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# THE EFFECT OF RELIGIOSITY ON INCOME INEQUALITY

**PRIYANKA PALANI**

*Many studies have investigated the influence of religion on general economic attitudes. This paper aims to go beyond those studies by considering a very specific indicator of the fairness of an economy: income inequality. The conjecture is that populations with higher levels of religious mobilization will have correspondingly high levels of income inequality, due to the tendency of believers to look to religion as an explanation for all phenomena that are not easily understood.*

## I. Introduction

Religion plays a role that varies greatly across populations, countries, and sects. Yet all religions share a crucial quality that has allowed them to persist throughout history and garner a following of millions of believers. Religious dogma has the ability to explain that which is not easily understood through a belief system backed by little to no rational or evidentiary support. Moreover, this attribute unique to religion serves not only to explain but to justify situations. As a result, believers use 'God's will' as a legitimate explanation for irrational situations. Embedded within this explanation also lies justification—the volition of god is believed to be inherently 'right.' Consequently, religion permits many adherents to accept situations purely because 'things are as they should be.' This becomes especially significant when those situations are determined to be unjust or undesirable.

Hume and Freud are just two among many scholars who believe religion serves as a "mechanism for people to ward off forces that they could not rationally explain."[1] This paper aims to investigate the influence of religion as a coping mechanism for populations plagued by economic instability and severe wealth inequalities. It is very possible that high

levels of (1) religious mobilization and (2) significance of god permits members of these populations to accept their economic instability and refrain from questioning the fairness of market economics or governmental policies. This can be true at both ends of the spectrum – those who benefit from the inequality as well as those who are impoverished by it. To fully comprehend how a relationship can exist between the two seemingly unrelated variables of religiosity and income inequality, a thorough discussion of the potential causal mechanism behind this predicted relationship is needed.

## II. Theory

*Religion as an Opiate*

There are numerous ways in which religion permits believers to be far more accepting of a life of perpetual economic hardship. Most effective is its ameliorative quality—when faced with suffering, people have the choice either to remove the conditions causing the suffering or to change their perception of it.[2] Religion gives the opportunity to choose the latter option, which may be preferable for a number of reasons. Marx's famous and widely misconstrued statement equating religion to the "opium of the people" was a metaphorical way of describing how the promise of rewards in the afterlife numbs the less fortunate to the reality of their existence.[3] In this way, religion can sometimes function as a force which preserves the status quo by reducing or eliminating incentive to embark upon the great challenge of improving the present conditions of society. Belief in god may produce unwillingness in people to assume the responsibility of evaluating, questioning, and improving upon the shortcomings of their state.

*Why Income Inequality?*

Out of the many possible indicators of economic fairness, income disparity is the most useful for this study because the data is reliable and in a form well suited for an OLS regression. However, its utility does not end at the empirical level. According to Jim Cornehls, the U.S. is one of many countries in which law and social privilege allow those who own and control productive assets to receive a disproportionate share of society's income and wealth. As proof, he offers the following telling statistic: decades ago, corporate CEOs in the U.S. received an income 40 to 60 times that of an assembly line worker. It is debatable whether or not they were 40 to 60 times more productive than the average line worker. Today, these CEOs receive compensation 400 to 600 times that of an assembly line worker, making it much more difficult to argue that compensation is a function of productivity. If CEOs are in fact ten times more productive than they were 20 to 30 years ago, this would imply a 17% annual growth rate in CEO productivity. The actual rate averaged only slightly more than 1%.

The purpose of this digression from the religion discussion is to reiterate that income disparity is in fact an accurate measure of the "fairness" of the economy. High levels of inequality are an indication that income is not proportional to productivity. Therefore, it can be argued that in order for high levels of income disparity to exist, the members of that economy must allow serious shortcomings to go unaddressed, and religion may be a reason for their lack of action.





*Superstition over Reason*

Although the empirical aspect of this paper utilizes the specific variable of income inequality, the theory considers the effect of religiosity on the general economic health of a country and, more broadly speaking, on the level of advancement of that country. Ingersoll was steadfast in his conviction that the superstitious element of religion acted as a huge impediment for the advancement of societies because of its powerful ability to compel people to rely on irrational, as opposed to rational, methods. Religion prescribes rites and rituals that are not based on reason but instead are based on superstition. Yet, devout followers utilize religion as a means to resolve conflicts and to improve their lives. "The energies of man are wasted in a vain effort to secure the protection of the supernatural. Credulity, ceremony, worship, sacrifice, and prayer take the place of honest work, of investigation, of intellectual effort, of observation, of experience. Progress becomes impossible." As evidence of the destructive power of this "monster [superstition]," he cites the downfalls of Italy, Spain, and Portugal; demises that resulted from their steadfast adherence to religion in a time when other countries began take a greater interest in science. While the influence of religion in today's world is certainly not as strong as it was then, these convictions may still be enough to inhibit overall economic progress.

*Christian Guilt and Significance of Suffering*

Specific teachings preached by Christianity may also explain the willingness of some to accept an unjustified economic situation. This religion asks its followers to strive to live by the standards to which Jesus Christ adhered. Nietzche argued that this "perfect Unegoismus (unegoism)" is impossible for humans to achieve since selfishness is an unavoidable trait in humans.[6]

Due to the strict adherence to the standards of Jesus Christ, many Christians develop an inferiority complex that results from a failure to meet these standards. As a result, Christians have a skewed perception of the idea of "fairness". This can also lead them to believe that their lower economic status is the consequence of personal deficiencies instead of the result of inherent flaws found within the system. In certain sects of Christianity, the concept of suffering due to personal guilt is a pervasive one.[7] Mainstream Christianity takes a relatively moderate stance and instead asserts that suffering is a test of faith. What is consistent throughout is that all forms of Christianity contain a central idea which offers either justification or reward for suffering. The belief that suffering is either deserved or will be rewarded in the afterlife can be enough to reduce the incentive to question the root of economic suffering.

*It's A Blessing to be Rich*

Though religiosity certainly plays a role in determining the perspective of the economically underprivileged, the same dogma can be applied to the rich and wealthy. Certain principles in the aforementioned sects of Christianity offer loopholes that ameliorate feelings of either guilt or responsibility for economic privilege. For example, Calvinist dogma declares that god rewards good and punishes evil not just in the afterlife, but also in the present life.[8] Though the complacency exhibited by those at the bottom of the income ladder can be attributed to their lack of economic influence to

rectify the system, the same excuse cannot be applied to those at the top of the income ladder. The wealthy not only control the means of production, but they are also more like to be aware of the unjustness of the extreme income inequality. Yet religion allows the economically privileged to justify their position by attributing their fortune to the favor of the almighty.

The other inference taken from this principle is that poverty is god's punishment and cannot be rectified by income redistribution; rather, it is up for the poor to get themselves back into god's good graces. Daleiden provides an example this thought process: "But as for substantive income redistribution, or even government aid to alleviate poverty, heaven forbid! It would undoubtedly be against God's plan."[9] Viewed in this way, it is easy to see how belief in an all-powerful being with an indisputable "plan" can allow for all members of an economically unbalanced society to remain entrenched within an unjust system.

*A Note on Causality*

Throughout the discussion of the theoretical mechanism behind this paper, the causal relationship between the two variables was shown to work in either direction. Income inequality can slowly increase in a population characterized by pre-existing high levels of religious mobilization; in this case, religiosity is the driving force not because it causes the increased disparity but because religion prevents income inequality from being addressed. On the other hand, high levels of income inequality can cause members of that society to look to religion for comfort or for an excuse accept the income gap.

Unfortunately, the empirical test in this paper does not resolve the issue of causality, but this should not detract from the significance of finding a significant correlation between the two variables. Once correlation has been established, further individualized studies can be carried out to determine the leading factor.

## III. Research Design

The possible existence of a correlation between religiosity and income inequality will be determined using an OLS regression. The hypothesis stemming from my theory is as follows:

> *Hypothesis 1:* Populations with higher levels of religiosity also have higher levels of income inequality.
> *Null Hypothesis:* There is no relationship between religiosity and income inequality.

## IV. Data Description

*Independent Variable – Religiosity*

The *World Values Survey* (WVS) is a leading global evaluation of socio-cultural, economic, and political conditions. The WVS Association has interviewed representative





samples from over 80 countries on all six continents, questioning the role of religion in the respondents' lives. Two of these questions provide the data needed to create a variable that measures the religiosity of a population. The question "How important is God in your life?" asks respondents to choose a value on a scale from 1 (not at all important) to 10 (very important). This question proves more useful than the more basic "Do you believe in God?" because it is not simply a belief in the existence of god that significantly affects people perceive their life situations; instead, the measure of religiosity quantifies the intensity of that belief. The measure of religiosity is calculated as the average response for each country. The second question, "Are you a religious person?" has three possible responses: "A religious person," "Not a religious person," and "A convinced atheist." This variable is calculated as the percent of the total respondents that answered "A religious person."

*Dependent Variable – Income Inequality*

Deininger and Squire's *A New Data Set Measuring Income Inequality* (1996) improves upon existing data by supplementing the average Gini coefficient for each country with the ratio of the top quintile's share of income to the bottom quintile's share. The first set of models (1 through 5) will use average Gini as the dependent variable, and the second set (6 through 10) will use the ratio. The data set specifies the first and last years of observation and includes 54 countries that were also interviewed in at least one of the four waves of the WVS. The 40 countries that were interviewed within five years of the last year observation are used for this paper.

*Confounding Variables*

*People's Opium? Religion and Economic Attitudes* (Guiso et al 2003) also measures the impact of religion on economic attitudes, providing a useful guide to those factors that need to be taken into consideration as confounding variables. Fortunately, the WVS provides the data needed to construct these variables.

Education is given as the age in years at which the respondent completed his/her highest level of education. The amount of education received certainly has an influence on religious beliefs and the intensity of those beliefs as well as the perception of economy and government. Age also has an influence on these factors, with older people tending to be more religious and trusting of the government.

The region of Eastern Europe is of particular interest because of the influence Communism has asserted over the topics this paper specifically investigates: religion and income disparity. Region will be controlled for using a dummy variable, 1 for Eastern Europe and 0 for all other countries, to determine if the conditions unique to the region have some effect on the overall correlation.

Likewise, advanced economies must be controlled for because attributes specific to strong economies can influence both income inequality and religious adherence. To account for this influence, highest gross national income per capita (top ten as identified by the World Bank), advanced economies (identified by the IMF), and the OECD will all be controlled for separately as dummy variables, 1 if the country is a member of that group and 0 if it is not.

*Estimated Equation – OLS Regression*

**Model 1**

$$Ave\ Gini = \alpha + \beta_1 God + \beta_2 Religious + \beta_3 Age + \beta_4 Education + \beta_5 GDP$$

Models 2 through 5 will follow the same equation as Model 1 with the additional controls of Eastern Europe (Model 2), high income (Model 3), advanced economy (Model 4), and OECD member (Model 5).

**Model 6**

$$Ratio = \alpha + \beta_1 God + \beta_2 Religious + \beta_3 Age + \beta_4 Education + \beta_5 GDP$$

Models 7 through 10 will follow the same equation as Model 6 with the additional controls of Eastern Europe (Model 7), high income (Model 8), advanced economy (Model 9), and OECD member (Model 10).

**Table 1: Descriptive Statistics**

| Variable | Definition | Obs. | Mean | Std. Dev. | Min. | Max. |
|---|---|---|---|---|---|---|
| Ave Gini | Coefficient, Deininger and Squire 1996 | 49 | 35.77 | 9.32 | 20.5 | 62.3 |
| Ratio | Ratio of top quintile's share of income to bottom quintile's share | 48 | 8.02 | 6.12 | 2.76 | 32.11 |
| God | How important is God on 1-10 scale; average response | 48 | 6.87 | 2.16 | 3.54 | 9.97 |
| Religious | Are you a religious person; % that answered yes | 48 | 64.86 | 19.65 | 21.3 | 98.4 |
| Age 50 | % respondents age 50+ years | 49 | 29.45 | 10.11 | 2.6 | 43.1 |
| Education | Age at which highest education level completed | 43 | 17.37 | 1.51 | 12.4 | 20.7 |
| GDP | Change in GDP for relevant year | 47 | 0.84 | 5.06 | -14.6 | 8.6 |
| Eastern Europe | Country is in Eastern Europe; 1 if yes, 0 if not | 49 | 0.27 | 0.45 | 0 | 1 |
| High Income | World Bank's 10 countries w/ highest gross national income per capita; 1 if yes, 0 if no | 49 | 0.16 | 0.37 | 0 | 1 |
| IMF Advanced | IMF's list of advanced economies; 1 if yes, 0 if no | 49 | 0.37 | 0.49 | 0 | 1 |
| OECD | OECD member; 1 if yes, 0 if no | 49 | 0.45 | 0.50 | 0 | 1 |





**Table 2: Effect of Religiosity on Average Gini**

| Dependent: Average Gini | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| God | 3.29 (1.33)** | 3.56 (1.22)*** | 3.29 (1.35)** | 3.41 (1.47)** | 3.45 (1.42)** |
| Religious | -0.17 (0.13) | -0.21 (0.12)* | -0.17 (0.13) | -0.17 (0.13) | -0.17 (0.13) |
| Age 50+ | -0.18 (0.16) | -0.12 (0.14) | -0.17 (0.16) | -0.19 (0.17) | -0.199 (0.17) |
| Education | -1.46 (0.79) | -1.45 (0.72)* | -1.4 (0.81)* | -1.47 (0.81)* | -1.40 (0.81)* |
| GDP | 0.33 (0.27) | -0.37 (0.35) | 0.35 (0.28) | 0.29 (0.34) | 0.29 (0.29) |
| Eastern Europe | | -12.75 (4.58)*** | | | |
| High Income | | | -0.60 (3.32) | | |
| IMF Advanced | | | | 0.82 (3.77) | |
| OECD | | | | | 1.29 (3.37) |
| Constant | 55.31 (17.95)*** | 56.67 (16.41)*** | 55.16 (18.23)*** | 55.07 (18.25)*** | 53.37 (18.88)*** |
| No. of Obs. | 40 | 40 | 40 | 40 | 40 |

Note: * p < 0.10, ** p < 0.05, *** p < 0.01

I ran five regression models to measure the effect of religiosity on the average Gini. Model (1) measures the effect while controlling for age, education, and GDP. Models (2) through (5) do the same with the additional controls formed as the previously mentioned dummy variables. In all five models, the resulting effect of the 'importance of god' variable on the average Gini coefficient is in accordance with Hypothesis 1. Model (1) shows that every one unit increase on the 1 to 10 scale measuring the importance of god corresponds with an increase of 3.29 percentage points for the average Gini coefficient. In other words, as god becomes more important to the population, the level of income disparity increases. The correlation remains positive at the 95% confidence level in all models except Model (2), which was run at the 99% confidence level. However, all results for the religious variable do not provide any support of Hypothesis 1 as they lack magnitude and statistical significance, and the effect is in the opposite direction of what was hypothesized.

Model (2) is noteworthy as the effect of controlling for the region of Eastern Europe produces a coefficient with a large magnitude at the 99% confidence level. The direction of this effect reveals that the level of income inequality decreases when moving from countries outside of Eastern Europe to those within. This is not surprising given the region displays the lasting effects of former Communist rule.

**Table 3: Effect of Religiosity on Ratio**

| Dependent: Ratio | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
|---|---|---|---|---|---|
| God | 2.32 (0.98)** | 2.47 (0.94)*** | 2.32 (0.99)** | 2.38 (1.08)** | 2.31 (1.04)** |
| Religious | -0.12 (0.09) | -0.14 (0.09)* | -0.11 (0.098) | -0.12 (0.097) | -0.12 (0.096) |
| Age 50+ | -0.004 (0.11) | -0.03 (0.11) | -0.1 (0.12) | -0.01 (0.13) | -0.002 (0.12) |
| Education | -0.979 (0.58) | -0.98 (0.56)* | -1.02 (0.599)* | -0.98 (0.59) | -0.98 (0.60) |
| GDP | 0.009 (0.195) | -0.41 (0.27) | -0.03 (0.20) | 0.03 (0.25) | -0.006 (0.21) |
| Eastern Europe | | -7.3 (3.5)*** | | | |
| High Income | | | 1.01 (2.43) | | |
| IMF Advanced | | | | 0.37 (2.77) | |
| OECD | | | | | -0.089 (2.48) |
| Constant | 17.47 (13.21) | 18.31 (12.59) | 17.76 (13.40) | 17.36 (13.43) | 17.60 (13.91) |
| No. of Obs. | 39 | 39 | 39 | 39 | 39 |

Note: * p < 0.10, ** p < 0.05, *** p < 0.01

Models (6) through (10) also measure the effect of religiosity on income inequality, differing from Models (1) through (5) due to the replacement of the average Gini variable with the ratio of the top quintile's to the bottom quintile's share of income given as an average. Thus, higher values signify greater income inequality. The results are consistent with the previous models, but not as significant. Again they show a positive correlation between importance of god and income disparity at the 95% confidence level. The ratio increases by about 2 to 2.5 percentage points with every unit increase on the god scale. As in the results from Models (1) through (5), the relationship between the religious variable and income inequality is in the opposite direction of what was expected.

The effect of education level on income inequality is consistent across all models: as the average level of education increases, income inequality decreases. The robust quality of the results of this regression is increased by the negligible impact of controlling for those countries that have the strongest economies, whether this is gauged by gross national income per capita, being classified as an advanced economy, or being a member of the OECD. This establishes that the results are not being driven by any particular group of countries and therefore the correlation can be applied to all.

The discrepancy between the effect of the god variable and that of the religious





variable can be explained by going back to the original *World Values Survey* questions that provided the basis for these variables. The 'importance of god' question required the respondents to pick an absolute point on a scale from 1 to 10, producing a much more exact data continuum than would have been produced by simply asking if god was important to them or not. The question regarding religion is not as useful because it only offered three possible responses, two of which apply to non-religious people. Rather than providing some sort of scale along which a respondent could place their level of religiousness, the survey simply asked if they were religious or not, so even those who are only slightly religious were compelled to answer affirmatively. This ultimately makes this question much less revealing about actual level of religiosity than the god question.

## V. Conclusion

The results of the empirical test offer some support for the hypothesis that more religious populations have higher levels of income inequality. Considering the correlation was found on the variable that measured religiosity specifically as the importance of god in daily life, it may be more accurate to hypothesize that it is not religion as a whole but rather just the singular aspect of god which drives the relationship. Establishing the presence of a correlation between these two variables was an important first step in investigating the influence of religion/belief in god on economic trends. Causality cannot be confirmed with these results, but they provide a starting point. Future studies could explore the question of causality through deeper country-level analysis.

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# INTERNAL CONFLICT IN SMALL DEVELOPING STATES

**SIDHANT RAO**

*Developing countries with very small populations are left out of most studies of internal conflict because of the lack of available data for these states. This study uses regression analysis on a sample of 56 small developing states around the world to determine whether they have a lower risk of internal conflict than large states, and attempts to find the conditions and factors that may serve as predictors of conflict within these states. The results indicate that small developing states are less prone to conflict than large states. However, factors that have been causally linked to conflict in large states, namely low economic growth and high dependence on primary commodity exports, do not necessarily explain conflict in small states; high degrees of ethnic fractionalization seems to serve moderately well as a predictor of conflict in small developing states.*

## I. Introduction

Intrastate wars have always been more common than interstate wars, and since the end of the Cold War there has been an increasingly sophisticated body of literature that attempts to identify the conditions that foster and cause internal conflict in countries. Nearly all of the existing studies on this topic, in their formulation and application of theories, have neglected to consider episodes of internal conflict in small developing states or 'microstates.'

One of the most evident reasons for this gap in the literature is the lack of available data for these states. Exact death counts are unavailable for conflicts that occur in small developing states because most of these countries have very few media outlets and receive little global attention. As a result, datasets and theoretical studies that examine episodes