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International Religion Indexes: Government Regulation, Government Favoritism, and Social Regulation of Religion

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Abstract

The study of religion is severely handicapped by a lack of adequate cross-national data. Despite the prominence of religion in international events and recent theoretical models pointing to the consequences of regulating religion, cross-national research on religion has been lacking. We strive to fill this void by developing measurement models and indexes for *government regulation, government favoritism,* and *social regulation* of religion. The indexes rely on data from an extensive coding of the *2003 International Religious Freedom Report* for 196 countries and territories. Using a series of tests to evaluate the new data and indexes, we find that the measures developed are highly reliable and valid. The three indexes will allow researchers and others to measure the government's subsidy and regulation of religion as well as the restrictions placed on religion by social and cultural forces beyond the state.

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Religion has long been a powerful actor on the stage of human history, and recent events show that it continues to play an active role; but religion receives little attention in international quantitative studies. Including religion in cross-national studies requires data, and high-quality data are in short supply. A recent review concludes that the science of world politics runs the "risk of stagnation" unless data are updated (Bremer, Regan, and Clark 2003). For the study of religion, however, the data are not merely old, they are often lacking.

This lack of data has hampered both research and theory. Robert J. Barro and Rachel M. McCleary offer sophisticated estimates on the effects of religion on economic development, yet they acknowledge that the information available for measuring the state's favoritism and suppression of religion "is often incomplete and is not fully consistent across countries" (2003: 765). A substantial body of theoretical work offers multiple propositions on the effects of regulating religion, but tests of these propositions have relied on a relatively small number of cases and a limited amount of data (Finke 1990, 1997; Finke and Stark 1992, 2005; Gill 1998; Iannaccone 1991; Iannaccone, Finke, and Stark 1997; North and Gwin 2004a; Stark and Finke 2000, 2002; Yang 2006). The rapidly increasing sophistication in statistics and a mounting body of theoretical work have not been accompanied by equally important developments in data.

This article develops three indexes on religion for 196 countries and territories and evaluates the quality of the measures and their promise for future research. Using multiple measures coded from the annual *International Religious Freedom Report*, each of the indexes will measure concepts that are central to previous theory and research. The first will measure a concept that many have attempted to address in the past: the state's regulation of religion. We refer to this as government regulation, because it represents the official rights and policies promoted by the state. The second, government favoritism, also taps into the relationship between church and state, but here attention is given to the state's subsidies and privileges awarded to selected religions. The final measure, social regulation, moves past the formal regulations to measure institutional and cultural restraints that go beyond the restrictions of government agencies. Although not holding the formal power of state sanctions, they can be equally restrictive of religion, can have equally powerful effects on other social actions, and often can originate from the religions themselves.

Developing and assessing the international indexes on government and social regulation of religion as well as the government favoritism of religion involve several steps. First, we review previous attempts to measure religious regulation and the tentative findings from this research. Next, we define the concepts being measured, review the data source used, and describe our coding procedures. Third, we develop measurement models for each index, assess each index for possible sources of measurement error, and present the final index scores. The

final step further evaluates the efficacy and validity of these measures by correlating each index with other variables of interest.

PAST MEASURES AND RESEARCH ON RELIGIOUS REGULATION

For international studies, the most widely used data source on religion is David B. Barrett, George T. Kurian, and Todd M. Johnson's (2001) *World Christian Encyclopedia*. This detailed reference book provides data on religious affiliates for all major religions by country as well as a detailed overview of religious activity in the country.[1] Although the data were initially collected for the use of religious leaders and others concerned with Christian missionary efforts, the data are highly regarded by scholars and are viewed as the most credible source of data on international religion.

Despite the details provided by the *Encyclopedia,* it offers only weak measures on the state's regulation of religion. For example, its religious liberty index, a measure for religious regulation, has serious drawbacks: It offers categories that are not mutually exclusive, is vague about the type of regulation being measured, and does not have a clear ordering. For instance, its religious liberty measure has ten possible responses, including four responses on subsidies and support of religion, five on political restrictions and other forms of state interference, and one response option on discrimination against minority religions. Although each country is assigned only one value, many countries could easily be coded into multiple categories. Because some countries subsidize one religion and restrict most others, no single category of the *Encyclopedia's* measure accurately represents many nations. Several scholars have attempted to improve this measure, but the improvements are limited because the underlying data used for coding the *Encyclopedia's* categories are not available (Barro and McCleary 2003; Chaves and Cann 1992; Chaves et al. 1994). In personal correspondence, the editors of the *Encyclopedia* have acknowledged a need for better measures.

Other attempts to improve measures of religious regulation have been limited in scope and sample size. Freedom House offers a measure of religious freedom, but it relies on a convenience sample of seventy-four countries and provides only a single measure ranging from 1 to 7 (Marshall 2000). Open Doors (2003, 2005) provides a more detailed measure of religious regulation, but it limits attention to restrictions placed on Christianity. The Pew Global Attitudes Project (2003) asks respondents whether "'religious freedom' describes [their] country very well." But the sample is limited to 64 countries,[2] and the question on religious freedom

[1] For additional data, see the World Christian Database: www.worldchristiandatabase.org/wcd.

[2] Their major country survey, conducted in 2002, included forty-four countries; an additional twenty countries were added 2003, including the Palestinian Authority.

was asked in only thirty-one countries, often excluded for countries where the greatest concerns about religious freedom existed. Furthermore, the measurement relies entirely on the respondents' knowledge of religious freedom. For respondents who are part of the religious majority, religious freedom seems a given despite the regulation of minorities. Other attempts to measure religious regulation are limited to one major world religion (Wilde et al. 2004) or an earlier time period (Bates 1945). Charles M. North and Carl R. Gwin (2004a) did use the *International Religious Freedom Report* to measure religious regulation, but their measures were limited in scope, and their sample included only fifty-nine countries.[3]

Measures for states' favoritism of religions are also limited. The *World Christian Encyclopedia* offers a measure of whether a country has a state religion, but the measure offers no evidence on the extent or type of support provided by the state. As was noted above, the *Encyclopedia*'s measure of religious liberty includes several response categories on government favoritism, but the lack of mutually exclusive categories renders the responses largely useless for measuring favoritism (or regulation). Despite the wealth of data provided by the *Encyclopedia*, the measures for the state's favoritism of religion are severely handicapped.

Whereas measures of the state's regulation and favoritism of religion have been limited, quantitative measures of social religious regulation are simply absent. A few qualitative studies have addressed the importance of cultural influences, other religions, and other organizations for regulating religion (cf. Richardson 2004), but most research and theory remain focused on the state's regulation and favoritism of religion. Our index for social regulation moves beyond the official actions of the state to regulatory forms that are embedded in the larger culture or in institutions and movements beyond the state. This form of regulation is often mobilized and fueled by a dominant religion that either lacks the authority of the state or wants to go beyond the state's actions.

Despite the lack of data, previous research and theory have noted the potentially powerful effects of religion. For example, Weberian scholars have long argued that religion is important for explaining economic development, and recent papers by economists suggest that the effects of religion continue (Barro and McCleary 2003; North and Gwin 2004b). Huntington (1993, 1996) is the most prominent proponent of culture and religion causing social conflicts, but this is hardly new to history or the social sciences (see Dunn 1970; Ferguson 1978;

[3] North and Gwin coded nine dummy variables on whether the country had a regulatory trait or did not (2004a: 109)). They computed an 'index' that ranged from zero to six by summing the nine dummies. Though they did not test the "index" for validity, this offered a significant improvement over most other measures but was still limited to fifty-nine nations.

Sells 1996; Seward 1972; Stump 2005).[4] Historians, in particular, have pointed out the rather obvious relationship between religion and social conflict. Finally, preliminary work suggests that religion has strong effects on the formation of democracies and the development of public education (Woodberry 2004a, 2004b). But these studies are limited by a lack of adequate measures.

Some of the most powerful effects of religious regulation have been on the practice of religion itself. The lifting of religious regulations has been shown to sharply increase the supply and activity of religion in Latin America, Asia, the United States, Europe, and Muslim countries (Chaves et al. 1994; Finke 1990, 1997; Finke and Stark 1992; Froese 2004; Gill 1998; Iannaccone 1991; Iannaccone, Finke, and Stark 1997; North and Gwin 2004a; Stark and Finke 2000; Stark and Iannaccone 1994; Yang, 2006). This regulation also changes the way in which religions perceive their relationships with other religions. Melissa Wilde and colleagues have recently shown that the level of religious regulation and competition in a Catholic bishop's host country helped to explain his voting for Vatican II reforms (Wilde et al. 2004). Once again, however, most of the attention has focused on government regulation. Although the significance of religious cartels and other forms of regulation going beyond the state has been briefly discussed (Finke and Stark 2005), little research attention has been given to religious regulation beyond the state.

To date all of this research has been limited by a lack of adequate measures of religious regulation. Each of the indexes that we propose taps into an important dimension of religion's relationship with the state and the larger culture, relationships that hold important implications for future research.

DEFINING AND MEASURING RELIGIOUS REGULATION

Before reviewing the measurement models and data used to construct the indexes, we begin by clarifying the concepts being measured. Central to all of the indexes is the concept of religion. Borrowing from previous work (Stark 2003; Stark and Finke 2000), 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." Thus, religious groups are collectives that promote religious beliefs, symbols, and practices supporting these explanations. Whereas Durkheim's (1915 [1995]: 44) classic definition was based on the functions performed and relied on a "unified system of beliefs and

[4] Research has offered mixed assessments of the specifics of Huntington's clash of civilizations argument; some researchers seek to operationalize his perspective (e.g., Beckfield 2003), and others critique some or most of Huntington's assumptions (Chiozza 2002; Fearon and Laitin 2002; Fox 2001; Gurr 1994; Jenkins 2002; Midlarsky 1998; Price 1999; Russett, Oneal, and Cox 2000; Tipson 1997; Weede 1998).

practices relative to sacred things, that is to say, things set apart and forbidden," our definition confines the sacred to beliefs and practices that are based on supernatural assumptions. In measuring religion, this provides a conceptual clarity that distinguishes religion from science, secular ideologies, and other forms of culture.

The first index that we will review is the government regulation of religion. As we noted earlier, this is the most visible form of regulation for outsiders and the one that receives the most attention from theory and research. We define *government regulation* as "the restrictions placed on the practice, profession, or selection of religion by the official laws, policies, or administrative actions of the state." Notice that this form of regulation is not limited to the formal laws of the state. Although the vast majority of countries promise religious freedom in their constitutions, they often support administrative sanctions or open hostilities toward selected groups.[5] Over 100 countries have government offices charged with supervising or overseeing religious groups (Grim 2004a). As evidenced by the actions of European democracies, such practices are not limited to autocratic regimes. In Germany, for example, restrictions and discrimination remain despite the guarantee of religious freedom in three articles of the constitution. Since 1996, the Economics and Labor Ministry has directed employment offices to "enter [an] 'S' notation next to the names of firms *suspected* of employing Scientologists" and to warn clients that "they might encounter Scientologists in these workplaces" (*2004 International Religious Freedom Report,* italics added).[6] Several German states continue to publish pamphlets warning about the ideology and practices of minority religions such as Pentecostal groups and others that openly appeal to youth. Moreover, minority groups continue to face battles for zoning approvals, tax-exempt status, and public corporation status.[7] Although all of these examples come from Germany, they are typical of regulations found throughout Europe. Thus, restrictions against religions can come in the form of blatant laws against their existence or more subtle administrative restrictions that limit their operations.

Actions of the state, however, may also be supportive of religion. Indeed, many countries openly favor select religions. We define *religious favoritism* as

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[5] Sudan offers an extreme example. Despite the constitution's promising religious freedom, many religious groups continue to face severe restrictions and open persecution.

[6] A prominent German university professor, who was not a Scientologist, publicly challenged government discrimination against Scientologists and was threatened with termination of employment (*2004 International Religious Freedom Report*).

[7] The Berlin State Government denied the Jehovah's Witnesses public law corporation status, and the Federal Administrative Court decision upheld this decision in 1997. The court noted that the Jehovah's Witnesses' failure to participate in public elections was a sign that they do not hold "indispensable loyalty." The case remains under appeal (*2002 International Religious Freedom Report*, *2004 International Religious Freedom Report*).

"subsidies, privileges, support, or favorable sanctions provided by the state to a select religion or a small group of religions." This favoritism can come in many forms. Like government regulation, subsidies can be constitutional guarantees, or they can result from the more capricious actions of administrative offices. The most obvious are specific constitutional privileges and the financial subsidies that directly support religious institutions. Less obvious are the supports of state institutions and administrators for such things as the teaching of religion in state-supported schools and subsidy of service institutions run by religious groups.

But religious regulation is more than just the laws, policies, and administrative actions of a government. The third index provides a measure of the social regulation that moves beyond the realm of the state. We define *social regulation* as "the restrictions placed on the practice, profession, or selection of religion by other religious groups, associations, or the culture at large." This form of regulation might be tolerated or even encouraged by the state but is not formally endorsed or implemented by government action. Social regulation can be extremely subtle, arising through the pervasive norms and culture of the larger society, or it can include blatant acts of persecution by militia groups. Often, though not always, this form of regulation is a product of religion. Religion itself can regulate other religions. Like other groups, religions seek to gain advantage by forming cartels and alliances that can regulate the culture and give the group a competitive advantage (Finke and Stark 2005).[8] When compared to government regulation, the sources of social regulation are more elusive. Yet the consequences can be equally potent.

Source of Data

Developing measures for the regulation and favoritism of religion requires a vast amount of information for every country. Although national constitutions and formal government publications are readily available, they are poor indicators of government regulation, and they say little or nothing about social regulation.[9] Media accounts offer another source of information, but they hold limited access to information and tend to isolate coverage to selected religious groups and countries. Acquiring data with the depth and breadth needed requires extensive

[8] It might seem "unnatural" or strange to say that religions would form alliances or attempt to regulate other religions, but this is the "natural" tendency when the stakes are so high. From the perspective of a dominant religion, to do otherwise would be to allow others to stray from a path of salvation or eternal bliss.

[9] The constitutions of 161 countries assert religious freedom as a basic right, another 13 offer similar legal protections, and only 22 countries fail to grant some form of religious freedom (see Grim 2005: 14, n15). But these formal assurances bear little resemblance to practice.

resources and a vast international network that standardizes the method of collecting the data.

The data used for coding our measures will come from the *2003 International Religious Freedom Report*. In compliance with the 1998 International Religious Freedom Act, each U.S. embassy prepares an annual report on religious freedom in its host country. Reporting adheres to a common set of guidelines, and training is given to embassy staff, who investigate the situation and prepare the reports (see U.S. State Department 2003). Once an embassy completes a report, this report is vetted by various State Department offices that have expertise in the affairs of that country and in human rights. Although the initial reports were loosely structured, in 2001 they took on the reporting format shown in Figure 1.

Figure 1: International Religious Freedom Report Format (for each country)

Introductory Overview [untitled section]

1. Religious Demography

2. Status of Religious Freedom †
   a. Legal/Policy Framework
   b. Restrictions on Religious Freedom
   c. Abuses of Religious Freedom ††
   d. Forced Religious Conversion
   e. Improvements in Respect for Religious Freedom ‡
3. Societal Attitudes

4. U.S. Government Policy

†Beginning in 2004, the Reports contain a section on terrorism
†† Section is absent for countries with no reported abuses.
‡ Section is present only when improvements have been made since the last Report.

In general, the length of the report reflects the level of abuses or controversies surrounding religious freedom in a country. For example, the 2003 report for Indonesia contains 12,632 words and the China report (including Tibet) is 11,746 words, while the report for Brazil comprises only 1,193 words and the report for Taiwan has 1,172 words. However, the reports are not complete for at least three countries: North Korea, Libya, and Bhutan. Because the U.S. State Department did not have an official presence in or access to these countries during the reporting period, the reports did not have the same access to information. In

particular, the North Korea report suffers from a lack of verifiable data. It is also important to mention that the United States is not included in the reports because the State Department does not report on regions under the control of the United States. Despite the wealth of information provided, however, the reports offer no quantitative measures of religion.

For generating accurate and complete information that can be quantified, the reports offer many advantages. The most significant are that embassy representatives rely on a wide array of sources and their reporting adheres to a common set of guidelines. Along with relying on information gathered by the State Department, Foreign Service, U.S. Commission on Religious Freedom (USCIRF), and U.S. government employees, they receive information and assistance from many other sources. For example, the reports also draw on information from other human rights reports or local survey data that are unavailable to Western researchers. Some embassies are directly involved in interfaith dialogues of the local country, and all are aware of local and international media coverage of the country. The embassies have access to far more information than any single organization can provide, and because they follow a standardized format, similar information can be coded for each nation.

The reports also reflect a positive balance between nearness and remoteness. The representatives who assemble the data are living within the country in the report, but they are not representatives of the local government or long-term residents. They have increased access and awareness of the country's situation without being fully immersed in the culture and politics of the country.

The accuracy of the reports also benefits from the requirements of the International Religious Freedom Act. Whereas an early bill required automatic sanctions for religious freedom violations, a later draft replaced the call for sanctions with a stronger commission for monitoring the collection and reporting of information. The intent was to provide an "honest fact-finding" mission that would not be controlled by diplomatic considerations. According to Allen D. Hertzke (2004: 229, 305), the U.S. Commission on International Religious Freedom was established as a "watchdog" that "provides an independent assessment of the status of religious freedom, critiques the State Department report, and offers detailed policy recommendations." As a result, the State Department is held accountable for the accuracy of the reports.

Although we are confident that the *International Religious Freedom Report* is the most comprehensive source of information on religious regulation, we made every effort to assess possible sources of measurement error in the reporting process. Our most significant concern was that the reports were diluted, distorted, or massaged to serve political concerns. Are reports for favored countries sanitized by the State Department?

After reviewing the *2003 International Religious Freedom Report* in detail, we were encouraged that there was remarkably little evidence of editing that would fatally bias the data. For example, despite the importance of the U.S. relationship with Saudi Arabia, the report offers a candid review of the heavy religious regulation in this country. The opening sentence on the "Status of Religious Freedom" states that "Freedom of religion does not exist." The report goes on to explain "[n]on-Muslim worshippers risk arrest, imprisonment, lashing, deportation, and sometimes torture for engaging in religious activity that attracts official attention." Nor did the report try to shirk the government's responsibility: "Government continued to commit abuses of religious freedom." This candor is a common feature of the reports. Yet the reports do put a good spin on bad situations in countries that are friendly to the United States. For example, USCIRF points to Saudi Arabia in 2004 and complains that the "country report on Saudi Arabia gives the impression that the religious freedom situation is improving there, despite the fact that the essential characteristic—the absence of religious freedom—remains unchanged" (2005: 154). This attempt to provide an optimistic account, however, does not prevent coverage of actual abuses and restrictions. As we report later, the indexes computed from the reports place Saudi Arabia at the highest point in both government and social religious regulation.

There is no doubt that some biases still exist in the reports. Information on religious abuses is more accessible in some countries than in others, and this might result in overreporting in the freer, more open countries. For example, in countries with active Jewish human rights groups, firm statistics on anti-Semitism are more likely to be found than in countries without such organizations. Also, larger countries will have an increased chance of abuses simply because of size and an increased social, ethnic, and religious diversity. Despite these potential biases, the *International Religious Freedom Report* is unmatched by any other source for breadth, depth, and accuracy in reporting information on religious freedom. In short, we use these data because of their fresh currency, breadth of coverage, incorporation of trend information, depth of inquiry specifically related to religious freedom, and availability for annually coding additional years of data.

Quantitative Coding of the Data

The reports were quantitatively coded by using a 243-item coding instrument, essentially a survey questionnaire. Although the most immediate goal was to develop measures for religious regulation and favoritism, the coding took advantage of the vast trove of information in the reports. The questions included measures for specific acts of discrimination, prejudice, persecution, warfare, property rights, forced migration, and other acts that might (or might not) be related to the religious life of the country. The first 225 questions follow the

sections of the reports. The last 18 questions of the instrument have coders complete overall summary ratings. For all variables, the coders were asked to make substantive observations of the qualitative data and to base their codes on empirical observations of actions or patterns of behavior that were documented in the reports.

The lead author developed an initial draft of the coding instrument, with 190 items, based on his study of the 2001 and 2002 *International Religious Freedom Reports.* After work with other raters and completion of additional coding, the instrument underwent two major revisions, and the revised 243-item instrument was used for the *2003 International Religious Freedom Report*. Coding took place from December 19, 2003, until February 17, 2004. The lead author coded all 196 countries, and two additional raters coded 142 of the 196 countries. Coding took an average of 45 minutes per country, with shorter reports taking less than 30 minutes and longer reports taking over 2 hours. The interrater reliability for the coding was high. After exclusion of easily coded large number items such as population and dates, which inflate reliability, the Cronbach's alpha for the double-coded countries remained at a very high .9047.[10] Later sections will report on the high interrater reliability statistics for the specific measures used to form our indexes.

DEVELOPING THE INDEXES

On the basis of these initial steps, we are confident that the *International Religious Freedom Report* offers the most comprehensive reports on religious regulation and that our coding instrument provides a reliable tool for coding this information and allows for further checks of reliability; we are currently using the same instrument to code other years of the reports. But will the data generate indexes that match the concepts introduced earlier? This section proposes and tests measurement models for government regulation of religion, government favoritism of religion, and social regulation of religion. Building on the definitions and theory reviewed earlier, we first identify the measures used in each index and then evaluate the fit of the measurement model proposed. On the basis of the measurement models, we introduce equations for calculating the indexes.

[10] While high interrater reliability is a strength, it should also be mentioned that those who did the double coding were trained by and frequently consulted with the lead author of this paper during the coding process. This means that the coders could have shared any bias that existed in the lead author's perspectives, such as unintentionally drawing on personal knowledge gained during his twenty years of work overseas in China, the former Soviet Union, Central Asia, Europe, the Mediterranean, and Arabia.

Government Regulation of Religion

Referring to the actions of the state that deny religious freedoms, government regulation includes any laws, policies, or administrative actions that impinge on the practice, profession, or selection of religion. Table 1 reviews the six questions that were used to measure government regulation. These variables are reliably coded (a = .9468), have a high level of internal reliability (a = .9161), and cover a broad range of religious freedoms that are frequently denied by the state. The individual measures include the state's specific actions for regulating religious mission work, proselytizing, preaching, conversion, and worship, as well as more general legal and policy actions. Together, they are used to construct a summary measure for government regulation.

Table 1: Government Regulation of Religion Questions

Government Regulation Variables		**Alpha**					
Reliability Analysis of 6 Variables (scale alpha)		0.9161					
Inter-rater Reliability on Coding of 6 Variables		0.9468					
Variable:	**Missionary Work is**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Prohibited	196	0	2	0.3980	0.0425	0.5947
Question:	Does the Report mention whether foreign missionaries are allowed to operate?						
	0=allowed and/or no limits reported; 1=allowed, but within restrictive limits; 2=prohibited						
Variable:	**Proselytizing, Preaching, or**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Conversion is Limited or Restricted	196	0	2	0.5357	0.0567	0.7934
Question:	Does the Report mention that proselytizing, public preaching, or conversion is limited or restricted?						
	0=no; 1=yes, but (equally) for all religions; 2=yes, but only for some religions						
Variable:	**Government Interferes with an**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Individual's Right to Worship	196	0	2	0.5714	0.0491	0.6869
Question:	Does the Report indicate that the Government interferes with an individual's right to worship?						
	0=no or no interference; 1=some interference; 2=severe interference						
Variable:	**No Legal or Practical Protection**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	for Freedom of Religion	196	0	3	0.8673	0.0615	0.8610
Question:	How is freedom of religion described in the Report?						
	0=law/Constitution provides for freedom of religion and the Government 'generally respects' this right in practice; 1=law/Constitution provides for freedom of religion and the Government generally respects this right in practice, but some problems exist, e.g., in certain localities; 2=limited and/or rights are not protected or are restricted; 3=does not exist						
Variable:	**Government Does Not Generally**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Respect Freedom of Religion	196	0	2	0.9082	0.0664	0.9291
Question:	Does this Section of the Report mention that the Government "generally respects" this right in practice?						
	0=yes; 1= yes, but exceptions or restrictions are mentioned; 2=the phrase 'generally respects' is not used						
Variable:	**Government Policy Does Not**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Contribute to Freedom of Religion	196	0	2	0.6990	0.0577	0.8078
Question:	Does this Section of the Report specifically mention that the government policy contributes to the generally free practice of religion?						
	0=yes; 1= yes, but exceptions are mentioned; 2=no						

Note: For Index construction, each variable was rescaled to a 0 to 1 range and then multiplied by 1.6667 to give an additive maximum of 10.

The high Cronbach alpha coefficient of the six measures (.9161) suggests that the variables are measuring the same conceptual dimension. However, to increase our confidence in the measurement model and in using these variables to create an

index, we use factor analysis to confirm that these six observed variables actually load onto the same conceptual latent variable. Modeling government regulation as a latent variable mathematically allows that latent variable to be the predictor of each of the six observed variables. In the mathematical prediction process, a regression estimate of the relative relationship of the latent variable to each observed variable is calculated.[11]

As is shown in Figure 2, this model is a good fit with the data. The *p*-value is far greater than .05, indicating that any departure of the data from the models is insignificant. Moreover, each of the six observed variables loads strongly and significantly on the latent factor at .70 or above,[12] and all of the remaining "fit statistics" confirm the strength and good fit of this model.[13] Finally, the positive correlations between the error terms **(e5** and **e6** and **e1** and **e2)** are both theoretically and empirically justified**.** Theoretically, missionary work (**e6**) frequently involves the activities of proselytizing, preaching, and conversion (**e5**), and both **e1** and **e2** are error terms for measures of a government's disposition toward religious freedom. Empirically, the correlated error terms discussed in this section and subsequent sections were identified in the estimation process. Though

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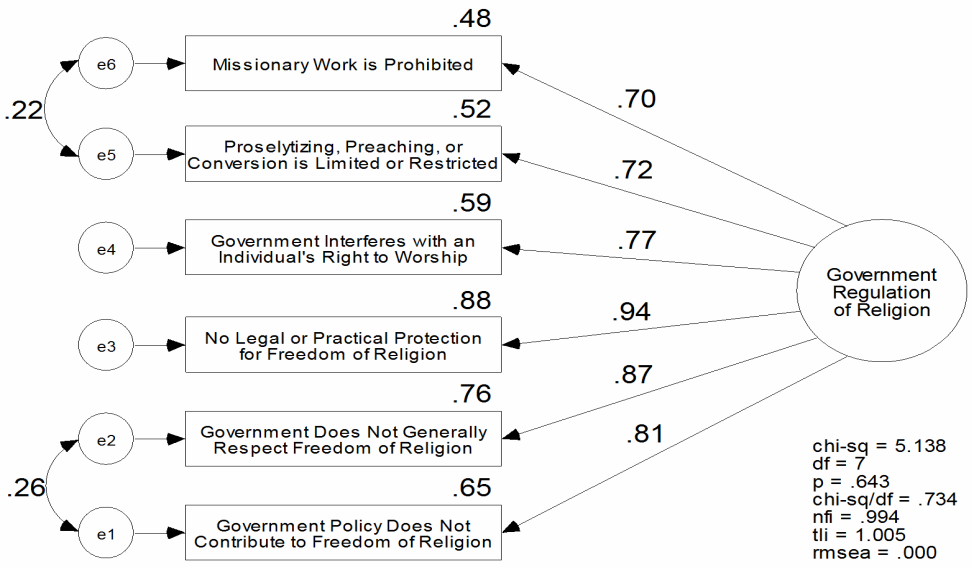
[11] See Arbuckle and Wothke (1999), Bollen (1989), and Maruyama (1998) for further information on confirmatory factor analysis in structural equation modeling.

[12] Loadings represent standardized regression weights.

[13] In structural equation modeling, it is possible that more than one model can fit the data when a model is *overidentified,* that is, when a model makes more estimates than there are unknowns. Overidentification is indicated by positive degrees of freedom (df = 7). This overidentification allows for *goodness-of-fit tests*—tests of whether this particular model fits the data. The chi-square statistic for Model A (chi-square = 5.138, df = 5, p = .643) indicates that this model is a very good fit with the data; that is, any departure of the data from this model is insignificant. Also, when the ratio of the chi-square statistic to the degrees of freedom is close to or less than 1, then the model is generally accepted. The chi-square/degrees of freedom ratio of .734 suggests that the model fits the data. Since the chi-square statistic is sensitive to sample size, it is useful to discuss the results of three other goodness-of-fit tests reported in Figure 2. First, the Normed Fit Index (NFI) score of 0.994 estimates that the model is 94.4% away from the worst-fitting model and 5.6 % away from what could be a statistically ideal model. Since models with overall fit indexes of *less than* NFI = .9 can usually be substantially improved (Bentler and Bonett 1980), further adjustments to this model would not be expected to make any appreciable improvement. The second test, the Tucker-Lewis coefficient (TLI) developed by Tucker and Lewis (1973), is more consistent across sample size. Unlike the NFI, the TLI is not bounded by 0 and 1. Scores close to 1 are considered to have a very good fit. This model's TFI = 1.005 indicates a very good fit. The third goodness-of-fit test reported in addition to the chi-square test is the Root Mean Square Error of Approximation test (RMSEA). RMSEA goes beyond just a comparison of this model with a worst-case scenario model by adjusting for degrees of freedom. It permits the testing of the proposed model against other possible models and uses estimates adjusted for discrepancies in *population* moments and not just *sample* moments in its estimate of the model's goodness of fit (Steiger 1990). The RMSEA also produces an estimate that adjusts for sample size. This model's RMSEA = .000 indicates an extremely good fit considering that a value of <.050 indicates a close fit (Browne and Cudeck 1993).

they are post hoc adjustments to improve model fit,[14] they are acceptable if they are theoretically justified (Arbuckle and Wothke 1999: 153, 203; Maruyama 1998: 87).

Figure 2: Confirmatory Factor Analysis Model for Government Regulation of Religion



Government Favoritism of Religion

Government favoritism refers to the actions of the state that provide one religion or a small group of religions special privileges, support, or favorable sanctions. The questions that are used to measure the state's favoritism of religion are summarized in Table 2. Although the coefficients were slightly lower than those for government regulation, the variables for government favoritism are still reliably coded (a = .8832) and function well together (a = .7900). These questions offer a broad range of indicators on the governments' favoritism of religion,

[14] AMOS's Modification Indexes procedure suggests improvements to the model that will decrease the chi-square/degrees of freedom ratio by increasing the number of measured parameters. We set the threshold for modification indexes to 4.00, the level of chi-square change that would be needed for additional paths to be included in the modification indexes results (4.00 was chosen because it exceeds the critical value of a chi-square distribution with one degree of freedom, i.e., 3.84). This procedure indicates whether a respecification of the model would improve its overall fit with the data. This test indicated that allowing the correlation of error terms that we have described above produces a model that better fits the data.

measuring formal religious establishment as well as the various forms of government funding for religion.

Table 2: Government Favoritism of Religion Questions

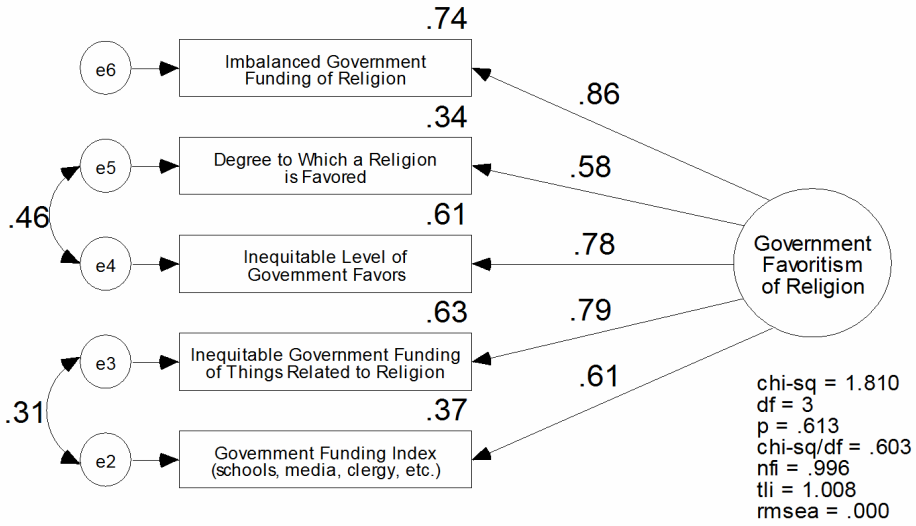
Government Favoritism Variables	**Alpha**						
Reliability Analysis of 5 Variables (scale alpha)	0.7900						
Inter-rater Reliability on Coding of 5 Variables	0.8832						
Variable:	**Imbalanced Government Funding of Religion**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
		196	0	3	1.1327	0.0841	1.1779
Question:	According to the Report, what is the nature of Government funding (including 'in kind' such as funding buildings) to the religious sector? 0=no funding; 1=has a proportional balance; 2=has imbalance; 3=only goes to one religion or belief						
Variable:	**Degree to Which a Religion is Favored**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
		196	0	4	2.1582	0.1002	1.4035
Question:	To what extent is there a Favored (or Established) Religious Brand? 0=none or all religious brands are treated the same; 1=Cultural or Historical legacies only, e.g., former established religious brand inherits buildings or properties; 2=Some religious brands have privileges or government access unavailable to other religious brands; 3=One religious brand has privileges or government access unavailable to other religions; 4=One single State or Official (Established) Religious Brand / Religion						
Variable:	**Inequitable Level of Government Favors**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
		196	0	4	1.9949	0.1131	1.5836
Question:	How does the Government subsidize (incl 'in kind') Religion? 0=no subsidies or equal to all (e.g., all are tax exempt); 1=Cultural or Historical legacies only (e.g., religion inherits Cathedrals from previous Government spending); 2=Only some religions are excluded from available subsidies; 3=Only an approved set of religions receive government subsidies; 4=Only one religion is subsidized (including 'in kind' subsidies)						
Variable:	**Inequitable Government Funding of Things Related to Religion**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
		196	0	2	1.1276	0.0678	0.9495
Question:	Does the Report mention that the Government funds some things related to religion? 0=no; 1=yes, but equal funding for each religion; 2=yes, but funding is not equal for all						
Variable:	**Government Funding Index (schools, media, clergy, etc.)**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
		196	0	12	2.2908	0.2083	2.9163
Question:	Does the Report say the following religious things are funded by the Government? [Additive Index (alpha = .7269) formed by giving a 0-2 rating for each of the following six categories: education; buildings; clergy; media; charity; religious activities] 0=no; 1=yes, but equal funding for each religion; 2=yes, but funding is not equal for all						

Note: For Index construction, each variable was rescaled to a 0 to 1 range and then multiplied by 2 to give an additive maximum of 10.

When these five variables are placed into a confirmatory factor analysis model, the results show the strength of the measures and the overall good fit of the model (see Figure 3). The high *p*-value (.613) and all other fit statistics indicate that the model is a good fit with the data. Each of the five observed variables loads strongly and significantly on the latent factor of government favoritism at .58 or above (Figure 3). Again, the positive correlations between selected error terms that allow the model to fit better are both theoretically and empirically justified.[15]

[15] The positive correlation (.46) between the error terms **e4** and **e5** is theoretically justifiable, since established religions frequently benefit from in-kind subsidies. Likewise, the correlation between **e2** and **e3** is also theoretically justified in that both are measures of a government's funding of things related to religion.

Figure 3: Confirmatory Factor Analysis Model for Government Favoritism of Religion



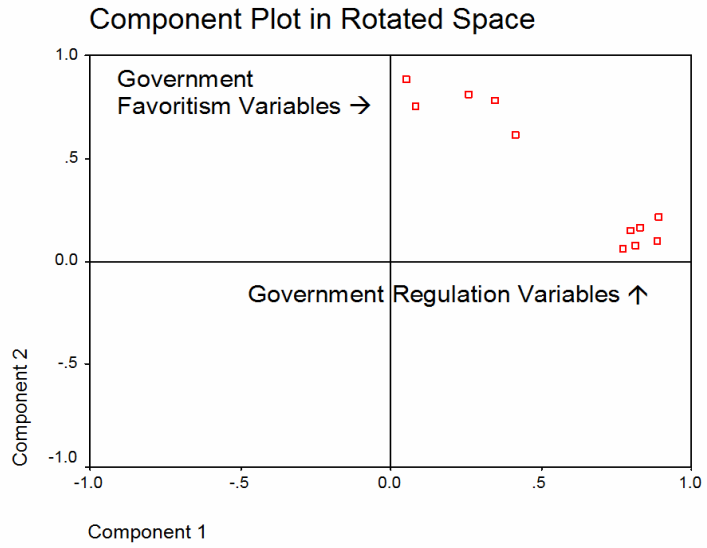
Before moving on to the social regulation of religion, we want to briefly comment on the relationship between government regulation and favoritism. Because government regulation and favoritism of religion both rely on the formal actions of the state and frequently work in tandem (Finke 1997; Grim 2004b), critics might suggest that they should be a single index. After all, both government regulation and favoritism are attempts by the state to control religion. Earlier, we offered two definitions and discussed why they are distinct concepts; here, we want to verify the empirical distinction using factor analysis.

There are two commonly accepted ways to test whether a set of observed variables are empirically related to one or more "common factor" (i.e., an underlying concept such as "regulation" or "favoritism"). The first is confirmatory factor analysis, and the second is exploratory factor analysis. Confirmatory factor analysis is appropriate when we want to test the plausibility of a theoretically driven pattern of relationships among the variables, as we did above.[16] Exploratory factor analysis is used when we do not want to limit the number of factors extracted or specify a particular pattern of relationships. If, when we use exploratory factor analysis, the six observed variables for government regulation and the five observed variables for government favoritism outlined in Tables 1 and 2 do relate to different extracted factors, then this will relate to whether the variables are empirically related to different factors. The

[16] Appendix B to this article presents the confirmatory analysis that was done to test whether government regulation, government favoritism, and social regulation of religion function empirically as three separate variables. (They do.)

number of eigenvalues greater than 1 indicates the number of separate components (or factors) on which the variables empirically "load." The way in which the variables relate to these components is presented. The results of this analysis clearly show that the observed variables empirically relate to two separate factors (eigenvalues 5.469 and 2.171) and that the favoritism variables are distinct from the regulation variables. Figure 4 presents the results of this analysis.

Figure 4: Exploratory Factor Analysis: Government Favoritism Versus Regulation



	Component	
	1	2
Initial Eigenvalues	5.469	2.171
Missionary Work is Prohibited	**0.774**	0.062
Proselytizing, Preaching, or Conversion is Limited or Restricted	**0.796**	0.153
Government Interferes with an Individual's Right to Worship	**0.813**	0.079
No Legal or Practical Protection for Freedom of Religion	**0.889**	0.211
Government Does Not Generally Respect Freedom of Religion	**0.884**	0.098
Government Policy Does Not Contribute to Freedom of Religion	**0.831**	0.161
Imbalanced Government Funding of Religion	0.261	**0.810**
Degree to Which a Religion is Favored	0.413	**0.617**
Inequitable Level of Government Favors	0.349	**0.785**
Inequitable Government Funding of Things Related to Religion	0.050	**0.880**
Government Funding Index (schools, media, clergy, etc.)	0.085	**0.756**

Extraction Method: Maximum Likelihood
Rotation Method: Quartimax with Kaiser Normalization (Rotation converged in 3 iterations)

The six government regulation variables are very closely related and are distinct from the five government favoritism variables. Appendix B offers a confirmatory model that supports that these eleven variables load onto two separate latent variables (factors).

Social Regulation of Religion

Unlike government regulation or favoritism, social regulation is not dependent on the state's action. Instead, social regulation refers to the restrictions placed on the practice, profession, or selection of religion by other religious groups or associations or the culture at large. Unlike the measures used for government regulation and favoritism, the questions involving social regulation focus on general social attitudes toward religion and the actions of social movements and religious institutions toward other religious groups, especially new, foreign, or minority religions. Rather than asking about the state's suppression or support of religion, these questions address the restrictions religious groups face from the larger culture and other institutions.[17] Table 3 lists the five measures of social regulation and documents that the variables are reliably coded (a = .8321) and hold a high level of internal reliability (a = .8047).

Table 3: Social Regulation of Religion Questions

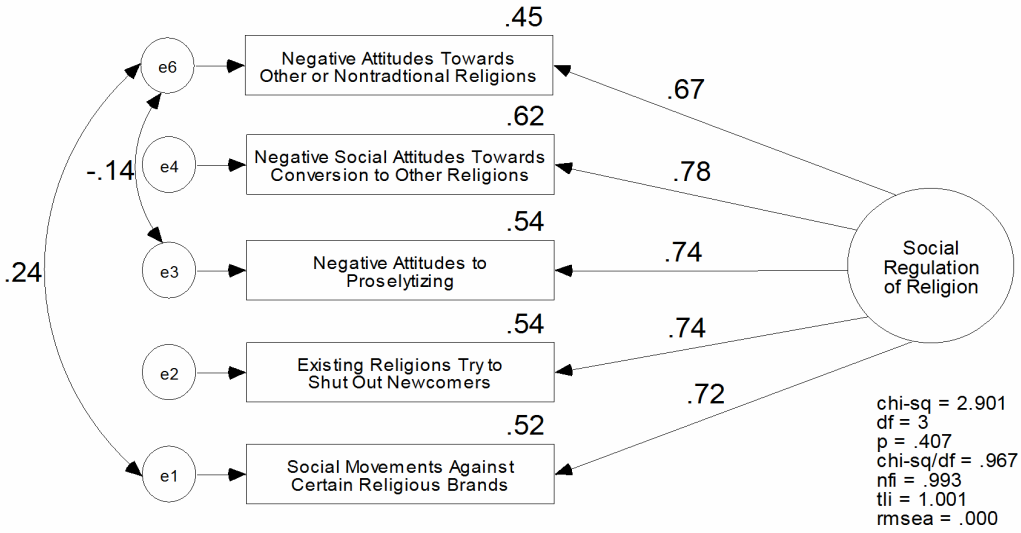
Social Regulation Variables		**Alpha**					
Reliability Analysis of 5 Variables (scale alpha)		0.8047					
Inter-rater Reliability on Coding of 5 Variables		0.8321					
Variable:	**Negative Attitudes Towards**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Other or Nontradtional Religions	196	0	4	1.388	0.093	1.306
Question:	Societal attitudes towards other or nontraditional religions are reported to be:						
	0=amicable; 1=discriminatory (but not negative); 2a=negative just in certain regions; 2b=negative just towards certain religious brands; 3=both 2a and 2b; 4=hostile						
Variable:	**Negative Social Attitudes Towards**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Conversion to Other Religions	196	0	3	0.6939	0.0708	0.9913
Question:	According to the Report, what are social attitudes to conversions to other religions?						
	0=no problems reported; 1=some tension; 2=negative; 3=physically hostile						
Variable:	**Negative Attitudes to**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Proselytizing	196	0	1	0.2704	0.0318	0.4453
Question:	Does the Report mention that traditional attitudes and/or edicts of the clerical establishment strongly discourage proselytizing?						
	0=no; 1=yes						
Variable:	**Existing Religions Try to**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Shut Out Newcomers	196	0	1	0.4949	0.0358	0.5013
Question:	According to the Report, do established or existing religions try to shut out new religions in any way? 0=no; 1=yes						
Variable:	**Social Movements Against**	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Error**	**Std. Dev.**
	Certain Religious Brands	196	0	3	1.4235	0.0903	1.2646
Question:	What is the situation regarding social movements in relation to religious brands in the country? 0=none or amicable; 1=flashes of activity; 2=regional & organized activity; 3=national & organized activity						

Note: For index construction, each variable was rescaled to a 0 to 1 range and then multiplied by 2 to give an additive maximum of 10.

[17] The State Department Reports devote an entire section in each report to societal attitudes (see Figure 1).

We are especially pleased that the amorphous topic of societal attitudes was reliably measured and that the variables clearly contribute to the latent concept of social regulation. When placed into a confirmatory factor analysis model, each of the five variables loads strongly and significantly at .67 or above on the latent variable of social regulation. The results in Figure 5 show the strength of the measures and the overall good fit of the model as a whole. The *p*-value (.407) and all other fit statistics indicate that the model is a good fit with the data. Also, the positive correlations between selected error terms that allow the model to fit better are both theoretically and empirically justified.[18]

Figure 5: Measurement Model for Social Regulation of Religion



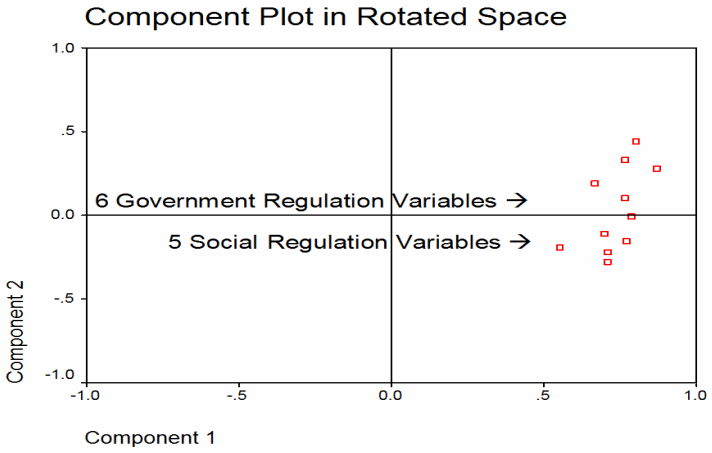
Though we have offered distinct definitions for government and social regulation of religion and though we have discussed how they are different concepts, we do recognize that they are highly correlated because they are both measures of regulation. But are they so closely related that they are in reality one construct (or factor) that should be a single index? Here, we will verify whether these closely related constructs are empirically different, using factor analysis.

[18] The positive correlation (.24) between the error terms **e1** and **e6** is theoretically justifiable, since negative social movements against religious brands may be a manifestation of a negative attitude toward other religions. Likewise, the *negative* correlation between **e3** and **e6** is also theoretically justified in that a negative attitude toward other religions may also be associated with a positive attitude toward proselytizing efforts if they are aimed at converting the people from religions toward which one feels negative.

As we did for government regulation versus government favoritism, we use exploratory factor analysis in order not to limit the number of factors extracted or specify a particular pattern of relationships.[19]

The results of this analysis show that these two closely related concepts are indeed two separate factors. Both eigenvalues are above 1 (6.414 and 1.051), and the six government regulation variables are distinct from the five social regulation variables. Figure 6 presents the results of this analysis. The six government regulation variables are distinct from the five social regulation variables, though they are obviously more closely related than are regulation and favoritism. Appendix B offers a confirmatory model that also supports that these eleven variables load onto two separate latent variables (factors) that are more strongly correlated with each other than they are with favoritism.

Figure 6: Exploratory Factor Analysis: Government Versus Social Regulation



	Component	
	1	2
Initial Eigenvalues	6.414	1.051
Missionary Work is Prohibited	**.666**	.194
Proselytizing, Preaching, or Conversion is Limited or Restricted	**.786**	-.011
Government Interferes with an Individual's Right to Worship	**.766**	.103
No Legal or Practical Protection for Freedom of Religion	**.872**	.276
Government Does Not Generally Respect Freedom of Religion	**.803**	.440
Government Policy Does Not Contribute to Freedom of Religion	**.767**	.334
Negative Attitudes Towards Other or Nontraditional Religions	.550	**-.194**
Negative Social Attitudes Towards Conversion to Other Religions	.769	**-.151**
Negative Attitudes to Proselytizing	.709	**-.223**
Existing Religions Try to Shut Out Newcomers	.706	**-.281**
Social Movements Against Certain Religious Brands	.698	**-.112**

Extraction Method: Maximum Likelihood
Rotation Method: Quartimax with Kaiser Normalization (Rotation converged in 3 iterations)

[19] See Appendix B for the confirmatory analysis showing one model with government regulation, government favoritism, and social regulation of religion as three separate variables.

From Measurement Models to Indexes

We have two options for computing the indexes. First, we could compute the indexes using the information obtained in the confirmatory factor analyses. Specifically, we could multiply the raw score of each observed variable by the factor score weight. Factor score weights are the regression weights estimated for predicting the latent variable from the observed variables. The advantage of using this method is that each variable will be weighted according to how strongly it predicts the conceptual variable.[20]

Second, we could simply add the raw values of the observed variables (when equally scaled). If the additive method produces extremely comparable results, it would be preferable, since it is simpler and more parsimonious. Without jumping too far ahead, we did calculate the indexes both ways, and the correlations between the two indexes were extremely strong[21]—so strong, in fact, that we will present only the raw score additive approach and results.

Index Calculations

We calculate the index from the observed variables in three steps. First, each variable is rescaled to a range between 0 and 1 (e.g., a variable that ranges from 0 to 3 is rescaled so that 0 = 0, 1 = .3334, 2 = .6667, and 3 = 1). This eliminates the arbitrariness of the initial coding ranges. Second, the rescaled raw scores for each variable associated with the three factors are added together. Third, we set each index to range from 0 to 10 by multiplying the results of the second step by the appropriate number to make the maximum equal 10, as follows:

Government regulation = (rescaled additive raw score) * 1.666667
Government favoritism = (rescaled additive raw score) * 2.0
Social regulation = (rescaled additive raw score) * 2.0

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[20] Using SEM to calculate an index produces a measure that takes into account the relative strength of each variable's relationship to the common factor; it also has the benefit of attenuating measurement error (Bollen 1989; Bollen and Paxton 1998). Since factor analysis and latent variables represent a "variant of regression" (Maruyama 1998: 134), a real numeric score (index) for each factor can be calculated for each country that is empirically weighted on the basis of the information obtained through the factor analysis process. In AMOS 5.0, the factor score regression weights are calculated by using the formula $\mathbf{W} = \mathbf{BS}^{-1}$, where **W** is the matrix of regression weights, **S** is the matrix of covariances among the observed variables, and **B** is the matrix of covariances between the unobserved and observed variables.

[21] Pearson correlations for the two different approaches to index calculation were .979 for government regulation, .978 for government favoritism, and .995 for social regulation (all $p <$ .001, two-tailed).

The results of the index calculations are presented in Appendix A for each of the 196 countries and territories in the dataset. The final score for each index ranges from 0 to 10, with 10 representing the highest-scoring country or countries on that measure. As we will see in the next section and in Appendix A, the scores fall across this entire range.

PRESENTING AND EVALUATING THE INDEXES

The fruits of our labor are presented in Appendix A. For those who are familiar with religious freedom, many of the scores for government regulation will be expected. Few observers will be surprised that the top twenty countries include Saudi Arabia, Burma, China, Pakistan, Uzbekistan, and Iran. Likewise, the index for government favoritism shows nothing startling. Islamic countries with Shari'a law score high, as do several Christian establishments, as well as Burma, and Israel. But the index for social regulation offers a few surprises. Several countries that are ranked high on government regulation fall far lower when we look at social regulation. For example, China scores a 9.2 on the government regulation index but falls to 4.8 on the social regulation index. Vietnam falls even farther, going from 7.8 to 3.0. Other countries, such as Saudi Arabia and Pakistan, remain high on both indexes. Although the government and social regulation indexes are closely related, the social regulation index offers new insights on regulation that goes beyond the hand of the state. Our future research will offer a far more detailed review and analysis of these scores, but for now, we return to the task at hand: evaluating the reliability and validity of our data and indexes.

Thus far, we have assessed the indexes by evaluating the reliability of the coding, the internal reliability of the variables included in the indexes, and the face validity of the measures; now we turn to criterion and construct validity. Despite the limitations of previous religious freedom measures, we have two indexes that can serve as a criterion for our measure of government regulation. As Table 4 shows, the government index is strongly correlated with both indexes on religious freedom. For the seventy-four countries ranked by Freedom House, the correlation is .861, and even for the seventy-eight countries evaluated by Searle Bates in 1945, the correlation remains at .517. For the government favoritism index, the *World Christian Encyclopedia* measure of state religion offers the most directly related criterion for comparison, and the correlation is .382. As we noted earlier, the social regulation index has no criterion for comparison, but we do expect it to be closely related to government regulation. As expected, it held a correlation of .580 with the Freedom House index, .597 with Searle Bates's index, and .741 with the government regulation index that we computed.

Table 4 also allows us to evaluate the construct validity of the indexes. We have several indexes on the restriction of freedoms that should be closely related to religious freedoms. Because religious freedom is one of many liberties regulated by the state and larger culture, and since freedoms tend to come as "bundled commodities" (Sen 1999), our indexes of government and social regulation of religion should be related to other indexes of civil liberties. The government regulation index, in particular, should have a close relationship with indexes measuring the actions of the state in restricting liberties. Table 4 confirms these expectations. Both government and social regulation hold strong and highly significant correlations with the four liberty indexes reviewed. But the government regulation index holds exceptionally strong correlations with the indexes on political rights, press freedoms, and civil liberties, ranging from .655 to .712. In contrast, the government favoritism index, which is not a measure of religious freedom, holds only one significant correlation with the other liberty indexes.

Table 4: Correlation of Indexes with Other Measures [22]

		Pearson Correlations		
	N	Government Regulation	Government Favoritism	Social Regulation
Government Regulation of Religion	196	1.000		
Government Favoritism of Religion	196	.423***	1.000	
Social Regulation of Religion	196	.741***	.449***	1.000
Restriction of Religious Liberty				
Religious Freedom Restriction Scale Freedom House (2000)	74	.861***	.385**	.580***
Religious Liberty Restriction Scale M. Searle Bates (1945)	78	.517***	.339**	.597***
State Religion ‡ World Christian Encyclopedia (2000)	194	.183***	.382***	.254***
Restriction of Other Liberties				
Restriction of Economic Freedom Heritage Foundation (2004)	156	.422***	-0.054	.239**
Press Freedom Restriction Index Reporters sans frontieres (2003)	164	.712***	0.141	.462***
Political Rights Restriction Scale Freedom House (2003)	196	.655***	0.126	.420***
Civil Liberties Scale Freedom House (2003)	196	.679***	.201**	.487***
Correlates of War				
Civilization Divide Grim (2005)	196	.421***	.227**	.491***
Armed Conflict Grim (2005)	196	.219**	0.086	.341***

‡ re-coded by lead author as 0=atheist; 1=secular; 2=religious; 3=specific religion

* p < .05; ** p < .01; *** p < .001 (all two-tailed)

[22] The measures used for the Religious Liberty Restriction Scale (Bates 1945), Civilization Divide (Grim 2005), and Armed Conflict (Grim 2005) are described in Appendix C.

The final category of Table 4, correlates of war, offers a glimpse at the future stories these indexes will tell. Notice that all three indexes are positively and significantly associated with civilization divides. When we move to armed conflict, the correlation is weak and insignificant for government favoritism but remains significant for the two regulation indexes. The correlation is especially strong between armed conflict and the social regulation of religion. The overall message of Table 4 is that the indexes are highly correlated with existing measures on religion (criterion validity), respond to other variables of interest in a manner expected by past research and theory (construct validity), and offer promise for future research.

CONCLUSION

This essay not only points to a new source of data, but also provides conceptual clarity for the study of religious regulation and favoritism. Building on existing theory and research, three indexes were proposed and constructed: government regulation of religion, government favoritism of religion, and social regulation of religion. The government regulation index taps into the state's regulation of the practice, profession, or selection of religion; government favoritism refers to the state's granting of privileges, support, or favorable sanctions to a single religion or a small group of religions; and, social regulation provides a measure of restrictions placed on the practice, profession, or selection of religion by other religious groups, associations, or the culture at large. Below, we briefly summarize how this was accomplished and discuss how the new indexes can be used for future research.

When evaluating cross-national measures of democracy, Kenneth Bollen (1993: 1214) highlighted three factors as contributing to the quality of the measures: "(1) characteristics of the judges, (2) the information available to the judges, and (3) characteristics of the scaling process." On the basis of multiple assessments of the data, coding, and summary measures, our indexes perform well in each of these areas.

Several factors increase our confidence in the "characteristics of the judges," but the most significant is that highly trained raters were used in the coding process and that agreement between the raters was very high. When data from the *2003 International Religious Freedom Report* were coded, the interrater reliability coefficients were consistently high, hovering near .9 and higher on most sets of variables coded. Likewise, each report coded by these raters relies on multiple individuals and a formal quality control process for compiling the information included in the reports. We were concerned that political biases might enter into the information reported but found little evidence of heavy editing or censorship.

Instead, we found the reports to be candid and detailed, even for the politically favored countries.

The *2003 International Religious Freedom Report* also had access to data that are not available from any single source. In all but three of the countries included, the report was initially compiled by embassy personnel living in or traveling freely in the country with access to government sources of information, local and international media accounts, local sources of data, and personal experience and interviews. We readily acknowledge that none of the reports can offer a complete account for a country, but we are equally convinced that these reports are the most comprehensive and accurate accounts available.

The final item mentioned by Bollen was scaling. Once again, the use of multiple judges and high interrater reliability increase our confidence in the ratings of judges. But we should also note that the methods for collecting the data are far more standardized than is the case for most international data collections. Embassy representatives, with training on what and how to collect, collated all of the initial information. The final reports were then coded by the senior author and other trained raters using a pretested coding instrument. The standardization of the instruments, the training of raters, and the multiple coders used all serve to prevent biases in the data.

Working with data that were reliably and systematically coded, we used factor analysis to confirm that the variables that were used to construct the indexes were actually measuring distinctly different concepts. The measurement models for each of the indexes had a high level of internal reliability, and the models had an excellent fit with the data. Moreover, each of the items in the measurement models loaded strongly and significantly on the concept being measured. We then constructed indexes for government regulation, government favoritism, and social regulation of religion from these variables. Once the indexes had been constructed, we ran them through additional tests for validity. The result is three indexes that score high on all of our tests of reliability and validity.

We should add, however, that the 2003 indexes represent only our first installment in cross-national data on religion. Additional years of the *International Religious Freedom Report* are currently being coded by Penn State University's Association of Religion Data Archives (ARDA) and will be publicly available at www.TheARDA.com. Not only will these collections provide additional years of the indexes reported here, they will also provide multiple other measures on religion. The multiple years will offer measures that cover a broader span of time and provide yet another assessment of our current measures.[23] The

[23] For most nations, we expect the measures to remain relatively stable over time. But exceptions do occur. For example, the 2003 report records no violations of religious freedom for Sierra Leone, but the 2001 reports multiple violations by "rebels."

new measures will address additional topics of interest, such as religious persecution and religious conflict.

The three indexes will prove useful for public policy and education, but the greatest promise is for stimulating research. Understanding the relationship between religion and social conflict is one of the most obvious. How are religious regulation and favoritism related to religious violence and armed conflicts? Does the social regulation of religion have an effect that is distinct from that of government regulation? As we noted earlier, economists and other social scientists have also been interested in the relationship between religion and economic development, but their work has been hampered by a lack of data. These indexes provide measures on concepts that are central to their arguments: government regulation and favoritism. Moreover, there is a long list of social, political, and human rights issues that are closely tied to religion. From gender roles to the formation of democracy, these indexes allow scholars to address the research questions surrounding a variety of substantive issues. The indexes will also test theories about religion. Over the past two decades, theoretical models have developed multiple propositions on the effects religious regulation and favoritism hold on the religious life of a country (see Stark and Finke 2000).

Without adequate measures, however, theoretical propositions remain untested, and the sophisticated statistical models offer few new insights. This research has developed three highly reliable and valid indexes on religion: government regulation, government favoritism, and social regulation. Now the work begins.

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Appendix A: International Religion Indexes (2003)

(Data available at www.TheARDA.com.)

2003	Government Regulation Index (GRI)	Government Favoritism Index (GFI)	Social Regulation Index (SRI)
Saudi Arabia	10.0	9.3	10.0
Maldives	10.0	9.0	9.5
Burma	10.0	8.2	7.5
Brunei	9.4	4.0	5.3
Laos	9.4	2.0	5.0
China-Tibet	9.2	7.8	5.0
China	9.2	6.5	4.8
Pakistan	8.6	8.7	10.0
Azerbaijan	8.6	6.0	9.3
Uzbekistan	8.6	6.8	8.7
Comoros	8.6	4.0	8.5
Sudan	8.6	2.0	8.0
Eritrea	8.6	2.5	6.3
Korea, Dem Rep (North)	8.3	0.0	2.0
Iran	7.8	9.3	10.0
Iraq	7.8	9.3	9.3
Egypt	7.8	8.8	9.3
Afghanistan	7.8	7.8	9.3
Jordan	7.8	9.0	8.3
Kuwait	7.8	7.2	8.3
Armenia	7.8	8.8	7.0
Nauru	7.8	1.0	5.7
Vietnam	7.8	1.5	3.0
Singapore	7.2	3.0	4.3
Algeria	6.9	9.3	8.3
Georgia	6.9	8.3	8.3
Bhutan	6.9	7.8	8.3
Bahrain	6.9	9.3	7.8
Qatar	6.9	8.3	7.8
Mauritania	6.9	8.3	6.0
Oman	6.9	7.2	5.3
Turkmenistan	6.9	7.3	3.8
Malaysia	6.4	6.8	8.3
Nigeria	6.4	8.5	6.8
Ukraine	6.4	5.2	6.8
Bangladesh	6.4	7.3	5.8
Monaco	6.4	3.5	5.0
Kazakhstan	6.4	1.0	0.0
Indonesia	6.1	8.0	9.3
Tunisia	6.1	8.8	8.8
Somalia	6.1	4.0	8.8
Yemen	6.1	2.0	8.3
Cyprus	6.1	7.5	8.2
Nepal	6.1	4.0	7.8
Greece	6.1	7.8	6.5
Belarus	6.1	7.5	6.3
Libya	6.1	9.0	5.3
Cuba	6.1	3.8	4.5
Bulgaria	6.1	7.5	4.3
India	5.6	7.0	10.0

2003	Government Regulation Index (GRI)	Government Favoritism Index (GFI)	Social Regulation Index (SRI)
Chad	5.6	8.2	8.8
Western Sahara	5.6	5.3	8.3
Mongolia	5.6	1.5	5.7
Djibouti	5.6	4.0	4.5
Tanzania	5.6	4.8	2.5
United Arab Emirates	5.3	7.8	8.3
Central African Republic	5.3	3.3	3.5
Congo, Dem Rep	5.3	0.0	3.5
Equatorial Guinea	5.3	3.8	3.0
Ethiopia	4.7	5.3	8.7
Morocco	4.7	6.3	8.3
Syria	4.7	2.3	8.3
Russia	4.7	3.0	7.5
Lebanon	4.7	6.2	6.7
Romania	4.7	6.0	6.3
Colombia	4.7	7.0	4.0
Macedonia	4.7	1.0	3.7
Kyrgystan	4.7	2.5	3.5
Zimbabwe	4.7	5.3	1.7
Tajikistan	4.7	0.0	1.2
Rwanda	4.7	0.0	0.7
Niger	4.4	6.2	6.2
Bosnia-Herzegovina	4.4	6.2	4.8
Cote d'Ivoire	4.4	6.3	4.5
Cameroon	3.9	0.0	8.8
Turkey	3.9	7.0	8.3
Guinea	3.9	6.7	5.8
Kenya	3.9	6.8	5.5
Uganda	3.9	0.0	5.3
France	3.9	5.5	3.7
Liberia	3.9	4.8	2.7
Latvia	3.9	6.2	0.0
Thailand	3.3	6.3	0.0
Mexico	3.1	4.7	6.8
Jamaica	3.1	0.0	3.7
Japan	3.1	4.2	3.3
Argentina	3.1	7.5	3.0
Serbia & Montenegro	3.1	5.8	2.3
Peru	3.1	8.8	0.7
Moldova	3.1	6.7	0.5
Sri Lanka	2.5	2.0	7.7
Israeli Occupied Territories	2.2	7.8	10.0
Israel	2.2	8.2	7.8
Italy	2.2	5.3	5.0
Lithuania	2.2	6.2	2.5
Germany	2.2	4.7	2.2
Ghana	2.2	5.7	1.2
Andorra	2.2	5.7	0.0
Panama	2.2	3.2	0.0
Swaziland	2.2	2.0	0.0

2003	Government Regulation Index (GRI)	Government Favoritism Index (GFI)	Social Regulation Index (SRI)
Spain	1.7	7.8	3.7
Gabon	1.7	0.0	0.0
Slovenia	1.4	5.0	5.0
Guatemala	1.4	7.8	4.0
Fiji	1.4	3.7	4.0
Hungary	1.4	6.8	3.7
Vanuatu	1.4	6.0	3.7
Tuvalu	1.4	1.5	3.7
Croatia	1.4	6.8	3.3
Chile	1.4	4.0	2.5
Slovak Republic	1.4	5.5	1.7
Belgium	0.8	7.5	4.8
Mauritius	0.8	4.5	3.8
Brazil	0.8	0.0	3.8
Norway	0.8	5.2	3.7
Philippines	0.8	0.0	3.7
Solomon Islands	0.8	2.8	3.0
Finland	0.8	6.5	2.3
Trinidad & Tobago	0.8	2.5	0.7
Guyana	0.8	0.0	0.7
Madagascar	0.8	4.3	0.5
Denmark	0.8	6.7	0.0
China-Hong Kong	0.8	6.0	0.0
Tonga	0.8	2.0	0.0
El Salvador	0.8	1.5	0.0
Togo	0.8	1.0	0.0
Botswana	0.8	0.0	0.0
Mozambique	0.8	0.0	0.0
East Timor	0.6	1.5	6.3
Austria	0.6	6.2	5.2
Samoa	0.6	1.0	5.0
Palau	0.6	4.0	5.0
Australia	0.6	0.0	2.3
Iceland	0.6	7.8	2.0
Angola	0.6	0.5	0.7
Zambia	0.6	4.3	0.0
Malawi	0.0	3.8	5.7
Papua New Guinea	0.0	3.3	4.3
Poland	0.0	3.0	3.7
Saint Lucia	0.0	0.0	3.2
Czech Republic	0.0	7.3	3.0
Saint Vincent & Grenadines	0.0	0.0	3.0
Venezuela	0.0	8.0	2.7
South Africa	0.0	2.8	2.5
Netherland	0.0	3.0	2.3
Burkina Faso	0.0	0.0	2.2
Canada	0.0	6.5	1.8
Bolivia	0.0	8.3	1.7
Switzerland	0.0	5.8	1.7
Surinam	0.0	4.5	1.7

2003	Government Regulation Index (GRI)	Government Favoritism Index (GFI)	Social Regulation Index (SRI)
Sweden	0.0	2.7	1.7
Paraguay	0.0	1.5	1.7
Albania	0.0	1.0	1.7
United Kingdom	0.0	1.0	1.7
Nicaragua	0.0	7.3	1.3
Mali	0.0	0.5	1.3
Haiti	0.0	6.0	0.7
Cape Verde	0.0	3.5	0.7
Congo, Rep of	0.0	0.0	0.7
Uruguay	0.0	0.0	0.7
Malta	0.0	8.7	0.0
Cambodia	0.0	7.3	0.0
Dominican Republic	0.0	7.2	0.0
Luxembourgh	0.0	7.0	0.0
Portugal	0.0	7.0	0.0
Seychelles	0.0	6.0	0.0
Costa Rica	0.0	6.0	0.0
San Marino	0.0	5.5	0.0
Liechtenstein	0.0	5.2	0.0
Senegal	0.0	5.2	0.0
Belize	0.0	3.3	0.0
Korea, Rep of (South)	0.0	3.3	0.0
Lesotho	0.0	3.3	0.0
Gambia	0.0	2.7	0.0
New Zealand	0.0	2.5	0.0
Honduras	0.0	2.0	0.0
Ireland	0.0	1.8	0.0
Ecuador	0.0	1.5	0.0
Estonia	0.0	1.0	0.0
Benin	0.0	0.8	0.0
Burundi	0.0	0.5	0.0
China-Macau	0.0	0.5	0.0
Namibia	0.0	0.5	0.0
Antigua & Barbuda	0.0	0.0	0.0
Bahamas	0.0	0.0	0.0
Barbados	0.0	0.0	0.0
China-Taiwan	0.0	0.0	0.0
Dominica	0.0	0.0	0.0
Grenada	0.0	0.0	0.0
Guinea-Bissau	0.0	0.0	0.0
Kiribati	0.0	0.0	0.0
Marshall Islands	0.0	0.0	0.0
Micronesia Fed States	0.0	0.0	0.0
Saint Kitts & Nevis	0.0	0.0	0.0
Sao Tome & Principe	0.0	0.0	0.0
Sierra Leone	0.0	0.0	0.0

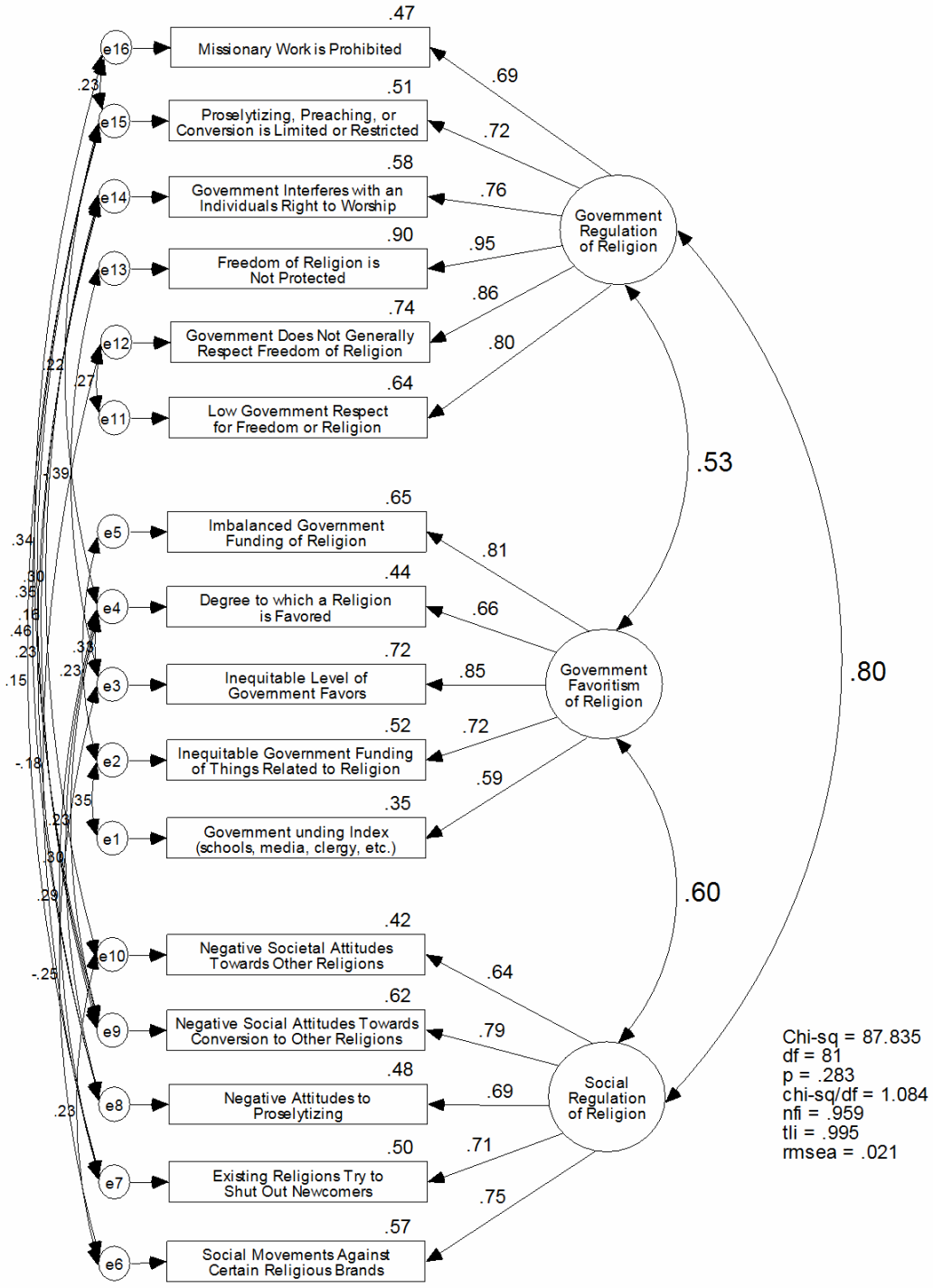
Appendix B: Confirmatory Factor Analysis

Confirmatory factor analysis tests a theoretically driven model of the relationship between observed variables and hypothesized conceptual factors. Figure 7 following shows the results of this test. These results support the previous analyses of this article.

The results give evidence that the three factors that we developed in this article continue to function empirically as separate factors even when they are included in the same measurement model[24] and that this model, which treats them as three separate factors, fits the data quite well (p = .283, chi-square/degrees of freedom = 1.084, NFI = .959, TLI = .995, RMSEA = .021). Allowing the error terms to be correlated as shown in Figure 7 gives a better fit to the model. It is important to note that in the same model without error terms correlated, the correlation of the three factors changes very little in strength (government and social regulation at .83 versus .80, favoritism with government regulation at .49 versus .53, and social regulation at .57 versus .60, all $p < .001$, two-tailed). Finally, the relationships between the three common factors and their observed variables remain nearly identical to those involving the factors as modeled individually. For example, there is very little difference between the factor loadings of the six observed variables for government regulation in Figure 2 and in Figure 7 (e.g., Missionary Work Prohibited loads at .70 in Figure 2 and .69 in Figure 7). This model, which allows for the shared error across measures, permits an even more precise calculation of index scores, should that be desired. (See the discussion above on parsimony in the section entitled "From Measurement Models to Indexes.")

[24] Exploratory factor analysis also yields three factors with eigenvalues greater than 1 (7.706, 2.216, and 1.007).

Figure 7: Complex Measurement Model for All Factors



Appendix C: Selected Measures taken from Grim (2005)

CIVILIZATION DIVIDE

Using Huntington's civilization divide map (1996: 26–27) as the basic data,[25] Grim (2005) created this measure using the scale in Figure 8 (see Table 5). He coded 196 countries according to their relation to Huntington's (1996) eight (or nine) civilization divides (he does not use Buddhist consistently): Western, Latin America, African, Islamic, Sinic, Hindu, Orthodox, (Buddhist), and Japanese.

Figure 8: Civilization Divide Scale [civ.div]

How many borders of this country touch the borders of a country that is predominantly from one of the other major "civilizations" (cf. Huntington 1996)?

0 = All national borders are with countries of the same "civilization" or the nation is an island.

1 = One country from another civilization borders this country.

2 = More than one country from another civilization borders this country.

3 = This country is internally split between civilizations

Table 5: Civilization Divide (Observed Measure Descriptive Statistics)

	N	Range	Mean	Std. Dev.
Civilization Divide	196	0–3	.61	.862

ARMED CONFLICT

Grim's (2005) variable on armed conflict uses a recoding of data assembled by the Ecumenical Peace Center of the Canadian Council of Churches (Project Ploughshares 2000a, 2000b, 2000c).[26] He used these data for two reasons. First,

[25] Huntington's map is imprecise in that it has no country names and it fails to identify some divided countries. Where the map is unclear or where Grim (2005) considered the country to be split between civilizations, e.g., Sri Lanka (scored 3), Grim coded them as such. If anything, Grim's coding is more conservative than Huntington's map in that it takes into account more civilization divides than the map indicates.

[26] There are several other sources for data on armed conflict at the country level. For example, the Peace Pledge Union (http://www.ppu.org.uk/war/facts/www00-95a.html) in the United Kingdom publishes a list of conflicts by country with dates and estimated deaths. The World Bank hosts a conflict dataset based on the dataset from Department of Peace and Conflict Research, Uppsala University, in collaboration with the International Peace Research Institute, Oslo. They update it annually (http://www.prio.no/cwp/armedconflict/current/active_conflicts_2003.pdf). These data rate the intensity level on a three-point scale: minor, intermediate, and war. We use Grim's recoding of the Ploughshares data because it lends itself to being easily scaled as described in this section.

Project Ploughshares defines armed conflict and employs coding procedures that clearly distinguish armed conflict from other forms of civil disturbances (e.g., theft, looting, extortion). In their definition, an armed conflict is "a political conflict in which armed combat involves the armed forces of at least one state (or one or more armed factions seeking to gain control of all or part of the state), and in which at least 1,000 people have been killed by the fighting during the course of the conflict" (Regehr 2001). They also have strict criteria for determining the cessation of conflict. Second, Grim used them because these data represent clear measures on both the intensity and the recency of the armed conflict (see Figure 9 and Table 6).

Though the three Ploughshares recoded reports contain overlapping information, it was straightforward to assign a single score for each country of the world by counting whatever score was highest. For example, although Turkey had an armed conflict end in 2002 (scoring it 1 on the scale), the conflict that ended was still ongoing in 2001, with 10,001–100,000 civilian and military deaths occurring during the course of the particular conflict. Thus, Turkey received a score of 4.

Figure 9: Armed Conflict Scale [armed.pp]

Level and recency of armed conflict in each country:

0 = None reported
1 = Ended sometime from 1988 to 2002
2 = 2001 conflict involving 1,00–10,000 civilian and military deaths
3 = 2002 conflict involving 1,000–10,000 civilian and military deaths
4 = 2001 conflict involving 10,001–100,000 civilian and military deaths
5 = 2002 conflict involving 10,001–100,000 civilian and military deaths
6 = 2001 conflict involving >100,000 civilian and military deaths
7 = 2002 conflict involving >100,000 civilian and military deaths

Table 6: Armed Conflict (Observed Measure Descriptive Statistics)

	N	Range	Mean	Std. Dev.
Level and Recency of Armed Conflict	196	0–7	1.01	1.985

RESTRICTION OF RELIGIOUS LIBERTY

The 1945 Restriction of Religious Liberty scale was produced by the global study on religious liberty conducted by the Joint Committee on Religious Liberty, coordinated by M. Searle Bates (1945), Rhodes scholar and Professor of History at the University of Nanking and later Yale University. The Joint Committee ranked seventy-eight countries on religious liberty, dividing them into five major levels and three sublevels, which Grim (2005: 546–547) recoded into an eight-

point scale. The lowest level of religious freedom (i.e., the highest level of regulation) is repressive uniformity, and religious freedom (i.e., low regulation) is represented as being free from preferences and discriminations (see Figure 10 and Table 7). The scale is generally unbiased toward any particular religion, treating the restriction of any religious tradition as a violation of religious freedom.

Figure 10: 1945 Religious Liberty Scale [relib.sb]

1 = High degree of freedom from preferences and discriminations
2 = Preferences and discriminations relatively minor
3 = Preferences and discriminations important but not generally acute
4 = Freedom of religion limited in certain regions, with important social pressures
5 = Freedom of religion limited, with weighty preferences and discriminations
6 = Freedom of religion limited, with state controls or state effort on behalf of religion or quasi-religion
7 = Freedom of religion severely limited, with state restrictions or socioreligious pressures heavy or both
8 = Repressive uniformity, with death or utter ostracism for apostasy

Table 7: Religious Liberty Scale (Observed Measure Descriptive Statistics)

	N	Range	Mean	Std. Dev.
Religious Liberty Scale (Bates 1945)	78	1–8	3.64	2.449