

# **Impacts of Religion on Income in the United States**

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## **Abstract**

This paper studies the effect religion has on income in the United States. The purpose of this study is to examine whether religion has any effect on income, and if so, to analyze whether its impact is negative or positive. Three linear regressions were used to determine the relationship between religion and income. In each regression, religiosity was measured differently to determine what aspects of religion affect income. Results indicate that a belief in God and belonging to a denomination have a positive effect on income. However, with the exception of Catholic and Protestant participants, the effect on income doesn't appear to be statistically significant between denominations.

## **Introduction**

Religion is a highly debated topic around the world. In religions I've participated in, there are claims that living a religious life leads to success in people's personal lives.

Many studies use income as a measure of success, because it is a general indicator of well-being. Bettendorf and Dijkgraaf have looked at how religion influences income in different countries. They found in low-income countries religion has a negative effect on income, whereas in high income-countries the effect of religion on income is positive (2008). They also found in 2011, in the Netherlands specifically, religion decreases income and income negatively affects religion. Similarly, Naveed and Wang (2018) found, on a global scale, the religion practiced by people can have effects on income inequality.

However, success can be defined in many ways beyond just income. Looking at how religion affects different aspects of life can therefore also give us insight into how religion shapes people's experiences and overall success. A study on religious identification and college student success found that a student's religious views are related to indicators of student success (Bowman, et al., 2014). Another aspect of success is marital relationships. Lichter and Carmalt (2009) looked at religion and marital quality among low-income couples and found that faith-based organizations might help couples in developing and maintaining strong marital relationships.

So, my question is, does living a religious life lead to a more successful life for people in the United States of America? In this paper I will discuss religion and its impact on measures of success, specifically income. Analyzing the effect of religion on income will open the door for identifying how religion affects people's welfare. It can also help in determining if there are fundamental differences in the people who choose to practice a religion versus those who don't.

Three linear regression models help answer my question. I find that a person who believes in God is expected to have a higher income than someone who doesn't. Likewise, I find that someone who belongs to a religious denomination is expected to have a higher income than someone who doesn't, however, there is not significant evidence that belonging to a specific denomination will have a positive effect on income.

## **Data**

Data come from the World Values Survey. This survey takes place in a number of countries in different waves, and consists of a series of questions about respondents' religion, values, family, and other similar topics. In order to create a random sample, all countries used random probability samples of the representative adult population to select participants (Inglehart, et al. 2020). I will use data for the United States in the 7<sup>th</sup>, and most recent, wave of the survey from 2017.

Surveys usually have some inherent bias. People aren't always honest in their answers, respondents are only people who had time and were willing to respond to the survey, and most of the data are qualitative. This, of course, is worth noting when considering the reliability of these data. Another potential problem for my analysis could occur because the sample size is small compared to the population of the United States with just 2,596 observations in this data set.

For now, I will use household income as a measure of success because it is available in the data set. The data provide an income scale, where respondents indicated at what level their household fell. The exact numbers corresponding to the scale are unavailable, but 1 indicates the lowest group and 10 the highest, and each decile's income measures are equally spaced. The

results of my analysis will therefore measure change within the scale rather than a change of income itself.

In order to clean the data and make my results more precise, I dropped observations with no response for income, denomination, belief in God, education, and children. Dropping these observations did not affect the distribution of answers, coefficients in the regressions, or statistical significance of variables. The total number of dropped observations is 153, leaving 2,443 observations. The distribution of the remaining respondents' income is shown below.

**Table 1: Distribution of Income Among Respondents**

Income Scale	Frequency	Percent
1	121	4.95
2	119	4.87
3	260	10.64
4	367	15.02
5	566	23.17
6	454	18.58
7	358	14.65
8	143	5.85
9	35	1.43
10	20	0.82
Total	2,443	100

**Table 2: Summary of Income Among Respondents**

Variable	Observations	Mean	Standard Deviation	Min	Max
Income	2,443	5.045	1.881	1	10

The most important set of variables for testing the relationship between income and religion are those dealing with the respondents' religiosity. The coefficient of the variables that measure religiosity will be the key to answering my question. They will show the effect, if any, of religion on income.

The following tables show the distribution of respondents' denominations, and whether respondents reported believing in God or not. This information will provide the basis for measuring religiosity in my linear regression models.

**Table 3:** Distribution of Denominations Among Respondents

Denomination	Frequency	Percent
No Denomination	1,143	46.79
Roman Catholic	572	23.41
Protestant	494	20.22
Orthodox	12	0.49
Jew	45	1.84
Muslim	16	0.65
Hindu	13	0.53
Buddhist	25	1.02
Other Christian	92	3.77
Other	31	1.27
Total	2,443	100

**Table 4:** Distribution of Belief in God Among Respondents

Believe in God	Frequency	Percent
Yes (=1)	1,929	78.96
No (=0)	514	21.04
Total	2,443	100

These tables show about 46.79% of respondents said they didn't belong to a specific denomination. Of respondents belonging to a denomination, Roman Catholic and Protestant together form 43.63% of total responses. This means that the remaining 9.58% of respondents are split among the other 7 denominations. This distribution of denominations may be problematic because there are not a lot of observations for every denomination. The lack of observations could make any estimates about income inaccurate.

Furthermore, in order to control for some of the variation of income, I will also include socio-economic variables, such as years of education, ethnicity, occupation, and age. By adding these variables, the models will be able to account for more of the variation of income, making the independent variables more accurate.

## Methods

To measure the effect of religion on income, I will use the following three linear regression models.

$$(1) \ln(\text{Income Score})_i = \beta_0 + \beta_1(\text{Belief in God})_i + \beta_2(\text{age})_i + \beta_3(\text{age}^2)_i + \beta_4(\text{male})_i + \beta_5(\text{married})_i + \beta_6(\text{children})_i + \beta_7(\text{household})_i + \beta_8'(\text{education})_i + \beta_9'(\text{ethnicity})_i + \lambda_i + u_i$$

$$(2) \ln(\text{Income Score})_i = \beta_0 + \beta_1(\text{Belong to Denomination})_i + \beta_2(\text{age})_i + \beta_3(\text{age}^2)_i + \beta_4(\text{male})_i + \beta_5(\text{married})_i + \beta_6(\text{children})_i + \beta_7(\text{household})_i + \beta'_8(\text{education})_i + \beta'_9(\text{ethnicity})_i + \lambda_i + u_i$$

$$(3) \ln(\text{Income Score})_i = \beta_0 + \beta_1(\text{Roman Catholic})_i + \beta_2(\text{Protestant})_i + \beta_3(\text{Orthodox})_i + \beta_4(\text{Jew})_i + \beta_5(\text{Muslim})_i + \beta_6(\text{Hindu})_i + \beta_7(\text{Buddhist})_i + \beta_8(\text{other Christian})_i + \beta_9(\text{other})_i + \beta_{10}(\text{age})_i + \beta_{11}(\text{age}^2)_i + \beta_{12}(\text{male})_i + \beta_{13}(\text{married})_i + \beta_{14}(\text{children})_i + \beta_{15}(\text{household})_i + \beta'_{16}(\text{education})_i + \beta'_{17}(\text{ethnicity})_i + \lambda_i + u_i$$

To make the results less abstract, the output of these models is the natural log of income. This way, the results will indicate a percentage change within the income scale for a change in the independent variable, instead of a change within the original income scale of 1-10.

The three models are the same except the way in which religion is measured. In Model 1, a dummy variable is used to measure if respondents believe in God and equals one if they do. In Model 2, specific denominations are not specified, but rather whether the respondent belongs to any denomination at all, and equals 1 if so. Model 3 uses a categorical dummy to measure the effect of membership within 11 religious denominations on income, and not belonging to any denomination is omitted.

These three ways of defining religiosity will give insight into which aspects of religiosity have an effect on income. It might be that only a belief in a higher power is needed to effect income. It may also be possible that the teachings of a specific denomination have bigger effects on income than others. Including all three models in my analysis will help in explaining significant impacts on income.

In all three models, the natural log of income is continuous, and each model has the same control variables. I will include a linear and quadratic term for age, creating two variables. Male, married, and children are all dummy variables, and I control for education and ethnicity with categorical dummy variables, and occupation ( $\lambda$ ) fixed effects.

These models will estimate whether a belief in God, or belonging to a specific denomination has an effect on income and thus, if religiosity has an effect on success. Additionally, the use of all three models will indicate which aspects of religiosity impact income. It will be important to note the coefficients in Model 1, 2, and 3 corresponding to the dummy belief in God, the dummy belong to denomination, and each specific denomination, respectively. Further, the most important part is whether these coefficients are positive or negative, and if they're statistically significant.

Some factors in determining income are not included in my models because they were not available in the data set, or they're very difficult to measure. Where the respondent lives could influence income because different cities and states have different minimum wage requirements and different costs of living. Similarly, ability and personality may cause people to get paid more, both are difficult to quantify and are not contained in my data set. However, even with these limitations, I expect the results to provide insight into the success of religious people.

Another potential problem could be caused by selection bias. The respondents of the survey were not randomly assigned a religion. The choice people have to belong to a religion or not, or to believe in God or not, can be affected by many things. The lack of random assignment leads to greater differences in individual characteristics that cannot be easily quantified or included in my models. For example, family religious tradition as well as personal trials and priorities, among other things, could affect both the income and religiosity of an individual. The lack of random assignment would lead to bias in my results.



## Results

**Table 5:** Regression Models for Effect of Religion on Income

VARIABLES	(1) ln(income)	(2) ln(income)	(3) ln(income)
Believe in God (=1)	0.071*** [0.023]		
Denomination (=1)		0.062*** [0.019]	
Roman Catholic			0.089*** [0.024]
Protestant			0.063** [0.025]
Orthodox			-0.024 [0.132]
Jew			0.017 [0.069]
Muslim			0.000 [0.117]
Hindu			-0.043 [0.132]
Buddhist			-0.118 [0.092]
Other Christian			0.038 [0.049]
Other			-0.018 [0.083]
Age	-0.016*** [0.003]	-0.015*** [0.003]	-0.015*** [0.003]
Age Squared	0.000*** [0.000]	0.000*** [0.000]	0.000*** [0.000]
Male (=1)	0.082*** [0.020]	0.075*** [0.020]	0.076*** [0.020]
Married (=1)	0.166*** [0.021]	0.166*** [0.021]	0.165*** [0.021]
People in Household	0.025*** [0.008]	0.025*** [0.008]	0.024*** [0.008]
Number of Children	-0.023*** [0.007]	-0.022*** [0.007]	-0.022*** [0.007]
Constant	1.379*** [0.169]	1.370*** [0.169]	1.410*** [0.171]
Observations	2,443	2,443	2,443
R-squared	0.170	0.170	0.173

Standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The results from Model 1 show that, according to this data, believing in God is statistically significant in estimating a respondent's score on the income scale. Someone who reported they believe in God is expected to have their income increase by 7.1% compared to someone who doesn't believe in God, all else held constant. This finding is significant at the 99% level.

In Model 2 the variable corresponding to whether the respondent belongs to any denomination is significant at the 99% level, indicating that respondents belonging to a denomination are expected to have income 6.2% higher than someone who doesn't belong to a denomination, all else held constant.

Lastly, Model 3 tested the significance of belonging to a specific denomination on income. In this regression, the only denominations that are statistically significant are Roman Catholic at the 99% level, and Protestant at the 90% level. This may be because the majority of respondents belonging to a denomination reported being Roman Catholic or Protestant. Compared to belonging to no denomination, belonging to the Roman Catholic denomination is expected to increase income 8.9% and belonging to the Protestant denomination is expected to increase income 6.3%, all else held constant.

When looked at collectively, these models show that a respondent in this survey is expected to make more income when they believe in God, and when they belong to a denomination. However, it doesn't seem to matter which denomination someone belongs to, just that they have that belonging. It makes sense that the coefficients on both believe in God and belonging to a denomination are significant, because it's likely that people who belong to a denomination believe in God. This does pose an important question though; why would people

who belong to a denomination, or believe in God, appear to be more successful, and why does it not matter which denomination someone belongs to? What makes those people different?

## **Conclusion**

My findings confirm what Bettendorf and Dijkgraaf found in their 2008 study that religion has a positive effect on income in high income countries. I analyzed the effect of religion on income to see if religious people are more successful than non-religious people. I used data from the USA, and found that religious beliefs and denominational belonging have positive effects on income.

There are many possible explanations for why religiosity has a positive effect on income. One idea is that most Western religions encourage their participants to be good citizens. They're encouraged to be productive, get an education, avoid drugs, alcohol, and prison. These teachings likely impact how people choose to live, and lead to a more fruitful life. Another idea is that when someone belongs to a religion or denomination, they likely feel a sense of belonging and purpose, as well as having a support network outside of family. Maybe there's just something fundamentally different about the type of person who chooses to believe in God or belong to a religion. Other explanations have been proposed, but whatever the case, there is room for further research on what makes this difference for religious people.

## Works Cited

- Bettendorf, L.J.H, & Dijkgraaf, E. (2008). *Religion and Income* (No. TI 08-014/3). *Discussion paper / Tinbergen Institute*. Tinbergen Institute. Retrieved from <http://hdl.handle.net/1765/11080>
- Bettendorf, L., & Dijkgraaf, E. (2011). The bicausal relation between religion and income. *Applied Economics*, 43(11), 1351-1363.
- Bowman, N., Felix, V., & Ortis, L. (2014). Religious/worldview identification and college student success. *Religion & Education*, 41(2), 117-133.
- Inglehart, R., C. Haerpfer, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin & B. Puranen et al. (eds.). 2017. World Values Survey: Round Seven – United States Datafile Version: <https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp>. Madrid: JD Systems Institute.
- Lichter, D. T., & Carmalt, J. H. (2009). Religion and marital quality among low-income couples. *Social Science Research*, 38(1), 168-187.
- Naveed, A., & Wang, C. (2018). Can religion explain cross-country differences in inequality? A global perspective. *Social Choice & Welfare*, 50(3), 481–518. <https://doi.org/10.1007/s00355-017-1093-1>