significant ($p < .001$). The coefficient for free and open political participation is in the expected direction but is no longer significant, and the coefficient for government effectiveness remains statistically insignificant.\textsuperscript{21} Yet the finding on judicial independence remains strong, significant

\textsuperscript{21} The insignificant findings for free and open political participation are particularly noteworthy. We explored this finding further by investigating whether the relationship relied on an interaction between free elections and three other measures: social restrictions, percent Muslim, and religious monopoly. None of the three interaction terms, however, reached statistical significance in our full models (analyses are available upon request).
and lends continued support for Hypothesis Five.\textsuperscript{22} The tobit regression estimates shown in Model 3 indicate that states with generally independent judiciaries have GRI scores approximately 1.7 points lower than states where the judiciary is influenced by other actors in government, all else being equal.

One of the most important substantive findings from our models is a non-finding. The relationship between countries’ Muslim population composition and levels of government restrictions on religious freedoms is positive and significant at the 99.9\% confidence level in both of our partial models, but falls to insignificance when controlling for all factors in Model 3. This is particularly noteworthy given the strong bivariate correlation ($r = .57$) between the GRI score and the logit-transformed indicator of the proportion of the population composed of Muslims.\textsuperscript{23} Many of the countries with the highest GRI scores are predominantly Muslim countries (predominantly Muslim countries such as Saudi Arabia, Iran, Pakistan, Uzbekistan, Jordan and Turkmenistan all earned average scores greater than 8.5 during the coding period). Yet in the full model, the proportion of the country’s Muslim population to its total population is not a significant predictor of state-imposed restrictions.\textsuperscript{24}

At first glance, the most puzzling non-findings are that government effectiveness fails to reach significance in any of our models and that the log of per capita income is inconsistent across models and insignificant in the full model. We were especially surprised that government

\textsuperscript{22} A potential concern of entering an independent judiciary and free elections into the same equation is the possibility of multicollinearity, whereby our estimates may fail to be reliable. To address this concern, we estimated variance inflation factors (VIF) using the “collin” command in Stata 13. Averaged across all 20 of our imputed datasets containing the Government Restrictions Index (GRI), our indicators of judicial independence and free political participation have mean VIF values of 1.8 and 2.4 respectively, falling well below the maximum of 10 suggested by Kutner et al. (2004:408).

\textsuperscript{23} The Pearson correlation coefficient reported here is based on the imputation dataset $m = 1$ including GRI.

\textsuperscript{24} We note that when the untransformed indicator of Muslim population proportion is used in these models, a significant and positive association is found. These models are available upon request. The highly skewed distribution of this variable as well as the non-linear relationship between proportion Muslim and GRI observed in bivariate scatterplots makes us wary of using the untransformed indicator, much as we would be wary of using the untransformed measure of per capita income in our analysis.
effectiveness was not a strong predictor of government restrictions, given the recent findings of Buckley and Mantilla (2013) and our own expectations. In additional analysis (not shown here), however, we find that government effectiveness fades to insignificance when we enter our other measures of governance, with judicial independence consistently being the strongest predictor. Likewise, entering our measures for government favoritism and social restrictions into the models alter the relationship between government restrictions and the log of per capita income. In short, many of the apparent differences between Buckley and Mantilla (2013) findings and our own are largely due to the additional variables entered into our models.25

The results of the models in Table 2 are clear: an independent judiciary is a negative predictor of government restrictions on religion, while social pressures against or government favoritism toward certain religious groups are linked to greater government restrictions. We test the robustness of these findings in Table 3 using an alternative measure of government restrictions calculated from indicators in the Religion and State (RAS) data (Fox 2011b, 2011c). These indicators capture restrictions on both majority and minority religious groups. The new models confirm the three key findings from Table 2: social restrictions, government favoritism of religion, and the presence of an independent judicial system all remain significant predictors of government restrictions on religion. Social restrictions and government favoritism of religion are associated with higher levels of restrictions and independent judiciaries are associated with fewer restrictions. The strength of the relationships is slightly attenuated when using the RAS data, but the findings remain unchanged. Use of the RAS composite measure also confirms the important non-finding from Table 2. The percentage of the population that is Muslim holds a strong relationship in the partial models, but falls to insignificance in the full model.

25 In addition, we rely on tobit regression modeling instead of OLS regression to account for the left-censored nature of our dependent variable, we use data primarily from 2005 rather than 2001, and a few of our measures vary.
When comparing the full models of Tables 2 and 3, however, there is a noteworthy difference. Countries with past or present Communist states are the site of significantly higher government-imposed restrictions on religion holding all else equal. Though not supported in models using the GRI as the dependent variable, the proposition that states viewing religion as a competing ideology will impose heavier restrictions on religion (Hypothesis Three) is supported in all models using this alternate specification of government restrictions.  

**CONCLUSION**

Despite the growing number of data collections documenting state restrictions on religious freedoms, and an increasing number of studies testing the consequences of these restrictions, relatively little systematic research has tested arguments on the origins of religious freedoms. This research relied on multiple data sources to explore how dimensions of governance and measures of the religious economy contribute to government restrictions on religion.

We find that the presence of an independent judicial system, high social restrictions and government favoritism of select religions are all robust predictors of government restrictions on religion. The importance of an independent judiciary aligns with a growing body of global research documenting a recent trend in the "judicialization of politics" and an increased use of the courts to settle "moral predicaments, public policy questions, and political controversies.

26 To further confirm the robustness of our findings, we replicated the models shown in Tables 2 and 3 using an alternate specification of the Government Restrictions Index used by the Pew Forum on Religion & Public Life (2009) as the dependent variable. This 20-indicator index expands on the measures used to construct the original GRI (Grim and Finke 2006) and measures government restrictions from mid-2006 to mid-2008. Use of this alternate GRI corroborates all of our findings from the full model shown in Table 2 using OLS regression, an appropriate estimation technique to use since this specification of the GRI is not censored (models available upon request).
(Hirschl 2008, p. 119).” The courts serve to uphold constitutional promises and protect minorities from the legislation of the majority as well as executive powers. The final two predictors are consistent with religious economies theory and the implications of past research on government favoritism of select religions and the cultural and social pressures that often restrict freedoms. Both remained strong and highly significant predictors even in our full models.

Yet, three of the six hypotheses tested received mixed or no support. The hypothesis proposing that restrictions increase as the state views religion as a competing ideology received only mixed support. Countries with a current or former Communist government imposed significantly higher levels of restriction on religion when the Religion and State (RAS) composite measure of government restrictions was used; however, the relationship was insignificant in the fully specified model when the measure of government restrictions (GRI) collected by the ARDA was used. Likewise, the measures for free elections and government effectiveness were not significant predictors in both sets of models despite substantial bivariate associations between these variables and restrictions ($r = -.43$ for free elections and $r = -.30$ for government effectiveness). Finally, the controls added for income and countries’ Muslim populations did not significantly predict government restrictions in either set of full models.

These findings have multiple implications. First, religious freedoms depend on an independent judiciary for protection, rather than on a voting majority or the effectiveness of the government. Like other civil liberties, minorities often rely on the courts for protection of promised freedoms. Because religious minorities are the most frequent targets of state restrictions, the courts and not the ballot box provide a haven from legislative and executive restrictions on religion. The results might also imply that government effectiveness can work both ways: serving as a conduit for ensuring freedoms as well as for restricting them. Moreover,
our strong and consistent findings on the importance of an independent judiciary help to explain why constitutional clauses on religious freedom so frequently become empty promises. Without an independent judiciary the legislative will of the majority and the actions of rulers can routinely ignore or simply overrule constitutional promises.27

Second, despite sharing similarities with other civil liberties, religious freedoms rely on the unique relationship religion holds with the state and larger culture. Long-standing cultural and religious divisions often fuel pressures for the state to restrict select religions or all religions. Likewise, when the state favors one religion, or a select group of religions, the remaining religions face the brunt of lost liberties. This has important implications for the theoretical frameworks at the core of our hypotheses. As suggested by the religious economies arguments, and strongly supported by our results, the social pressures imposed by social movements, the cultural elite, religious organizations and clerical edicts are powerful forces promoting increased state restrictions on religious freedoms.

Our non-finding on the proportion of the population Muslim has important implications. The results suggest that the measures for an independent judiciary and those for the religious economies arguments are mediating variables between the Muslim population and reduced freedoms. This finding draws our attention away from the specifics of Islamic teachings to the structural and cultural measures that most effectively explain why restrictions arise. Rather than focusing on a specific religion, attention turns to the relationships religion holds with the state and larger culture. Assessing the independence of national judiciaries, identifying cultural pressures for increasing restrictions and understanding the relations between religion and state

27 These findings also have important implications for the larger debate on Democratic Theory and Constitutionalism, suggesting that open and free elections do not provide adequate protections for individual rights and oppressive legislation (see Murphy 1993).
are keys to understanding religious freedoms in Muslim and non-Muslim majority countries alike.

This research has helped to identify the sources for ensuring these freedoms, but the results also pose many new questions and challenges. If it is not Islam per se that explains increased restrictions, we need to better understand the relationship the proportion Islam holds with the mediating variables. What are the roadblocks for supporting an independent judiciary and why are social pressures for religious restrictions currently more likely to arise in Muslim majority countries? Although not addressed here, the findings also point to important cross-national links that need to be explored more fully to understand religious freedoms as well as other human rights. For example, how do cross-national ties contribute to a country’s willingness to support or ignore freedoms? How do economic ties, and the desire to attract foreign workers and investment, encourage the promotion of religious liberties or any liberty? We know that constitutional clauses are mimicked from one country to the next. To what extent does this mimicking and global pressure go beyond formal statements?

Attempts to control religious institutions and restrict religious freedoms are fraught with perils and there is convincing evidence that restrictions on religious freedoms are increasing (Pew Research Center 2012). When introducing the release of the 2011 International Religious Freedom Report, the U.S. Secretary of State, Hillary Rodham Clinton (2012) stressed that “when we consider the global picture and ask whether religious freedom is expanding or shrinking, the answer is sobering. . . . the world is sliding backwards.” She went on to list the dangers associated with denying this freedom, including social conflict, state instability, and personal dissatisfaction and insecurity. Like other civil liberties, religious freedoms fall far short of constitutional promises and the price of denying the freedom is far higher than initially expected.
This research offers an effort to more fully develop and test arguments on the origins of restricting religious freedom.
References


Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Restrictions Index (GRI), 2003-2008</td>
<td>0</td>
<td>9.82</td>
<td>3.34</td>
<td>3.06</td>
</tr>
<tr>
<td>Composite Religion and State (RAS) government restrictions score</td>
<td>0</td>
<td>.59</td>
<td>.10</td>
<td>.13</td>
</tr>
<tr>
<td>Government Favoritism Index (GFI), 2003-2008</td>
<td>0</td>
<td>9.17</td>
<td>4.88</td>
<td>2.68</td>
</tr>
<tr>
<td>Social Restrictions Index (SRI), 2003-2008</td>
<td>0</td>
<td>10.00</td>
<td>4.90</td>
<td>2.91</td>
</tr>
<tr>
<td>Current or former Communist state</td>
<td>0</td>
<td>1</td>
<td>.27</td>
<td>.45</td>
</tr>
<tr>
<td>Generally independent judiciary</td>
<td>0</td>
<td>1</td>
<td>.43</td>
<td>.50</td>
</tr>
<tr>
<td>Free and fair elections (right is generally respected)</td>
<td>0</td>
<td>1</td>
<td>.30</td>
<td>.46</td>
</tr>
<tr>
<td>Government effectiveness</td>
<td>-2.11</td>
<td>2.08</td>
<td>-.15</td>
<td>1.01</td>
</tr>
<tr>
<td>Log per capita income, in thousands of U.S. dollars</td>
<td>5.98</td>
<td>10.63</td>
<td>8.61</td>
<td>1.15</td>
</tr>
<tr>
<td>Muslim proportion of population (expressed as logit)</td>
<td>-5.75</td>
<td>5.19</td>
<td>-2.11</td>
<td>3.08</td>
</tr>
</tbody>
</table>

N = 158 (countries with populations greater than 500,000, per World Christian Database 2005). Dependent variables are italicized. Unless otherwise noted, predictor variables were measured in 2005. Note that all descriptive statistics are derived from imputation dataset \( m = 1 \) based on GRI, except for statistics for the composite Religion and State (RAS) government restrictions score (derived from imputation dataset \( m = 1 \) based on composite RAS score).
Table 2: Predicting Government Restriction of Religion (GRI)

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Restrictions Index (SRI), 2003-2008</td>
<td>.545***</td>
<td>.501***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.080)</td>
<td>(.073)</td>
<td></td>
</tr>
<tr>
<td>Government Favoritism Index (GFI), 2003-2008</td>
<td>.263***</td>
<td>.214**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.081)</td>
<td>(.075)</td>
<td></td>
</tr>
<tr>
<td>Current or former Communist state</td>
<td>1.208**</td>
<td>.616</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.396)</td>
<td>(.375)</td>
<td></td>
</tr>
<tr>
<td>Generally independent judiciary</td>
<td>-2.448***</td>
<td>-1.683***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.515)</td>
<td>(.411)</td>
<td></td>
</tr>
<tr>
<td>Right to free and fair elections is generally respected</td>
<td>-1.411*</td>
<td>-.721</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.645)</td>
<td>(.512)</td>
<td></td>
</tr>
<tr>
<td>Government effectiveness</td>
<td>-.705</td>
<td>-.572</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.389)</td>
<td>(.313)</td>
<td></td>
</tr>
<tr>
<td>Log per capita income, in thousands of U.S. dollars</td>
<td>-.366*</td>
<td>1.170***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.178)</td>
<td>(.333)</td>
<td></td>
</tr>
<tr>
<td>Muslim proportion of population (expressed as logit)</td>
<td>.242***</td>
<td>.383***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.070)</td>
<td>(.074)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.503</td>
<td>-4.778</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>45.49***</td>
<td>26.08***</td>
<td></td>
</tr>
</tbody>
</table>

N = 158 (countries with populations greater than 500,000, per World Christian Database 2005). Unless otherwise noted, predictor variables were measured in 2005.

*** = p < .001; ** = p < .01; * = p < .05
### Table 3: Predicting Government Restriction of Religion (Composite RAS Score)

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Restrictions Index (SRI), 2003-2008</td>
<td>.013**</td>
<td>.011**</td>
<td></td>
</tr>
<tr>
<td>Government Favoritism Index (GFI), 2003-2008</td>
<td>.011*</td>
<td>.008*</td>
<td></td>
</tr>
<tr>
<td>Current or former Communist state</td>
<td>.074***</td>
<td>.052*</td>
<td></td>
</tr>
<tr>
<td>Generally independent judiciary</td>
<td></td>
<td>- .087***</td>
<td>- .060*</td>
</tr>
<tr>
<td>Right to free and fair elections is generally respected</td>
<td></td>
<td>- .063*</td>
<td>- .036</td>
</tr>
<tr>
<td>Government effectiveness</td>
<td></td>
<td>- .015</td>
<td>- .012</td>
</tr>
<tr>
<td>Log per capita income, in thousands of U.S. dollars</td>
<td>- .003</td>
<td>.045**</td>
<td>.023</td>
</tr>
<tr>
<td>Muslim proportion of population (expressed as logit)</td>
<td>.009**</td>
<td>.010**</td>
<td>.005</td>
</tr>
<tr>
<td>Constant</td>
<td>.002</td>
<td>- .216</td>
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</tr>
<tr>
<td>$F$</td>
<td>16.01***</td>
<td>12.22***</td>
<td>12.10***</td>
</tr>
</tbody>
</table>

N = 158 (countries with populations greater than 500,000, per World Christian Database 2005). Unless otherwise noted, predictor variables were measured in 2005.

*** = $p < .001$; ** = $p < .01$; * = $p < .05$