Economic Inequality, Relative Power, and Religiosity*

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Objective. What effect does the extent of economic inequality within a country have on the religiosity of the people who live there? As inequality increases, does religion serve primarily as a source of comfort for the deprived and impoverished or as a tool of social control for the rich and powerful? *Methods.* This article examines these questions with two complementary analyses of inequality and religiosity: a multilevel analysis of countries around the world over two decades and a time-series analysis of the United States over a half-century. *Results.* Economic inequality has a strong positive effect on the religiosity of all members of a society regardless of income. *Conclusions.* These results support relative power theory, which maintains that greater inequality yields more religiosity by increasing the degree to which wealthy people are attracted to religion and have the power to shape the attitudes and beliefs of those with fewer means.

Recent work in the sociology of religion has largely neglected the role of economic inequality. This study illustrates the benefits to be gained by reincorporating economic inequality into our understanding of religion by examining whether and how greater inequalities in the distributions of economic resources within societies affect the religiosity of their members. We examine two competing theories of how the extent of economic inequality may influence levels of religiosity: deprivation theory and relative power theory. The first focuses on religion's value to the poor, the second on its utility to the rich. As a result, they yield distinctly different predictions of inequality's effects. We also consider whether increased religiosity could be the source of greater inequality rather than its consequence.

To test these rival theories, we present a multilevel analysis of religiosity across dozens of countries over two decades and a time-series analysis of trends in religiosity over half a century in the United States. Our findings provide strong support only for the relative power theory, which maintains

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that greater inequality provides richer individuals with the motive and the means to disseminate religion more widely throughout their societies.

Relative Power and Religiosity

A number of works in the sociology of religion have linked religiosity to economic inequality. The most common argument is straightforward: religion should be seen primarily as a comfort to those suffering economic deprivation and social marginality. Religion provides reassurance that despite current or future hardships, a higher power will provide, if not in this life, then in the next (e.g., Glock, 1964; Scheve and Stasavage, 2006:262–64). Moreover, religious organizations can constitute an important source of material support for those in need (Gill and Lundsgaarde, 2004:406–07). Because greater economic inequality increases the vulnerability of the poorer members of a society, it should be expected to increase their religiosity (Norris and Inglehart, 2004:106–10).

But deprivation theory has an additional, rarely acknowledged implication. Because greater economic inequality means not only that the poor are poorer but also that the rich are richer, more inequality should be expected to reduce the religiosity of the more affluent or, if all those with incomes above some threshold are equally undeprived, to have no effect on their religiosity at all. Stated differently, the deprivation theory predicts that the effect of the distribution of economic resources on one's religiosity depends on one's position within the distribution: more inequality is expected to increase religiosity among the poorer members of a society but decrease or have no effect on religiosity of richer members.

We advance a different argument, called the relative power theory, that acknowledges that religion can be a source of comfort to the poor but views the deprivation theory as at best incomplete. Religion's ability to serve as a mechanism of social control for the rich, we contend, is considerably more important. For the wealthy, greater inequality both increases their attraction to religion and enhances their power to disseminate religious beliefs among the rest of the population.

Consider first why religion may be more attractive to wealthy individuals where economic inequality is higher. By increasing economic differences between rich and poor, higher levels of economic inequality can be expected to increase discontent with the social order and spur demands for redistribution (e.g., Meltzer and Richard, 1981). Religion, on the other hand, generally operates to justify and preserve the prevailing social structure. As Stark (1964:702) pointed out, "religion not only bids the deprived to accept their lot, but maintains that it is the just outcome of rules that are the best possible, indeed, in some instances divinely inspired." Jacobson (1999), for example, found that in the United States, those with greater religiosity are more likely to hold fatalistic views and so passively accept their place in

society. In a study of Orthodox Christians, Catholics, Protestants, and Jews, all members of the majority faith of their respective countries, Schwartz and Huismans (1995) found that religiosity is strongly positively related to values such as tradition and conformity that emphasize the preservation of the status quo and strongly negatively related to values like openness to change and to independent thinking that might threaten it. Importantly, Scheve and Stasavage (2006) find that attendance at religious services tends to reduce individuals' support for government spending on unemployment benefits, healthcare, and pensions, social insurance programs that are generally redistributive. Religion, then, tends to reduce the demand for societal change and redistribution that economic inequality creates.

Further, religion can work to prevent redistributive policies from being enacted even if it fails to change preferences for redistribution by providing an additional dimension of political contestation. When voters are forced to choose between a redistribution-favoring but secular left party and a religious but anti-redistribution right party, not only does this choice lead some among the religious poor to vote for the right party, but it also can be expected to induce the left party to respond by moderating its demands for redistribution so as to broaden its appeal among wealthier but secular voters (Roemer, 1998). De La O and Rodden (2008) recently provided empirical support for this point, demonstrating that across the advanced democracies, religion works to break ties between poorer individuals and left parties: the religious poor frequently vote for right parties even when they prefer more redistribution than those parties advocate.

Because inequality increases the potential challenges to the social order, it increases demand for religion among the wealthy. Some among the rich may in fact adopt and spread religious beliefs as a deliberate response to their greater need for social control. Other wealthy individuals may simply—and unconsciously—find theodicean accounts that justify their privilege as the product of divine will to be more congruous with their other views and beliefs when their advantages over the rest of society are larger. That these same accounts dissuade or frustrate those who would otherwise challenge their privilege is then an unintended but welcome consequence that reinforces the acceptance of these accounts among the wealthy. The result of both these processes is that, contrary to the expectations of deprivation theory, richer people should exhibit more religiosity at higher levels of inequality than they do at lower levels of inequality.

The relative power theory maintains that economic inequality not only makes religion more attractive to wealthy individuals, it also magnifies their ability to spread religion to others. Because money is a source of power, if a society's income and wealth are more concentrated, power will also be more concentrated: the rich have more power relative to the poor when inequality is greater (e.g., Solt, 2008). Because power can be exercised to shape the attitudes and beliefs of others (e.g., Lukes, 2005), this greater relative power of the rich allows them to spread their own values and beliefs more ex-

tensively than where economic resources are more equally distributed. In the context of religion, this can be seen most clearly through inequality's effects on contributions to religious organizations. Absent government support, religious organizations depend heavily on a small number of large donors who account for very large shares of the total given even when levels of economic inequality are relatively low; this is because one's contributions are the multiplicative product of one's religiosity (which determines one's rate of giving) and one's income, meaning the core of monetary support comes from those who are both more devout and better off (Iannaccone, 1997). If religiosity were constant, the distribution of income among the religious would have no effect on the total contributions to religious organizations: as inequality rises, larger donations from the wealthy faithful would be offset by smaller donations from everyone else. However, if rising inequality increases the religiosity of the rich along with their incomes, as argued above, then rising inequality will result in larger total contributions, increasingly concentrated among wealthier donors—exactly what has been observed in the United States in recent decades as economic inequality has grown (see, e.g., Chaves, 2004:36–37). Of course, as their total contributions rise, religious organizations are better able to retain their existing members, recruit new ones, and deepen their members' faith (Iannaccone, Olson, and Stark, 1995). In societies with higher levels of inequality, then, those among the rich who adopt religious beliefs and wish to disseminate them will not only tend to be more numerous, they will also tend to be more successful. The relative power theory therefore predicts that higher inequality will result in higher religiosity among all members of society regardless of their incomes.

Despite a long history of theorizing, there has been virtually no empirical work directly addressing the relationship between economic inequality and religiosity. One exception is a brief treatment by Norris and Inglehart (2004:107–08), who found a positive bivariate relationship between income inequality and the average frequency of prayer in a cross-section of 14 postindustrial societies. The extremely limited size and scope of the sample, the single indicator of religiosity, and the lack of controls leave substantial questions regarding the reliability of this analysis. Most importantly, however, the use of aggregate data prevents any examination of the distinct predictions that the deprivation and relative power theories make for individuals of differing incomes.[1] Whether higher inequality increases demand for religion only among the poor or if it also increases religion's attraction to the rich remains unanswered.

[1]Another brief treatment is found in the recent work of Ruiter and van Tubergen (2009), which does examine individual-level data in a cross-section of 60 countries but still does not include the interaction between inequality and income needed to test the alternate predictions of the deprivation and relative power theories. Moreover, the measure of religiosity employed, whether respondents reported attending church at least weekly, provides an even more limited glimpse of religiosity than the eight-point scale of prayer frequency that Norris and Inglehart (2004) used.

Inequality and Religiosity in Comparative Perspective

We therefore turn to a test of whether either of the two theories regarding the effects of economic inequality can account for the variation in religiosity observed across countries and over time. To do so, we combine cross-national survey data on religiosity collected in the five waves of the World Values Survey and three waves of the European Values Survey (WVS/EVS) from 1981 to 2007 with data on economic inequality from the Standardized World Income Inequality Database (SWIID). The resulting data set includes well over 200,000 individual respondents in more than 175 society-year contexts in 76 different societies.

Religiosity is multifaceted and encompasses religious identification, religious attachment, religious behavior, and religious beliefs. The WVS/EVS incorporates a wide variety of questions that tap many aspects of religiosity, although not all questions were asked in all societies and years.[2] These items are closely related, but to test for differences in inequality's effects on different aspects of religiosity and reduce uncertainty in the robustness of the results, we report analyses of all 12 WVS/EVS measures of religiosity asked in a broad sample of societies and years.

Not surprisingly, these measures reveal considerable variation in religiosity across societies and over time, with respondents in Communist and ex-Communist countries typically reporting the lowest average levels and those in predominantly Muslim countries often virtually unanimous in providing the most religious response. For example, 70 percent of all WVS/EVS respondents answered affirmatively when asked if they consider themselves to be religious people, but fewer than 5 percent of the Chinese surveyed in 1990—and nearly 99 percent of the Egyptians surveyed in 2000—did so. The other variables evidenced similar but not identical patterns: the bivariate correlations of the averages of these measures across society-years range from as high as 0.963 (between the importance of religion and the importance of God to one's life) to just 0.632 (between religious self-identification and belief in an afterlife).

To determine whether economic inequality can explain these differences in religiosity across individuals and their societies, we turn to the SWIID for data. Until recently, research on the effects of inequality was hampered by a lack of comparable data (Neckerman and Torche, 2007:349). Based on income inequality data from UNU-WIDER (2008), the Luxembourg Income Study (2009), and additional sources, the SWIID maximizes comparability across the largest possible sample of countries and years (Solt,

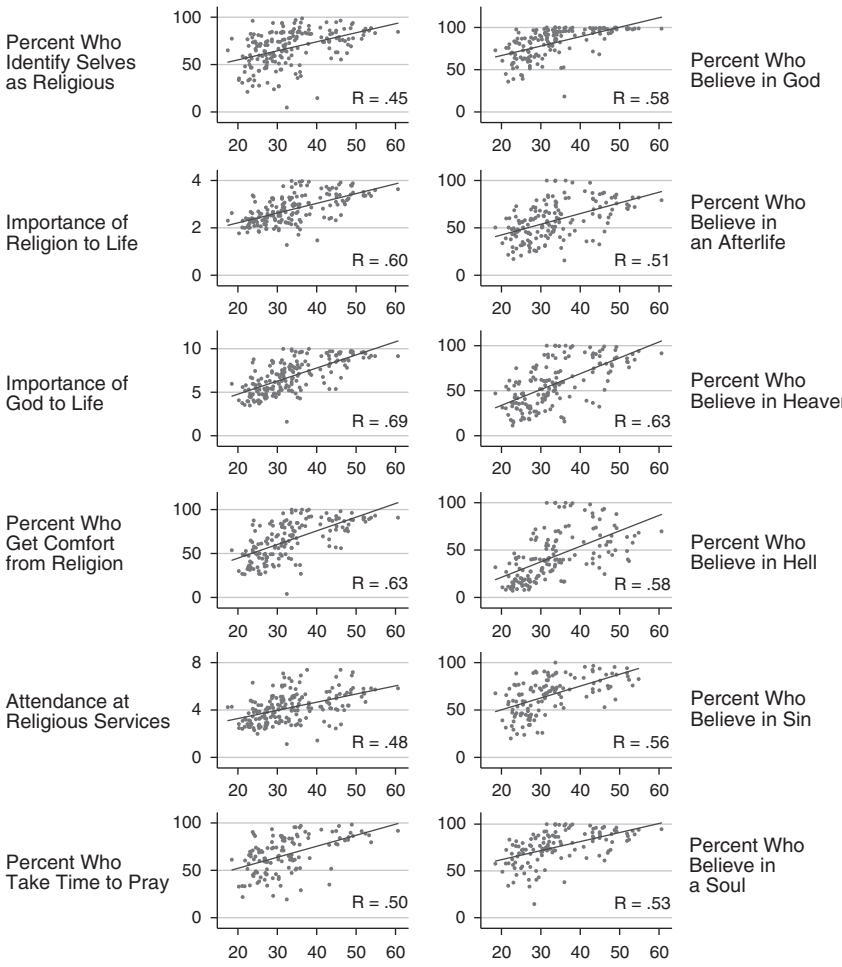
[2]European and World Values Surveys Four-Wave Integrated Data File, 1981–2004, v.20060423, 2006. The European Values Study Foundation and World Values Survey Association. Aggregate File Producers: ASEP/JDS, Madrid, Spain/Tilburg University, Tilburg, the Netherlands. Aggregate File Distributors: ASEP/JDS and ZA, Cologne, Germany, and World Values Survey 1981–2008 Official Aggregate v.20090914, 2009. World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: ASEP/JDS, Madrid.

2009). We use SWIID data on the Gini index of inequality in net household income, which has a theoretical range from 0, perfect equality, to 100, perfect inequality. The lowest observed level of income inequality in our data set, 17.5, was found in 1990 in the Slovak lands of then-Czechoslovakia; the highest, 60.6, occurred in South Africa in 2001.

Figure 1 displays the bivariate relationships between income inequality and average religiosity across the society-years in our sample. All the WVS/EVS items display powerful and easily visible connections to income in-

FIGURE 1

Average Religiosity by Income Inequality, WVS/EVS 1981–2007



equality in these data: even the weakest relationship, that of the percentage who identify themselves as religious, exhibits an impressive correlation of 0.45 with income inequality. At the high end, the average importance of God in the lives of a society's members is correlated with income inequality at 0.69, indicating that nearly half the variation across contexts in this variable tracks differences in inequality.

Of course, that societies grow more religious with increasing inequality does not reveal who is growing more religious, and many other factors must also be taken into account. Secularization, the religious economy, and cultural heritage may also influence religiosity across societies and over time. Secularization theory contends that as societies become more economically developed, religiosity declines among their members (e.g., Norris and Inglehart, 2004). We take this possibility into account by controlling for contemporary values of GDP per capita, in thousands of 2005 U.S. dollars and adjusted for differences in purchasing power (Heston, Summers, and Aten, 2009).

Theories about the religious economy suggest two additional potential causes of variation in religiosity (e.g., Stark and Iannaccone, 1994). First, greater government involvement in religion is hypothesized to distort the incentives of religious organizations to meet the spiritual needs of the society; the result is more dissatisfaction and less religiosity (e.g., Chaves and Cann, 1992). We use Fox's (2006) comprehensive measure of overall government involvement in religion to control for this possibility.[3] Second, more religious pluralism is argued to create heightened competition for worshippers, and so more appealing religious options and, in turn, greater religiosity (e.g., Finke, Guest, and Stark, 1996). To test this hypothesis, we employ the index of religious fragmentation calculated by Alesina et al. (2003).

Differences in the cultural heritage provided by the predominant religion also may explain patterns of religiosity across countries (e.g., Norris and Inglehart, 2004). Further, not all the measures we employ are equally pertinent to all religions. Beliefs in heaven and hell, for example, play little to no role in Hinduism, Buddhism, and other Eastern religions and are emphasized in varying degrees across other traditions (see, e.g., McCleary and Barro, 2006:51–53). We therefore introduce a series of dummy variables identifying whether the historically predominant religion of each country was Catholic, Orthodox, Muslim, or an Eastern religion, with a Protestant religious tradition as the reference category. Similarly, a history of Communist rule may have a lasting influence on the religiosity of societies, so we include an additional dummy variable distinguishing current and former Communist countries from the others in our data set.

[3]Information on government involvement is currently available only through 2003; for later years, we used 2003 data. Additional analyses excluding these years yielded identical conclusions.

Finally, because, we are interested in differences between members in each society in addition to differences in religiosity across societies, we consider characteristics of individuals that might shape their religiosity. Controls for a series of individual-level variables are therefore included: age, years of education, household income quintile, gender, marital status, and number of children.

Because the deprivation and relative power theories describe changes in individual attitudes and behavior as a result of the characteristics of their society at a particular time, we test them using multilevel models. Multilevel models are ideal for analyzing observations that are not independent due to clustering within groups (see, e.g., Gelman and Hill, 2007). In our analyses, individuals are clustered within country-years and in turn within countries. For individual i in country-year j in country k, the equation to be estimated is:

$$\begin{aligned}\text{Religiosity}_{ijk} = {} & \gamma_{000} + \gamma_{001}\text{Catholic}_k + \gamma_{002}\text{Orthodox}_k + \gamma_{003}\text{Muslim}_k \\ & + \gamma_{004}\text{Eastern}_k + \gamma_{005}\text{Communist}_k + \gamma_{006}\text{ReligiousPluralism}_{jk} \\ & + \gamma_{010}\text{Inequality}_{jk} + \gamma_{020}\text{GDP/Capita}_{jk} \\ & + \gamma_{030}\text{Government Involvement}_{jk} + \gamma_{100}\text{Age}_{ijk} + \gamma_{200}\text{Education}_{ijk} \\ & + \gamma_{300}\text{Income}_{ijk} + \gamma_{400}\text{Female}_{ijk} + \gamma_{500}\text{Married}_{ijk} \\ & + \gamma_{600}\text{Children}_{ijk} + \gamma_{310}\text{Inequality}_{jk} \\ & \times \text{Income}_{ijk} + r_{0jk} + r_{3jk}\text{Income}_{ijk} + u_{00k}. \end{aligned} \tag{1}$$

This multilevel model includes varying intercepts: the separate error terms for each country (u00k) and country-year (r0jk) allow the average level of religiosity within these units to vary to reflect circumstances in a particular country or year that remain outside the model. Theoretical considerations counsel that one varying slope also be included: in accordance with the interaction between economic inequality and individual income predicted by the deprivation theory, the separate error term for income (r_{3jk}) allows the estimated effect of this individual-level predictor to vary from one country-year to the next. Many of our dependent variables are dichotomous, so we estimated this model using logistic regression for those variables. Similarly, because the importance of religion takes on just one of four ordered values, we employed ordinal logistic regression in that case. For church attendance and the importance of God, linear regression was used (ordered logistic regression analyses of these variables generated substantively similar results). To correct for heteroskedasticity, we calculated robust standard errors.

Finally, we note that interaction terms require particular care in interpretation. The marginal effect of inequality on religiosity for an individual with a given income is calculated as the partial derivative of Equation (1) with respect to inequality: $\frac{\partial \text{Religiosity}_{ijk}}{\partial \text{Inequality}_{jk}} = \gamma_{010} + \gamma_{310}\text{Income}_{ijk}$. That is, the estimated effect on an individual's religiosity of a change in inequality equals

the sum of the estimated coefficient of inequality, γ_{010}, and the product of the coefficient of the interaction between inequality and income, γ_{310}, and the individual's income. The deprivation and relative power theories make distinctly different predictions regarding these coefficients. The deprivation theory predicts that the coefficient of economic inequality, γ_{010}, will be positive and that the interaction between inequality and income, γ_{310}, will be strongly negative so that inequality has a negative effect—or, at most, none at all—on the religiosity of richer individuals. The relative power theory also predicts that γ_{010} will be positive, but maintains that γ_{310} will not be strongly negative: inequality will have a strong positive effect on the religiosity of all people regardless of their incomes.

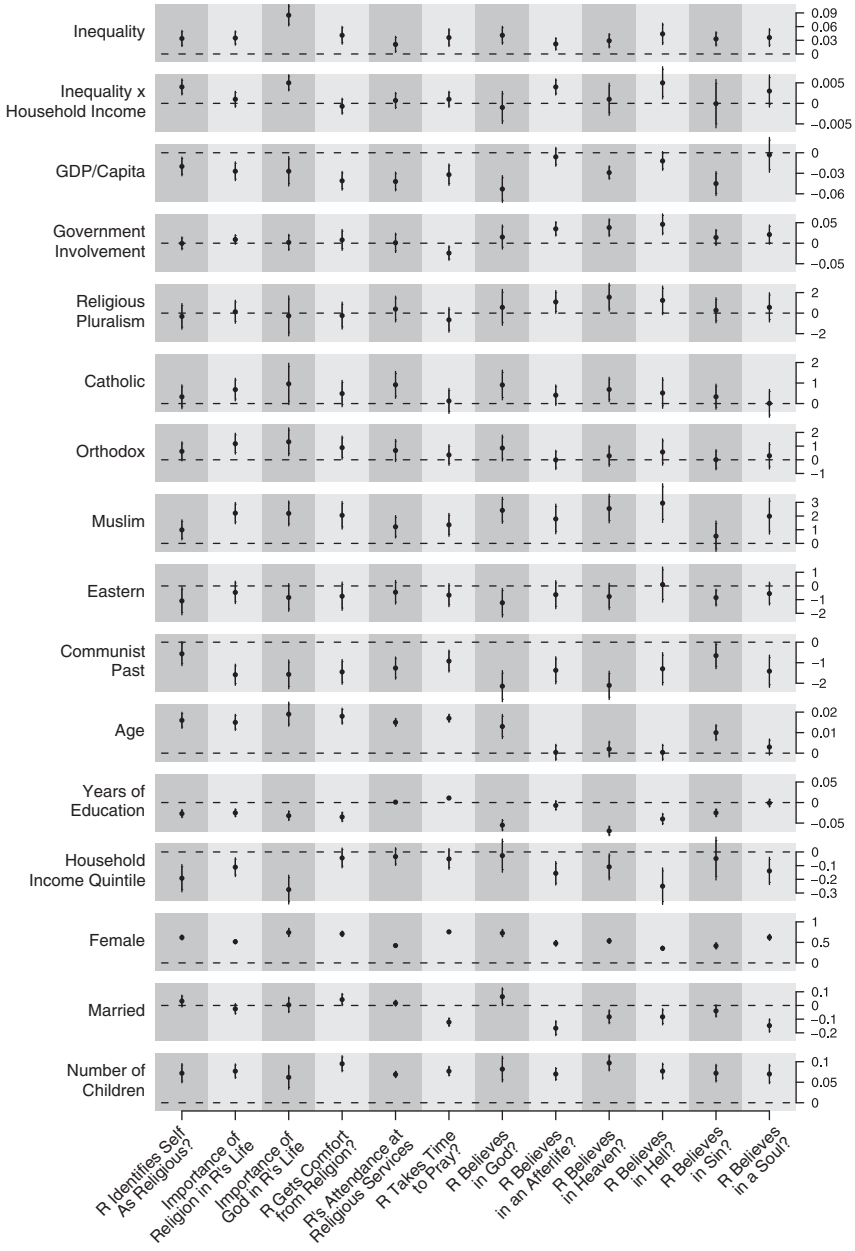
Figure 2 presents the results as a series of dotplots (see Kastellec and Leoni, 2007). Although some scholars have suggested secularization theory may be better reformulated in terms of a decline in the scope of religious authority rather than a decline in religiosity (e.g., Chaves, 1994), these results find considerable support for the hypothesis that, all else equal, people in more economically developed countries generally exhibit lower levels of religiosity than those in less developed countries. Only belief in an afterlife and in hell fail to fit this pattern, and in even these two cases the estimated coefficients are negative.

On the other hand, there is little support in these analyses for the two religious economy hypotheses. Distortions in the market for religion due to government involvement do appear to depress prayer in accordance with expectations, but the estimates for nearly all the other measures of religiosity are positive and sometimes even reach statistical significance. These results coincide with the speculation of Gill and Lundsgaarde (2004:424) that with decreased government involvement in religion, "individuals are correspondingly more free to not only express belief in a minority religion, but non-belief as well." Further research focused on disentangling these contradictory effects would appear warranted. The greater options presumably available with increased religious pluralism at the country level did not yield consistently higher levels of religiosity except in the case of belief in heaven; finer-grained, local data may be necessary to capture the choices actually available within religious markets.

The estimates for the cultural heritage variables confirm that people in societies with a predominantly Muslim religious tradition exhibit considerably more religiosity in nearly every respect than those in countries with Protestant traditions. Historically Catholic and Orthodox societies also displayed statistically significantly higher levels of religiosity relative to traditionally Protestant ones for several measures. Inhabitants of societies with heritages based in one or more of the Eastern religions, on the other hand, were generally estimated to be less religious than the people of historically Protestant countries. These differences were statistically significant for religious self-identification and, not surprisingly, for belief in God and belief in sin. Finally, as expected, those living in Communist or formerly Communist societies exhibit markedly lower levels of religiosity.

FIGURE 2

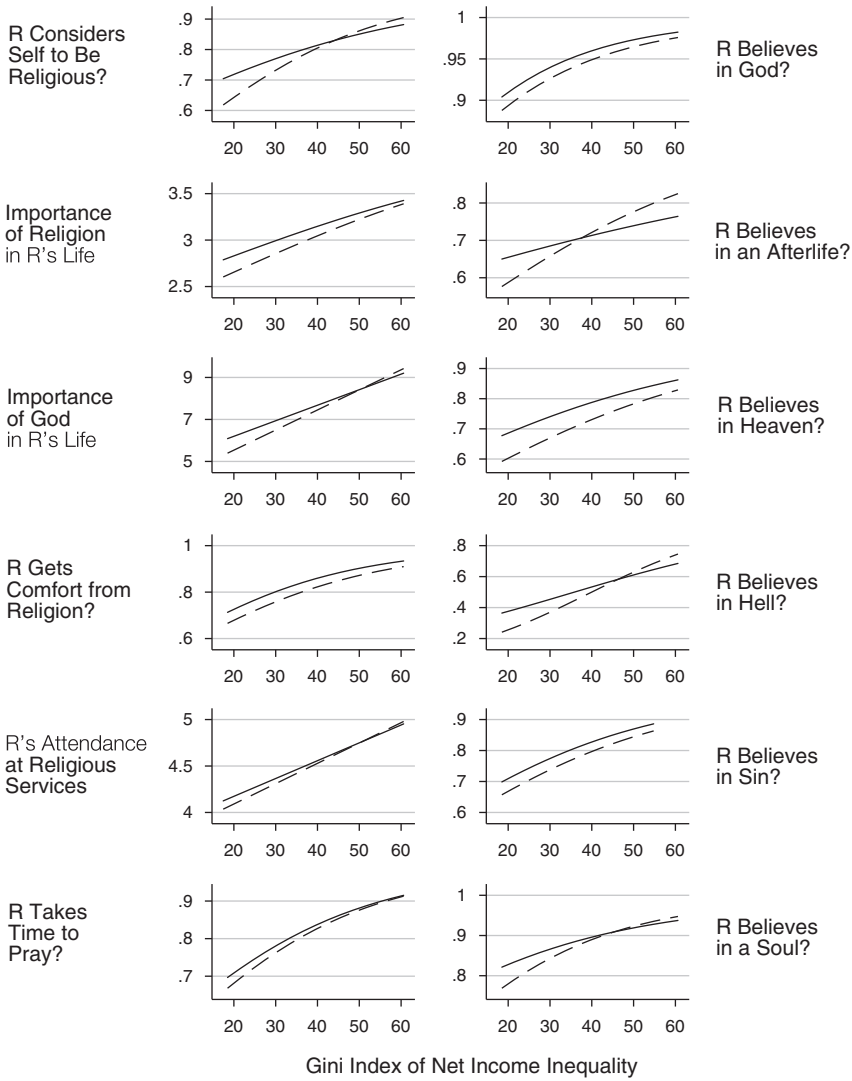
Hierarchical Models of Religiosity



Most striking, however, is the strong support for the relative power theory. Economic inequality is estimated to powerfully increase religiosity and to do so regardless of income. The competing hypothesis provided by deprivation theory that inequality increases religiosity among the poor but decreases it among the rich is not supported for any aspect of religiosity considered, as can be seen in the graphs of Figure 3. These graphs display how the predicted probabilities (or values, for the three ordinal variables) of

FIGURE 3

Estimated Effects of Inequality on Religiosity by Income Quintile



our measures of religiosity change over the observed range of income inequality for those in the poorest and richest quintiles when all other independent variables are held constant at their median values.

With respect to four of our measures, economic inequality has much larger effects on the religiosity of the rich than on the poor. For example, inequality sharply increases the probability that a typical person considers himself or herself to be religious: for those with median incomes, moving from the lowest to highest observed levels of income inequality is estimated to increase this probability from about 60 percent to over 90 percent. Contrary to deprivation theory, but consistent with the relative power theory, the estimated coefficient for the interaction of inequality and income is positive and statistically significant: over the range of inequality, the probability of identifying oneself to be religious increases more for otherwise average people in the richest quintile, nearly 37 percentage points, than it does for those in the poorest quintile, slightly less than 26 percentage points. At extremely high levels of inequality, those with the highest incomes are actually predicted to be more likely to identify themselves as religious than are otherwise similar people with the lowest incomes. The importance of God to one's life, belief in an afterlife, and belief in hell exhibit this same pattern.

For the remaining measures of religiosity, increases in economic inequality have similar effects across all incomes. In each case, changes in inequality are estimated to have a more powerful influence on the richest individuals than on the poorest, but the differences across quintiles are relatively small and do not reach statistical significance. Consider prayer. For otherwise typical individuals in the richest quintile, increasing inequality is estimated to increase the probability of taking time to pray by as much as 25 percentage points; for those in the poorest quintile, the corresponding estimate is 23 percentage points. The effects of inequality across incomes are similar for the importance of religion to one's life, attendance at religious services, and beliefs in God, heaven, and a soul. This same pattern is evident even for receiving comfort from religion and believing in sin, the two measures of religiosity for which the coefficient of the interaction of inequality with income has a negative sign: the small negative coefficients estimated for the interaction in these cases appear to be merely artifacts of the nonlinear model.

These results support only the relative power theory of religiosity. Looking across countries around the world over two decades, higher levels of economic inequality appear to make religion more attractive to the rich and to increase their ability to disseminate religion among the other members of their societies.

Inequality and Religiosity in the United States

It is possible, however, that rather than merely working to maintain existing levels of economic inequality as the relative power theory suggests, greater religiosity in a society could lead to more inequality. The most

obvious means by which religiosity might shape the distribution of economic resources—government by religiously-based parties—has been found to have virtually no impact on redistribution in the advanced democracies (Bradley et al., 2003). Still, compared to others with similar incomes, the religious poor in these countries have been found to generally prefer less redistribution than others with similar incomes and even those among this group who do prefer greater redistribution are nevertheless more likely to support right parties (De La O and Rodden, 2008). Higher levels of inequality may result. There are also many subtler mechanisms by which a greater prevalence of religious beliefs might generate more economic inequality in a society. If religious belief deters asset accumulation as a distraction from heavenly rewards (see, e.g., Keister, 2008), for example, individuals who are more religious may persistently lag behind the rest of their societies in income and so cause higher levels of inequality.

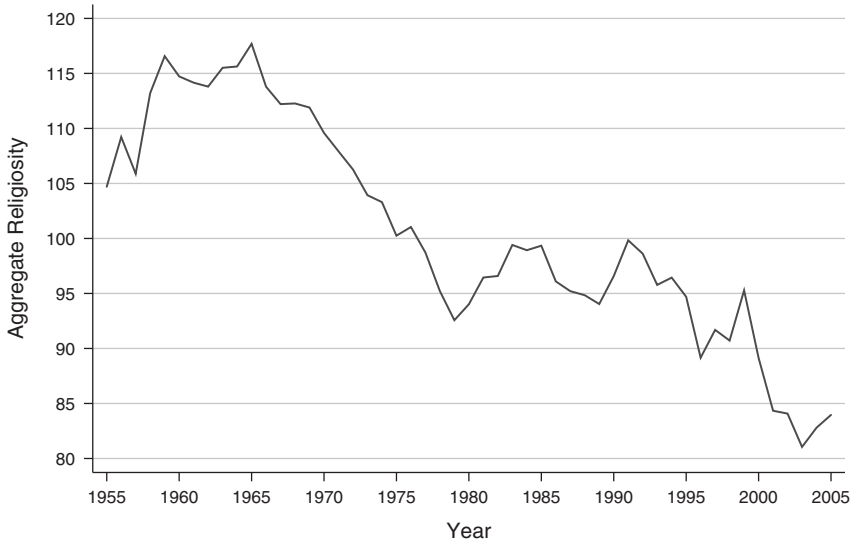
Regardless of the causal pathway, if religiosity increases economic inequality, the strong positive effects of inequality on religiosity found in the analyses presented above would be partially or entirely the result of endogeneity bias. None of the scant earlier research on the topic has considered this possibility. We present a first test by conducting a time-series analysis of trends in the United States over the past half-century.

We model the dynamics of religiosity and inequality in the United States from the mid-1950s to the present. The case is particularly well suited for our analysis: available data indicate that religiosity has varied substantially over this period. Missing data preclude us from analyzing individual aspects of religiosity as we did comparatively, but Grant's (2008) Aggregate Religiosity Index (ARI) makes a time-series analysis possible by drawing on the multiplicity of available survey questions to create a single indicator of aggregate religiosity for each year over a long period of time. The ARI both compensates for missing data and offers high content validity, incorporating information on both religious attitudes, such as feelings of closeness to God, as well as religious practices, such as frequency of prayer and church attendance. As can be seen in Figure 4, aggregate religiosity in the United States surged during the "religious revival" of the 1950s and early 1960s then declined until the late 1970s. The 1980s and much of the 1990s formed a period of rough stability in aggregate religiosity, but religiosity has fallen sharply in the 21st century. Given the steep and nearly unbroken rise in average incomes in the United States since the 1950s, secularization theory can offer at best a partial explanation for this ebb and flow in religiosity. Whether trends in economic inequality can help explain the changes in religiosity over this 50-year period poses a formidable test of the relative power theory.

A second advantage of studying religiosity in the United States is that throughout the period examined, the U.S. government has not compromised the freedom to practice the religion of one's choice to any significant degree and a wide range of religious options has been available. Therefore,

FIGURE 4

Aggregate Religiosity in the United States, 1955–2005



the factors suggested by theories of religious markets have been held largely constant, as has, of course, the historically Protestant cultural heritage of the United States. This means that among the other theories for variation in religiosity, only secularization remains to be accounted for within our model. As above, the secularization theory is tested using data on economic development measured as GDP per capita in thousands of 2005 dollars (Heston, Summers, and Aten, 2009). We measure income inequality using data from the U.S. Census Bureau. The Gini index data from the Census are not without some shortcomings: they measure inequality only across families rather than all households, and their income measure excludes capital gains (but includes government transfers) and is before taxes. These data, however, constitute the only available series on inequality that covers the entire five-decade period we examine, from the surge in religiosity in the late 1950s through the drop that marked the turn of the millennium.[4] Together with the ARI, these data allow us to explore the dynamics of religiosity and inequality and so clarify the direction of causation.

To capture the dynamics of religiosity and inequality in the United States, we employ a statistical method known as vector autoregression. Vector autoregression, or VAR, is used widely in the econometrics literature and is the preferred modeling strategy when the direction of causality between

[4]The Census data are available at ⟨http://www.census.gov/hhes/www/income/histinc/f04.html⟩.

variables is in question. VAR imposes minimal assumptions, allowing the data to speak on whether past and present quantities of one variable predict future values of another (see, e.g., Enders, 2003) and like other models that include a lagged dependent variable as a predictor, is robust to omitted variable bias (see, e.g., Keele and Kelly, 2006). For our purposes, we focus particular attention on the causal relationship between religiosity and inequality.

Our model explores the nature of the relationships between religiosity, inequality, and economic development over a half-century. All variables are considered potentially endogenous: the estimation of the first equation of the model treats religiosity as the dependent variable, the second predicts the Gini index of income inequality, and the third explores changes in per-capita GDP. In other words, this series of equations examines if, contrary to our interpretation of the cross-national analysis as evidence that inequality increases religiosity, the relationship actually is the reverse or is reciprocal, with levels of religiosity and inequality affecting each other simultaneously.[5] The VAR we employ can be written as follows:

$$\begin{aligned}
\text{Religiosity}_t &= a_{10} + a_{11}\text{Religiosity}_{t-1} + a_{12}\text{Inequality}_{t-1} \\
&\quad + a_{13}\text{GDP/Capita}_{t-1} + e_{1t} \\
\text{Inequality}_t &= a_{20} + a_{21}\text{Religiosity}_{t-1} + a_{22}\text{Inequality}_{t-1} \\
&\quad + a_{23}\text{GDP/Capita}_{t-1} + e_{2t} \\
\text{GDP/Capita}_t &= a_{30} + a_{31}\text{Religiosity}_{t-1} + a_{32}\text{Inequality}_{t-1} \\
&\quad + a_{33}\text{GDP/Capita}_{t-1} + e_{3t}.
\end{aligned} \tag{2}$$

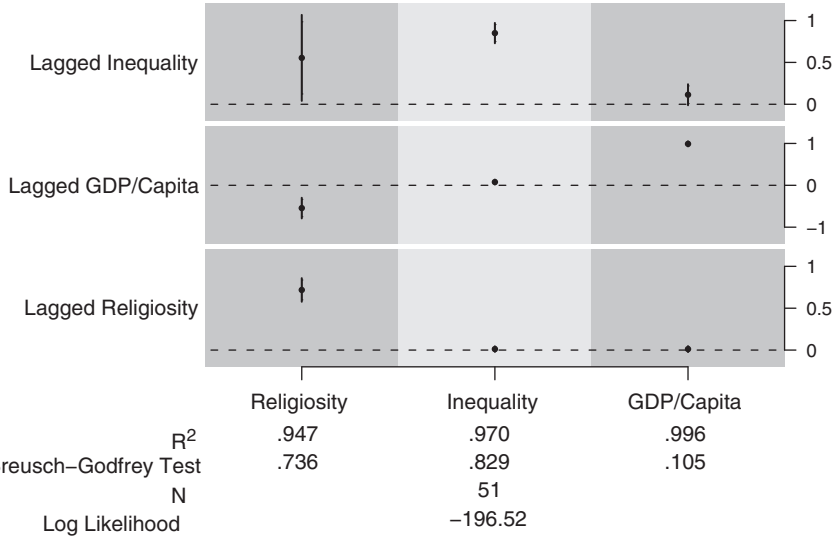
We focus particular attention on the results of the models with religiosity and inequality as the dependent variables. The relative power theory predicts that as income inequality grows, religiosity will increase, that is, that a_{12} will be positive. If greater religiosity results in more inequality, a_{21} will be positive. Secularization theory maintains that as average incomes increase, religiosity will decline; a_{13} therefore should be negative.

Figure 5 presents the VAR analysis. The model's fit is very good, not surprising given the inclusion of past values as predictors for each dependent variable, and the Breusch-Godfrey Lagrange multiplier test (the favored diagnostic when using lagged dependent variables) indicates that the residuals are well-behaved. We turn, then, to the results. The findings bolster those of the comparative analysis presented above. First and foremost, as

[5]To find the most appropriate specification, we conducted a series of tests. The SBIC, HQIC, and FPE criteria indicate that a lag of one year—rather than a longer period—is most appropriate, which has the incidental benefit of rendering the regression coefficients directly interpretable. Augmented Dickey Fuller tests fail to reject the null hypothesis of a unit root at standard levels of statistical significance. The Johansen (1988) procedure identified no co-integrating vectors, and we therefore estimate a VAR in levels over the alternate error-correction framework.

FIGURE 5

VAR of Religiosity and Inequality in the United States, 1955–2005



	Religiosity	Inequality	GDP/Capita
R^2	.947	.970	.996
Breusch–Godfrey Test	.736	.829	.105
N		51	
Log Likelihood		–196.52	

predicted by the relative power theory, increases in inequality in one year predict substantial gains in religiosity the next. The second column of results reveals that there is no evidence of causation in the opposite direction; past values of religiosity do not predict future values of inequality. Inequality would appear to drive religiosity, and not the reverse. Finally, and also consistent with our cross-national results, is the support found for secularization theory. Holding inequality constant, gains in per-capita GDP are estimated to depress subsequent levels of aggregate religiosity. It is worth noting, however, that at least in the United States during this period, such gains were estimated to predict very small but statistically significant increases in inequality the following year, so their total negative effect is somewhat smaller than their direct effect.

Conclusion

Although religiosity has long been linked to economic inequality, little empirical research has directly examined the relationship. The analyses presented in this article demonstrate that inequality has a powerful positive effect on the religiosity of all members of society regardless of income and so lend support to the understanding provided by the theory of relative power: religion may serve as a comfort to the poor as deprivation theory suggests, but it is also and more importantly a means of social control for the rich.

These findings illuminate an empirical puzzle that has been central to many debates in the sociology of religion in recent years: Why have religious attitudes and beliefs retained their relatively large importance in the United States while declining dramatically in other advanced societies? The differences in religiosity across the Atlantic have been taken as decisive evidence against theories of secularization and in favor of theories based on the religious market (e.g., Stark and Iannaccone, 1994). Neither conclusion appears warranted. The results of our comparative analyses indicate that religiosity is much higher in the United States than in western Europe primarily because inequality is much greater there, making wealthy individuals more likely to adopt religion to justify their privilege and giving them more power to spread religious belief throughout their society. That the ebb and flow of religiosity in the United States appears to have been strongly influenced by falling and rising inequality over the past half-century further underscores this point.

This work also makes an important contribution to our knowledge of the relationship between economic inequality and redistribution. In particular, it helps explain why economic inequality persists even in democratic societies. Because the citizen with the median income can form a majority with everyone poorer than him or her in favor of redistributive policies that provide benefits to the citizen that are equal to the efficiency losses due to taxation, and, for a given average income, rising inequality reduces the median income, democracies could be expected to respond to higher inequality with greater redistribution (e.g., Meltzer and Richard, 1981). Empirically, however, they do not consistently do so (e.g., Bénabou, 1996). The findings presented here suggest that one reason is that many wealthy individuals, rather than simply allowing redistribution to be decided through the democratic process as such median-voter models assume, respond to higher levels of inequality by adopting religious beliefs and spreading them among their poorer fellow citizens. Religion then works to discourage interest in mere material well-being in favor of eternal spiritual rewards, preserving the privileges of the rich and allowing unequal conditions to continue.

The results of this work reinforce the importance of understanding religion and religiosity as part of larger patterns of power and powerlessness. Religion is profoundly social, and additional research continues to be needed to better comprehend how it relates to broader social structures.

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