SECULARISM IN LATIN AMERICA? LOOKING AT THE EFFECTS OF

SOCIAL WELFARE AND LEFTIST PARTIES ON RELIGIOSITY

by

Alan Manuel Peña

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SUPERVISORY COMMITTEE:

_____

Dr. Timothy J. Steigenga

_____

Dr. Martin J. Sweet

_____

Dean, Wilkes Honors College

_____

Date

ABSTRACT

Researchers sometimes classify religious organizations as rational actors, arguing that religious organizations attempt to minimize costs and maximize membership. Anthony Gill and Erik Lundsgaarde use the rational actor model to explain organized religion's diminished competitiveness and the correlated increase in secularity against governments with high social welfare programs. They conclude that government welfare programs contribute to increased secularity. Survey data indicates that Chile, Cuba, and Uruguay have significantly higher proportions of secularity relative to the rest of the region. This thesis tests the hypothesis that increased secularity in Chile, Cuba, and Uruguay is caused not only by Gill and Lundsgaarde's social welfare hypothesis, but also by the historical presence of far left parties in these nations. The ideologies of longstanding far left parties are often anti-religious and may contribute to increased secularity, suggesting that leftist parties may be a predictor of increased secularity in a country. Welfare, as times passes, becomes a stronger predictor of decreased religious behavior.

For my parents and grandparents – for teaching me to value the rights and liberty
I have that they lacked in their home countries.

For my future wife – my inspiration.

Para mis padres y mis abuelos – para enseñarme a apreciar las derechas y la
libertad que tengo pero no tuvieron en sus países de nacimiento.

Para mi novia – mi inspiración.

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Tables and Figures

Introduction

My mother arrived here from Cuba in 1965, six years after the Cuban Revolution. She frequently told me childhood stories about the Revolution and the Communist takeover, including one tale from early in Castro's regime, when a government representative entered an elementary school classroom and told all the students to bow their heads, close their eyes, and pray that God would give them candy. After a short time, the representative told all the students to open their eyes, but none of them had candy on their desks. The representative then instructed the students to pray to Castro for candy, and they closed their eyes and prayed again. While their eyes were closed, the representative put a piece of candy on each of their desks then told the students to open their eyes. The children were very excited to have the candy on their desks.

This story, though perhaps allegorical, illustrates the potential for church-state competition. What happens when, as illustrated in the simple example above, the state seems to triumph over religious organizations in providing goods and services? The religious economy model would predict that religious behavior, i.e. attendance, affiliation, and strength of faith, would gradually decrease as the religious organization loses potential customers, increasing the overall secularity of a particular nation. Survey data indicates that in Latin America, Chile, Cuba, and Uruguay have higher population proportions of secular individuals than other nations. The traditionally antireligious ideologies of leftist political parties,

independent of welfare policies implemented by these parties, may contribute to the secular behavior of individuals in these nations and diminish the competitive ability of organized religion to win new members.

Section 1: Religious Behavior and Secular Outliers in Latin America

Survey data strongly suggest that the region has a significant percentage of religious individuals, making Latin America an unlikely set of nations to find high proportions of secularism. These data are derived from several sources. Religious affiliation data is available from the *World Christian Database*, a source that provides "comprehensive statistical information on world religions, Christian denominations, and people groups" at the Center for the Study of Global Christianity at Gordon-Conwell Theological Seminary. [1] Additional survey data include surveys on the level of weekly church attendance and comfort and strength in religion, taken from the *World Values Survey*, "a global network of social scientists who have surveyed the basic values and beliefs of the publics of more than 80 societies, on all six inhabited continents."[2] A poll on denominationally-neutral religiosity serves as another source, derived from Gallup International's *The Voice of the People* annual survey, which is conducted

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[1] "World Christian Database," *World Christian Database* (Breur & Co., 2005), http://www.worldchristiandatabase.org.
[2] "Organization," *The World Values Survey* (World Values Survey Association, 2006), http://www.worldvaluessurvey.org/.

annually and "covers approximately 50 countries divided in 7 regions."[3] Lastly,

data are drawn from the U.S State Department's *International Religious Freedom*

Report, which provides "detailed information with respect to matters involving

international religious freedom."[4] Simple statistical z-scores were applied to each

set of data to show that Latin America demonstrates much more religious

behavior than North America and Western Europe.[5] While Figures 1-5 show that

none of the z-scores are statistically significant for Latin America, the z-scores are

still useful because they determine the average position of the variable for

comparative reasons; it is useful to see how distant Latin America stands from

North America and Western Europe in terms of religious behavior.[6]

  According to the *World Christian Database*, in 2005, an average of

94.56% of individuals surveyed in nineteen Latin American nations professed an

affiliation to an organized religion, compared to North America at 84.99% and

Western Europe at 87.36%. This proportion excludes atheists and nonreligious but

includes spiritualists and religious non-denominationalists. A regional comparison

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[3] "An Annual Worldwide Survey - The Voice of the People," *The Voice of the People* (Gallup International Association, 2005), http://www.voice-of-the-people.net/ContentFiles/aboutvop.asp.
[4] "International Religious Freedom Report," *International Religious Freedom Report*, Washington D.C.: Bureau of Democracy, Human Rights, and Labor (2007), http://www.state.gov/g/drl/rls/irf/.
[5] For Figures 1 and 5, "Latin America" consists of Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. For Figures 2 and 3, "Latin America" is Argentina, Brazil, Chile, Colombia, Dominican Republic, El Salvador, Mexico, Peru, Uruguay, and Venezuela. "North America" is Canada and the United States, while "Western Europe is Belgium, France, Ireland, Netherlands, Portugal, Spain, and the United Kingdom.
[6] Manheim, Jarol B. et. al., *Empirical Political Analysis: Research Methods in Political Science, 6th Ed.* (Pearson Longman, 2006), 265.

of Latin America, North America, and Western Europe is illustrated in Figure 1 in the Appendix. Latin America's z-score for religiously affiliated people is 1.12 to the right of the mean. North America deviates .8 to the left of the mean, and Western Europe deviates .32 to the left of the mean. These z-scores indicate that Latin America is a fair distance away from the other two regions. The reason why North America's z-score is further left than Western Europe may be because Spain and Ireland, religious affiliation outliers, are included in the Western Europe z-score.

The *World Values Survey* indicates that among ten Latin American nations surveyed, an average of 56.79% have high attendance of religious services, versus North America at 47.95% and Western Europe at 34.16%. When compared, Latin America's z-score is .92 to the right of the mean, while North America's z-score is .14 to the right, and Western Europe is 1.06 to the left, as illustrated in Figure 2. Latin America deviates almost a full standard deviation away from the mean and deviates oppositely of Western Europe, indicating that Latin Americans attend religious services more frequently than Western Europeans and North Americans.

The *World Values Survey* also shows that among ten Latin American nations surveyed between 1996 to 2001, a mean of 79.39% find comfort and strength in religion, as opposed to North America's mean at 69.5% and Western Europe's mean at 50.56%. Figure 3 indicates that the z-scores for Latin America at 0.88 to the right, North America at 0.21 to the right, and Western Europe at

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1.09 to the left of the mean. As in Figure 2, Latin America is almost a full standard deviation to the right and again oppositely from Western Europe, suggesting Latin Americans profess more strength and comfort in religion than their Western European and North American counterparts.

According to the *Gallup International Voice of the People 2005* survey, 82% of the Latin American population considers themselves to be religious, compared to the world at 66%. Latin America's z-score is 1.14 to the right of the mean; see Figure 4 for a comparison of z-scores between Latin America and the rest of the world. Latin American ranks second behind Africa in terms of religiosity.

The 2007 Religious Freedom Reports from the U.S. Department of State show that of nineteen Latin American nations surveyed, 73.68% or fourteen countries have politically close state-religion connections in terms of the government favoring a particular religion, typically the Catholic Church (see Figure 5 for a more detailed variable description). Latin America's z-score for legal closeness to religion is 1.02 to the right of the mean, compared to North America at .03 to the right and Western Europe at .98 to the left. Researchers Pippa Norris and Ronald Inglehart state that "[i]n the world as a whole, the most *homogenous* religious cultures, and the societies with the *greatest* state regulation of religion, have the greatest religious participation and the strongest faith in

God."[7] This statement seems supported by the evidence in the Religious Freedom Reports, particularly since most Latin American governments favor relations with the Vatican to promote Catholicism in their respective nations.

These five sets of data demonstrate that Latin American exhibits more religious behavior than North America and Western Europe. Latin America has a z-score of about one to the right in every figure, showing its distance on an average scale away from Western Europe and North America.

While Latin America compared to other continents[8] demonstrates more religious behavior, there are a few anomalies within the continent, namely Chile, Cuba, and Uruguay. Using the same set of Latin American nations and criterion from Figures 1-3, z-scores indicate Chile, Cuba, and Uruguay deviate from other Latin American nations in terms of religious behavior. Statistical significance occurs for Cuba and Uruguay in each figure.[9]

In Figure 7, z-scores based on the *World Christian Database*'s religious affiliation data for Latin America indicate that Chile's standardized z-score is .5 to the left of the mean, Cuba is 2.19 to the left, and Uruguay is 3.26 to the left. The average z-score for the other sixteen nations in this dataset is .39 to the right of the mean. There is notable deviation for each of these three countries from the

[7] Norris, Pippa and Ronald Inglehart, *Sacred and Secular: Religion and Politics Worldwide* (Cambridge: Cambridge University Press, 2004), 230..
[8] While Latin America is not typically recognized as a continent, for the purposes of this thesis, a continent is simply a region of nations and does not refer to the conventional seven continents.
[9] P-values were calculated using Claremont Graduate University's p-value/z-score applet available online: http://wise.cgu.edu/p_z/p_z.html.

rest of Latin America, and while Chile's z-score is not statistically significant,

Cuba's z-score is significant at the .05 level with a p-value of .014, and Uruguay's

z-score is significant at the .01 level with a p-value of .001.

Religious service attendance data behaves similarly. The *World Values*

Survey data in Figure 8 demonstrates that the z-score of monthly religious

attendance for Chile is .71 left of the mean and for Uruguay 1.96 to the left of the

mean. Uruguay is statistically significant at the .05 level with a p-value of .025.

The other eight Latin American nations surveyed have an average z-score of .33

to the right of the mean. Figure 9 shows additional survey data from the *World*

Values Survey on comfort and strength in religion. Chile's z-score is .72 left of the

mean, while Uruguay's z-score is 2.44 to the left; the average z-score for the other

eight surveyed nations is .39 to the right of the mean. Uruguay is also statistically

significant at the .01 level, with a p-value of .007. In both of these datasets from

the *World Values Survey*, Chile and Uruguay are more skewed towards less

religious attendance and less comfort and strength than other nations.[10]

In addition, the U.S. State Department's *International Religious Freedom*

Report indicates that Chile, Cuba, and Uruguay each have strict legal separation

of church and state; no formal connection between the government and state

exists in their constitutions or by way of a concordat or other legal agreement with

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[10] In Figure 8, Argentina, the Dominican Republic, and Venezuela each have z-scores left of the mean, while Figure 9 shows that Argentina and the Dominican Republic have z-scores left of the mean. None of these nations have z-scores left of the mean in Figure 7, so there may be other reasons for the z-scores left of the mean that are not addressed in this thesis.

the Vatican or other representatives of religious organizations. The *World Christian Database* also indicates that Chile and Uruguay only offer limited state subsidies to religious organizations, while Cuba obstructs and interferes into the affairs of religious organizations, particularly against Jehovah's Witnesses and other organizations not registered with the Cuban Communist Party, according to the *State Reports*.[11]

Clearly, while Latin America nations collectively demonstrate a tendency towards religious behavior, a few nations are less religious than the others. There are two primary models of research that may address the discrepancies presented: the religious economy model and secularization theory.

Section 2: The Religious Economy Model and Secularization Theory

The religious economy model for predicting the actions of religious organizations has been used by various researchers, including Laurence Iannaccone, Rodney Stark, Roger Fink, Anthony Gill, Erik Lundsgaarde, Pippa Norris, and Ronald Inglehart. Iannaccone, Stark, and Fink state in a collaborate work that "the history of religion is inseparably linked to the economics of religion, and standard economic forces continue to shape its future."[12] In other words, this theory works similar to a simple economic model of supply and

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[11] "Cuba," *International Religious Freedom Report* (Washington D.C.: Bureau of Democracy, Human Rights, and Labor, 2007), http://www.state.gov/g/drl/rls/irf/2007/90249.htm.
[12] Iannaccone, Laurence R., Roger Finke, and Rodney Stark, "Deregulating Religion: The Economics of Church and State," *Economic Inquiry* 15 (1997), 351.

demand: the demand for goods and services is high, and the population depends on the government to satisfy these demands. If the government is unable to provide adequate goods and services in the form of welfare, organized religion, which, as Gill states, is "actively seek[ing] to expand [its] religious market share with the ultimate goal being a religious monopoly,"[13] intervenes to address the inadequacy and, as a result, boosts its own membership. This is not to say that members of religion organizations are solely motivated by goods and services; there are a variety of reasons individuals become part of a religion. Instead, Gill and Lundsgaarde state satisfying this demand has "beneficial side effects in assuring individuals that they are dealing with an institution that can be trusted,"[14] and, in addition to these welfare benefits, religious organizations also provide ideological religious products. Inglehart and Norris state that "the demand for religious products is [. . .] based on the otherworldly rewards of life after death promised by most (although not all) faiths."[15] Thus, the religious economy model as applied to organized religion means welfare services and religious products are provided to entice members to become part of the religion and increase membership.

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[13] Gill, Anthony, *Rendering Unto Caesar: The Catholic Church and the State in Latin America* (Chicago: University of Chicago Press, 1998), 50, 55.
[14] Gill, Anthony and Erik Lundsgaarde, "State Welfare Spending and Religious Participation: A Cross-National Analysis," *Rationality and Society* 16, no. 4 (2004), 406.
[15] Norris and Inglehart, 95.

One alternative to the religious economy model is the once-popular secularization theory, which Gill defines as "[t]he common assumption among social scientists [. . .] that as society modernized, religion would fade eventually into the background, completely divorcing itself from public (and possibly even private) life."[16] To measure secularization theory, researchers examine different indicators of modernization, based partly on the idea that, as Peter Berger states, religious behavior would diminish in the face of "urbanization, migration, mass education, the mass media of communication, all of these gaining additional potency under democratic conditions where the state refrains from trying to impose a monopolistic worldview."[17] In other words, traditional religion, competing against urbanization, migration, education, media, and other forms of spreading and communicating ideas, would fall away in the face of new, modern concepts. William Swatos and Kevin Christiano state that "theorists doubted that modernity could combine religious traditions with the overpowering impersonal features of our time: scientific research, humanistic education, high-technology, multinational capitalism, bureaucratic organizational life, and so on."[18] The problem with measuring religion in this way is the issue of separating religion

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[16] Gill, 3.
[17] Berger, Peter L., "Reflections on the Sociology of Religion Today," *Sociology of Religion* 62, no. 4 (2001): 449.
[18] Swatos, William H. and Kevin J. Christiano, "Secularization Theory: The Course of a Concept," *Sociology of Religion* 60, no. 3 (1999): 215.

from economics, urbanization, education, technology, and other facets of

modernization. Timothy Steigenga explains this problem further: that

> "[p]olitical scientists trained in the secularized societies of Europe and the United States operate in an intellectual and social climate that makes them uncomfortable with religious explanations for political behavior. At best, religion is considered to be analytically separate from politics. At worst, religion is perceived as simple, irrelevant, or irrational."[19]

Steigenga indicates that another problem is that "[p]olitical scientists seek to

construct elegant theory, and thus pursue measurable variables and available

data,"[20] and religion involves sociocultural factors difficult to measure. But it is

impossible to disassociate religion from modernization, and significant outliers

such as the highly modernized but highly religious United States contradict the

ideas of the secularization theory. Berger, a former proponent of the

secularization theory, states "the theory seemed less and less capable of making

sense of the empirical evidence from different parts of the world (not least the

United States)."[21] Stark states that religious "[p]articipation may be very low

today in many nations, but not because of modernization; therefore the

secularization thesis is irrelevant."[22] The theory that ideas brought about by

urbanization, education, mass media, and other forms of modernization would

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[19] Steigenga, Timothy J., *The Politics of the Spirit: The Political Implications of Pentecostalized Religion in Costa Rica and Guatemala*, (Lanham, MD: Lexington Books, 2001), xiii.
[20] Ibid., xiv.
[21] Berger, 445.
[22] Stark, Rodney, "Secularization: RIP," *Sociology of Religion* 60, no. 3 (1999): 260.

eventually diminish the impact of religion does not seem to hold in face of empirical evidence and significant outliers.

Section 3: Explaining Secularity

In support of the religious economy model, Gill and Lundsgaarde suggest that increased social welfare may explain reduced religious participation. In "State Welfare Spending and Religious Participation: A Cross-National Analysis," Gill and Lundsgaarde state that "[h]istorically, most major religious denominations have played a large role in providing for community welfare."[23] They propose that "[a]s the provision of state welfare (and taxation for that welfare) increases, people with more elastic preferences for religious goods based upon the receipt of religious welfare will tend to decrease their voluntary donations to religious firms (financial cost) and level of participation (time cost)."[24] In other words, increases in social welfare and government services are connected to decreases in religious attendance. This is because the parishioners cannot choose to pay taxes for the government's services; they are coerced to pay. The more services a government provides, the higher the taxes, and the less money in the parishioners' pockets to pay for the goods and services provided by organized religion. If a religious organization has less money, it cannot provide as

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[23] Gill and Lundsgaarde, 406.
[24] Ibid., 408.

many services, and, as Gill and Lundsgaarde state, "certain individuals with high price elasticities for religious goods will not seek to participate."[25] A circular pattern occurs: individuals are less likely to attend religious services when goods and services are not as available, which results in less income for the religious organization, which results in fewer services and goods, which results in fewer attendants, starting the cycle again.

This decreased attendance does not occur overnight; it is, as Gill and Lundsgaarde state, a "gradual, generational process."[26] The reason for this slow progression is because of what Iannaccone defines as "religious human capital," or the skills, abilities, interactions, and knowledge gained from attending religious services.[27] Iannaccone found that children tend to gain their religious human capital from their parents, and, even as the children grow older and become adults, they continue to participate in religion and pass this habit onto their own children.[28] Gill and Lundsgaarde take this habit into consideration for their theory; they believe that "increased welfare spending is most likely to chip away at the attendance of the children of loosely affiliated individuals as those children mature."[29] It would take time for the effects of increased public welfare programs

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[25] Ibid., 409.
[26] Ibid., 411.
[27] Iannaccone, Laurence R, "Religious Practice: A Human Capital Approach," *Journal for the Scientific Study of Religion* 29, no. 3 (1990): 299.
[28] Ibid., 309.
[29] Gill and Lundsgaarde, 411.

to affect religious participation and gradually move individuals out of the habit of attending religious services.

Gill and Lundsgaarde test their theory using a mix of Latin American, European, North American, and other nations. The dependent variables include the percentage of nonreligious from the *World Christian Encyclopedia*,[30] a version of the *World Christian Database* printed in 2001. Additional dependent variables are taken from religious participation and strength and comfort marginals from the *World Values Survey*.[31]

In terms of independent variables, Gill and Lundsgaarde selected social welfare data "with sensitivity towards maintaining definitions of 'social welfare spending' across nations,"[32] which is useful to determine the degree at which public welfare has been provided by the government. Their source for this independent variable is the *Government Finance Statistics Yearbook* from the *International Monetary Fund*, "an international organization of 185 member countries [. . .] established to promote international monetary cooperation, exchange stability, and orderly exchange arrangements."[33] Gill and Lundsgaarde also used a host of additional independent variables representing explanations favored by proponents of the religious economy and secularization theories:

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[30] Nonreligious excludes atheists. Source: Barrett, David B., et. al., *World Christian Encyclopedia, 2nd Ed.* (Oxford: Oxford University Press, 2001).
[31] High weekly church attendance is measured by whether a person attends church weekly or more.
[32] Gill and Lundsgaarde, 411.
[33] "About the IMF," *International Monetary Fund* (2008), http://www.imf.org/external/about.htm.

religious marketplace regulation, religious pluralism, urbanization, literacy, and television ownership. Religious marketplace regulation is determined from the *World Christian Encyclopedia*, which assigns a ranking to each country based on whether the government regulates religion either through subsidization or limiting.[34] Religious pluralism is defined as the number of religious denominations in a nation divided by the total population, also drawn from the *World Christian Encyclopedia*.[35] Urbanization, literacy, and television ownership are all variables relating to secularization theory and its basis according to Berger, Swatos, and Christiano. Urbanization is the percent of the population who lives in cities derived from the *World Bank*, "a vital source of financial and technical assistance to developing countries around the world."[36] Literacy rate, representing education, is the percent of men and women age 15 or higher who are literate, while television ownership, symbolizing mass media, is a proportion representing the number of televisions per one thousand people. Finally, Gill and Lundsgaarde account for cultural bias by applying dummy variables to indicate whether a

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[34] A ranking of 5 is a neutral governmental policy without favoring or limiting; a ranking of 6-10 indicates limits and suppression on religion, while than a ranking of 1-4 indicates government subsidization and favoring of religion. For instance, Germany, with its neutral policies, received a 5; Vatican City, which propagates Christianity, received a 1; and Cuba, which interferes and obstructs with the religion, received an 8. Gill and Lundsgaarde change the ranking to represent the absolute value from 5: Germany is now at 0, Vatican City at 4, and Cuba at 3.

[35] To account for the curvilinear skew, this proportion is naturally logged. See Gill and Lundsgaarde, 434.

[36] "About Us," *The World Bank* (The World Bank Group, 2008), http://go.worldbank.org/3QT2P1GNH0.

nation was a Latin American nation and whether the country had a majority

population professing Catholicism.

Gill and Lundsgaarde conclude from their statistical analyses that "there

is a strong statistical relationship between state social welfare spending and

religious participation and religiosity [. . .] Countries with higher levels of per

capita welfare have a proclivity for less religious participation and tend to have

higher percentages of non-religious individuals[, and p]eople living in countries

with high social welfare spending per capita even have less of a tendency to take

comfort in religion."[37] Social welfare and religious behavior – affiliation,

attendance, and strength of faith – correlate negatively together in Gill and

Lundsgaarde's analyses.

Section 4: History of Leftist Parties

If the government is the alternative competitor providing goods and

services in secular nations, as postulated by Gill and Lundsgaarde, then some

actor within the government is implementing the policies of social welfare. Leftist

parties, particularly Marxist and Socialist parties, have traditionally been

opponents of religious organizations in part because of their policies. Gill points

out that "[i]n the immediate aftermath of the Cuban revolution, the Church also

witnessed a substantial decrease in its political and social clout [. . .] The

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[37] Ibid., 425.

apparent hostility of communist parties to religion put fighting Marxism high on Catholic priorities."[38] Robert Service states that, during the Cuban Revolution, the "clergy naturally felt hostile to the policies of militant atheism."[39] Chile, Cuba, and Uruguay each have long histories of leftist parties winning governmental power; an ideological, antireligious effect may have occurred because of these parties being elected. What follows are brief histories of leftist parties in each of these three countries.

The Marxist Party in Chile is the *Partido Comunista de Chile* or PCCh. Officially founded in 1922, it is, according to the Library of Congress, "the oldest and largest communist party in Latin America and one of the most important in the West."[40] Before its ban from 1948 to 1958 from Cold War fears, the PCCh won seats in the Chilean legislative branch and was highly influential among the working class, particularly as part of the *Frente Popular* government in 1938 that unionized the working class. After the government returned legal recognition to the party in 1958, the PCCh joined the *Unidad Popular* coalition and moderated between the different leftist groups. One of these parties was the *Partido Socialista* or PS, established in 1933. The PS was "far more heterogeneous" than the PCCh, garnering influence among blue-collar workers, academics, and the

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[38] Gill, 72.

[39] Service, Robert, *Comrades! A History of World Communism*. (Cambridge: Harvard University Press, 2007), 348.

[40] Hudson, Rex A., ed, "The Parties of the Left," *Chile: A Country Study* (Washington: GPO for the Library of Congress, 1994), http://countrystudies.us/chile/102.htm.

middle class.[41] When leftist Salvador Allende was elected as President of Chile in

1970 by the *Unidad Popular*, it was considered the PS's "greatest moment,"[42] and

they pushed for "radical" change for the working class, "urged" by fellow

communist Fidel Castro of Cuba.[43] When the *Unidad Popular* was overthrown in

1973, the PCCh, PS, and other leftist parties splintered due to heavy repression

and arguments regarding whether to form an insurgency against the right-wing

coup plotters in control of the government. A new faction, called the Renewed

Socialists, was established by intellectuals and exiles to move to moderate

socialism and detach from traditional Marxist-Leninism that had characterized the

previous PCCh and the leftist coalition. The Renewed Socialists created a

coalition with the centrist *Partido Demócrata Cristiano de Chile* and, in the late

1980s, formed the *Partido por la Democracia* or PPD "in an effort to provide a

broad base of opposition to Pinochet, [a coalition] untainted by the labels and

struggles of the past."[44] The PPD succeeded in winning seats in the government,

but despite the success of the PPD, the PS desired to return to its leftist roots.

While the PPD became its own party and "press[ed] ahead on other unresolved

social issues such as divorce and women's rights," the PS reunited its "principal

factions" and tried to bolster its own membership, leading to another splinter in

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[41] Ibid.
[42] Ibid.
[43] Service, 349.
[44] Hudson, 1994.

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the leftist groups. The PS and PPD are now distinctive groups with distinctive members and agendas.

Cuba's history of leftist parties is probably one of the most well-known histories. Service states that Fidel Castro Ruz, a thirty-two year old law student at the University of Havana, "had given no hint of a communist allegiance" during his studies, though, "[b]y late adolescence [. . .] he had lost his religious faith, and his disgust with conditions in his country turned his thoughts towards rebellion [. . .] Poverty was rife. The Catholic hierarchy had little concern for social justice [. . .] Batista was almost asking to be toppled."[45] Castro began his insurgency in December 1956 with over eighty fellow revolutionaries, and while most of them were killed in the first few attacks, he retreated with a number of them to the mountains to conduct hit and run attacks on Batista's military. The guerrillas promoted relief for the rural poor, which tipped the balance in favor of Castro and his militants. Batista eventually fled Cuba on New Year's Day in 1959, and Castro rode into town in a limousine, branded as a hero by the Cuban people and a potential anticommunist ally by the United States. Castro, however was "calculating and inscrutable"; he posed a long time as an anticommunist intended to "do away with them [Communists] with a sweep of my hat."[46] Service argues that Castro's change in heart was after his visit to Washington D.C.; he left "determined that his radical regime would not be blown away by

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[45] Service, 342.
[46] Ibid., 343.

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military action conducted or sponsored by Washington."[47] Initially, dissidents

joined with the Catholic Church in Cuba to oppose his regime, particularly as his

regime grew closer economically and politically to the Soviet Union and passed

legislation to reform the state into a Marxist-Socialist government. Margaret

Crahan states that

> "[t]he emergence of the Catholic Church as the institutional base for the opposition was
> symbolized by the one million plus turnout at the National Catholic Congress in
> November 1959 [. . .] encouraged by the collapse of the traditional parties and a desire
> to find an alternative mode of political expression."[48]

As a result of this meeting, Crahan states that "[t]he ideological struggle became

more marked [between the Church and the government] and there was growing

fear expressed of children being 'lost' to Marxist indoctrination."[49] Established

religion, however, was not a sufficient counter to the Marxist government; Crahan

states that the Church "did not serve as a long-term institutional base for

opposition to the revolution."[50] Service states that "[n]ot even the Catholic

Church put up an effective resistance to the regime. Catholicism was a peculiarly

suspect denomination for being directed from the Vatican [. . .] Castro for his

part arrested priests who refused to hold their tongues about his regime."[51] The

major resistance by the Catholic Church to the government collapsed in 1962

when the government outlawed parochial schools and imprisoned many priests

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[47] Ibid., 344.
[48] Crahan, Margaret, "Cuba: Religion and Revolutionary Institutionalization," *Journal of Latin American Studies* 17, no. 2 (1985): 325.
[49] Ibid., 326.
[50] Ibid., 321.
[51] Service, 348.

and parishioners for "counterrevolutionary activities."[52] Since the collapse of the

Soviet Union, Cuba's role in world politics has waned. Castro "had not succeeded

in building a vibrant economy and a settled social consensus [. . .] without his

brother's large security agencies and their prisons for political dissenters."[53] With

Fidel Castro's recent withdrawal from politics, the Communist government of

almost fifty years seemed as if it might finally give way to centrist views, but,

with the installation of Raul Castro as *el Presidente*, the leftist policies of the

Cuban government are unlikely to halt anytime soon.

Uruguay's political system consisted of two dominant parties: the

traditionally liberal and more popular *Partido Colorado* and the right-wing

Partido Nacional. The *Partido Colorado* consisted of urbanites, labor unions,

secularists, and other leftist factions and was more anticlerical in the early

twentieth century, while the *Partido Nacional* consisted of more religious and

conservative groups.[54] The discrepancies between the two parties diminished

towards the 1980s as each developed its own internal left- and right-wings. To

break the hold that the *Partido Colorado* and *Partido Nacional* had on the

Uruguayan government since the 19th century, *Partido Colorado* dissidents

formed the *Frente Amplio* or FA, consisting of factions such as the *Partido*

Socialista del Uruguay or PSU, founded in 1911, and the *Partido Comunista de*

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[52] Crahan, 328.
[53] Service., 352.
[54] Hudson, Rex A. and Sandra W. Meditz, eds, "Traditional Parties," *Uruguay: A Country Study* (Washington: GPO For the Library of Congress, 1990), http://countrystudies.us/uruguay/70.htm.

Uruguay or PCU, founded in 1921. The FA had a "strong following in Montevideo" and tried to represent all classes and ages, but the military rule of 1973-1985 outlawed the FA.[55] Despite being outlawed, the FA won 21% of the total vote in the 1984 elections. The FA grew to fifteen parties in 1989, including pro-Cuban and socialist worker parties. The leaders of the FA organized the party like a communist party, complete with a central committee called the national plenum and a political bureau. In 2004, the FA won the national elections and ended 170 years of control by the *Partido Colorado* and *Partido Nacional*.[56]

In summary, all three nations have had communist and socialist parties in power. Chile has had the longest standing communist party, and leftist parties are currently in the Chilean government. Cuba, under Castro, has had a communist government for almost fifty years, and the party's power does not look like it will wane anytime soon. Uruguay's *Frente Amplio* party, include the Socialist and Communist Parties of Uruguay, has entered power recently. It appears that these parties have an ideological foothold in these countries with precedents of antireligious propagation.

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[55] Hudson, Rex A. and Sandra W. Meditz, eds, "Broad Front," *Uruguay: A Country Study* (Washington: GPO For the Library of Congress, 1990), http://countrystudies.us/uruguay/70.htm.
[56] "Uruguay," *The World Factbook* (Central Intelligence Agency, 2008), https://www.cia.gov/library/publications/the-world-factbook/geos/uy.html.

Section 5: Testing Ideological Strength

One way to test the strength of ideology is to examine the number of

representative officials elected to a nation's legislature. If a nation is less religious

because of socialist ideologies, independent of the policies of social welfare and

regulation, then there should be more seats occupied by socialists in that nation.

Stephen E. Frantzich and Steven E. Schier state that, in terms of voter

motivations, some "voters are driven by a more *psychological affinity* toward

some symbolic label associated with a particular candidate."[57] Ideology could be

one of these symbolic labels.

To analyze whether socialist ideology affects religious behavior, an

updated version of Gill's and Lundsgaarde's linear regression models, using

similar variable sources and setups, can account for a correlation. The setup

includes three dependent variables and eight independent variables. See Table 1

for a side-by-side comparison of all eleven variables for Chile, Cuba, Uruguay,

and Mexico. Weekly church attendance, analyzed in Table 2, is the first

dependent variable from recent *World Values Survey* data. This data was obtained

by asking individuals how often they attended religious services. The proportion

resulting is whether the individual said that he or she attended services once or

more per week. Thus, according to Table 1, 31% of Chileans, 13% of

Uruguayans, and 56% of Mexicans attend services weekly or more. The years

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[57] Frantzich, Stephen E. and Steven E. Schier, *Congress: Games and Strategies 2nd Ed.*
(Cincinnati, OH: Atomic Dog Publishing, 2003), 70.

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when the surveys were conducted range from 1996-2001, with Chile surveyed in 2000 and Uruguay surveyed in 1996. The *World Values Survey* data has no information on Cuba.

The second dependent variable, analyzed in Table 3, is nonreligious rate, based on data from the *World Christian Database* from 2005. Like the previous dependent variable, the data was found by asking people about their particular religious affiliation. Unlike Figures 1 and 6, where the z-scores indicate religious affiliation, the religious affiliation proportion in the regression models is measured in terms of "nonreligious rate," meaning it measures the proportion of nonreligious and atheists together. This is also a difference between this variable and Gill's and Lundsgaarde's variable; their variable does not include atheists, because they found no measure for what the *World Christian Database* called "militantly antireligious."[58] While certainly it may be difficult to measure what exactly is meant by militantly antireligious, it is probably safe to assume that these militantly antireligious individuals are also nonreligious, which is why atheists are included into this calculation. Nonreligious does not include spiritualists, indigenous or other ethnoreligions, or religiously unaffiliated; certainly, one can be religious but be unaffiliated with an organized religion, existing as a non-denominationalist. In Table 1, 10% of Chileans, 24% of Cubans, 34% of Uruguayans, and 3% of Mexicans are nonreligious or atheist.

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[58] Gill and Lundsgaarde, 413, *n. 25.*

The third dependent variable is strength and comfort in religion, analyzed in Table 4. This data is also drawn from the *World Values Survey* from a poll asking whether the individual found strength and comfort in religion. There were four possible answers: "yes," "no," "don't know," and "no answer." The proportion represented for this variable is the proportion of people who answered "yes." In Table 1, 70% of Chileans, 49% of Uruguayans, and 88% of Mexicans answered "yes." As with the previous *World Values Survey* data, there is no data available on Cuba.

Welfare is the first of the seven independent variables. Taken from the International Monetary Fund's *Government Finance Statistics Yearbook* from 2000, the variable is a proportion that divides the total government social welfare expenditures, including social security, by GDP per capita, which means GDP divided by population. Table 1 shows that the welfare rates in Chile, Uruguay, and Mexico are 7%, 18%, and 3%, respectively. No data is available on Cuba. Welfare is expected to negatively correlate with church attendance and strength and comfort in religion and positively correlate with nonreligious rate, as originally demonstrated by Gill and Lundsgaarde.

The next variable is regulation, based on data from the *World Christian Database*. The database assigns a term to indicate the religious freedom in a particular nation. There are ten terms, and each has been assigned a number starting at 10 and decreasing to 1: State Suppression (10), State Hostility and

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Prohibition (9), State Interference and Obstruction (8), Minorities Discriminated Against (7), Limited Political Restrictions (6), Complete State Non-interference (5), State Subsidizes Schools Only (4), Limited State Subsidies to Churches (3), Massive State Subsidies to Churches (2), and State Propagates Christianity (1). To model Gill and Lundsgaarde's use of this variable, there is "the assumption that state favoritism of religion represents a restriction of the marketplace just as harassment may."[59] After assigning the number to each term, the number is then converted to an absolute value indicating its distance from Complete State Non-interference (5) to represent the marketplace restriction resulting from favoritism or harassment. For instance, both State Hostility and Prohibition, rated at 9, and State Propagates Christianity, rated at 1, are at a distance of 4 from Complete State Non-interference at 5; both of these ratings would be converted to 4 for the regression analysis. In Table 1, Chile is at 2 for Limited State Subsidies, Cuba is at 3 for State Interference and Obstruction, Uruguay is at 2 for Limited State Subsidies, and Mexico is at 1 for State Subsidizes Schools only. Chile, Cuba, and Uruguay place more restrictions on the religious marketplace than Mexico because they are either hostile towards religion or favor one particular religion. Likely, representing restrictions on religious freedoms, this variable will negatively correlate in Tables 2 and 4 and positively correlate in Table 3.

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[59] Ibid., 434.

Pluralism serves as the third independent variable, which is the number of denominations divided by the population in a country. A natural log is then applied to this value to adjust for skew. Because the resulting proportions are very small, in Table 1, the natural logs are presented, which is less intuitive but easier to describe in a table. The higher the number, the more religious pluralism is present in the country. Uruguay has the most amount of pluralism at a natural log of -11.09, followed by Chile at -11.92, Cuba at -12.48, and Mexico at -13.91. Pluralism indicates freedom of choice and should correlate oppositely from regulation; in other words, pluralism should correlate positively in Tables 2 and 4 and negatively in Table 3.

The next three variables, urban, literacy, and television ownership reflect secularization theory. As Berger states, secularization is based on the idea that urbanization, migration, mass education, the mass media of communication and other indicators of modernization would eventually uproot religious traditions;[60] these variables are designed to reflect this thought. According to secularization theory, these variables should negatively correlate in Tables 2 and 4 while positively correlating in Table 3. Urban is a proportion serving as the fourth independent variable. Drawn from the World Bank's *World Development Indicators*, this variable represents the proportion of the population that lives in

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[60] Berger, 449.

urban areas. In Table 1, 88% of Chileans, 76% of Cubans, 92% of Uruguayans, and 76% of Mexicans live in urban areas.

Literacy measures what percentage of the population, aged fifteen or older, is literate. This data is taken from the University of Virginia's *Religious Freedom Page*, which is based on the *World Christian Encyclopedia* from 2001. The *World Christian Database* of 2005 was incomplete regarding this variable, so older data from 2001 had to be pulled. Table 1 indicates 95% of Chileans, 96% of Cubans, 97% of Uruguayans, and 90% of Mexicans, aged fifteen and older, are literate.

The television independent variable is a measure of how many televisions there are per one thousand people. Like the literacy variable, the television variable was drawn from the University of Virginia's *Religious Freedom Page* and its older 2001 data from the *World Christian Encyclopedia*, seeing that the *World Christian Database* lacked updated data for 2005. According to Table 1, Chile has 199 televisions per 1000 people, Cuba has 228, Uruguay has 224, and Mexico has 137.

The Catholic variable is a binary variable demonstrating whether a majority of the population in a country stated that they were Catholic. This variable is used to help control for Latin American nations, which are all majority Catholic nations. The *World Christian Database* of 2005 was used to determine whether a country had a majority Catholic population. Countries such as the

United Kingdom, a non-Catholic majority nation, received a 0, while countries such as Chile, Cuba, Uruguay, and Mexico received a 1, as indicated in Table 1. Likely, this variable will positively correlate in Tables 2 and 4, while negatively correlating in Table 3.

The last variable is the new variable, leftist. This variable indicates the number of Communists, Marxist-Socialists, and Social Democrats elected in the respective nation's legislature divided by the total number of seats. Most frequently, a party's standing on the political spectrum was determined by its own name, e.g. *el Partido Socialista* is most likely a leftist party. Some cases required visiting the party's website to determine whether it was leftist. If a particular nation has a bicameral legislature, both houses are included. Data on elections was drawn from Angus Reid Global Monitor website, which specializes in "assessing democratic process (elections, leadership races, and more) around the world" and has an extensive database on recent legislative and executive elections in every nation.[61] The data ranges anywhere from 2002 to 2008, due to some legislators having six year terms. In Table 1, the legislatures of Chile, Cuba, Uruguay, and Mexico consist, respectively, of the following proportions of leftists: 48%, 100%, 55%, and 45%. It is expected that this variable, representing antireligious ideology, will negatively correlate in Tables 2 and 4 and positively correlate in Table 3.

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[61] "About Angus Reid Global Monitor," *Angus Reid Global Monitor* (2008), http://www.angus-reid.com/about/.

These variables are implemented into linear regression models which are presented in Tables 2, 3, and 4. Table 2 uses the dependent variable of weekly church attendance for sample of twenty-five nations, Table 3 uses the natural log of nonreligious rate for a sample of thirty nations, and Table 4 uses the strength and comfort in religion variable for a sample of twenty-five nations. Within each Table are six Models. For each Table, Models I, II and III examine Gill's and Lundsgaarde's welfare variable, controlling for regulation, pluralism, Catholic, and urban (Model I), literacy (Model II), or television (Model III). Models IV, V, and VI replace the welfare and regulation variables with the leftist variable and also test for pluralism, Catholic, urban (Model IV), literacy (Model V), or television (Model VI). Each Table uses correlation coefficients, which range between 0 and 1 and demonstrate the association between independent and dependent variables; the closer the coefficient is to 1, the stronger the association and the greater chance of using the variable as a predictor of the dependent variable.[62]

In addition to presenting correlation coefficients, the Tables also present p-values, N values, adjusted r-squared values, F values, and Durbin-Watson statistics, which are designed to reflect Gill's and Lundsgaarde's original model. The p-values indicate the likelihood that a generalization of the sample to the

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[62] Manheim, 269.

larger population is incorrect.[63] The p-values are presented in parentheses beneath

each coefficient and F value, and asterisks help indicate the standard levels of

statistical significance. Three asterisks indicate a significance at the .01 level or

1%, two asterisks at the .05 level or 5%, and one asterisk at the .1 level or 10%,

while zero asterisks indicate no statistical significance. To illustrate, for Table 2,

Model III, there is a 1% or less chance that regulation, with three asterisks and a

p-value of .002, predicts the results incorrectly for the entire population of

countries based on the sample of countries tested in the model. In the same model,

the Catholic variable, marked with two asterisks and a p-value of .023, has a 5%

or less chance that it is an incorrect predictor of the entire population, while the

welfare variable, with one asterisk and a p-value of .063, has a 10% or less chance

of being an incorrect predictor. The pluralism and television variables, having no

asterisks and p-values of .373 and .390 respectively, are statistically insignificant

and likely false predictors of the population.

The N values represent the number of countries sampled in the test. N is

twenty-five in Tables 2 and 4 and thirty in Table 3. The sample of countries is

based on Gill's and Lundsgaarde's original sampling, which is a mix of mostly

Latin American and European countries, with a few other nations included. See

the Appendix for a full list of countries. These nations were chosen by Gill and

Lundsgaarde because each has an extensive history of social welfare, and, as

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[63] Ibid., 272.

Iannaccone states, the Outliers such as the United States and Australia, neither having any leftist parties in government due more to institutional reasons than representation, have been excluded from the original model. In addition, though Cuba is mentioned as a possible case study, as demonstrated in Table 1, church attendance, strength and comfort, and welfare data are missing from Cuba; therefore, there is not enough data to justify including the country in the sample.

Adjusted r-squared values, also known as adjusted coefficients of multiple determinations, are estimates of the percent of variance explained by the model. The adjusted r-squared value differs from other r values because it is typically more conservative and works better with smaller sample sizes.[64] For instance, for Table 2, Model I, the adjusted r-squared value is .875, which means 87.5% of the variance is explained in this model, as opposed to Model VI, which explains 71.9% of the model.

The F value is an evaluation of the entire model. The value can range from zero to any arbitrarily high number, and its p-value indicates the overall significance of the model.[65] Except for Table 4, Model IV, the F values for all eighteen Models presented in the six Tables are all statistically significant, as indicated by the p-values in parentheses under each F value and the asterisks indicating the level of significance.

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[64] "Understanding the Results of an Analysis," NLREG (2008), http://www.nlreg.com/results.htm.
[65] Ibid.

The Durbin-Watson statistic is also an evaluation of the entire model, indicating whether the model has autocorrelation, which means that the shape of the function, i.e. the regression model, is inappropriate for the data values used.[66] Any Durbin-Watson value less than .080 is cause for alarm, but the lowest Durbin-Watson statistic in the eighteen Models is 1.192 in Table 1, Model I, so none of the Models have autocorrelation issues.

Each Model is tested to control for religious pluralism, Catholic majority, and one secularization theory variable (urban, literacy, or television), along with welfare and regulation or leftist. The reason why the secularization theory variables are not tested together, as well as why the welfare and regulation variables are not tested with leftist, is to avoid multicollinearity, which is when an independent variable correlates perfectly with another.[67] This is likely to happen when independent variables have some causal correlation. Urbanization, literacy, and television ownership are thought to be all indicators of modernization and would tend to coincide with one another. Likewise, the election of leftist parties, with their history of antireligious policies, may coincide with a nation's welfare and religious regulation policies. The only variable setup that is identical to Gill's and Lundsgaarde's original model is Model III in each Table, which is equivalent to their table 2 model IV, table 4 model IV, and table 5 model IV. In other words, when Gill and Lundsgaarde tested for the Catholic independent variable, they

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[66] Ibid.

[67] Manheim, 295.

tested it against welfare, regulation, pluralism, and urban; they did not consider the other two secularization theory variables, literacy and television. The models were run through SPSS 11.0.

Section 6: Results and Analysis

Table 2, where the dependent variable is weekly church attendance, indicates that Gill's and Lundsgaarde's original argument, that welfare negatively correlates church attendance, still stands. Welfare is statistically significant and negatively correlates in Models I, II, and III. Regulation and Catholic are also statistically significant in Models I-III and correlate as expected, while pluralism is not statistically significant, and only urban, negatively correlating as predicted, is statistically significant out of the three secularization variables. Remarkably, Models I, II, and III also have large adjusted r-squared values of .875, .816, and .816 respectively, meaning these Models each explain over 81% of the variance in the sample tested. Models IV, V, and VI test for pluralism, a secularization variable, Catholic, and leftist. Pluralism continues to lack statistical significance, while two out of the three secularization variables have statistical significance and correlate negatively as expected. Catholicism and leftist both have statistical significance in all three Models and correlate as expected (positively and negatively, respectively). Models IV-VI each have high adjusted r-squared values of .693, .819, and .719, respectively.

Table 3 tests for nonreligious rate. Welfare stands statistically significant at the .01 level in Models I, II, and III and positively correlates as predicted. Pluralism also is statistically significant in the first three Models and correlates negatively, but regulation and Catholic lose their statistical significance. Only two of the three of the secularization variables are statistically significant, but they positively correlate as expected. The adjusted r-squared values for Models I-III are .767, .691, and .661, still very high values. For Models IV, V, and VI, only the positively correlating secularization variables are statistically significant; pluralism, Catholic (except in Model IV, where the variable negatively correlates with a p-value at the .05 level of significance), and the leftist variable is not a good predictor in these models. The adjusted r-squared values for these Models are .530, .494, and .510, respectively.

The last test, Table 4, uses strength and comfort in religion as the dependent variable. Welfare is not as statistically significant as before, losing its significance in Model III, but it remains a negative coefficient as predicted. No other variables in Models I-III are statistically significant. The adjusted r-squared values for Models I, II, and III are, respectively, .302, .298, and .287. For Models IV, V, and VI, only two variables are statistically significant: Catholic (Model IV) and literacy (Model V), both correlating positively and negatively as expected. Model IV does not have statistical significance for its F value, and Models V and VI are only statistically significant at the .1 level for their F values. The adjusted

r-squared values are also much smaller, at .106 for Model IV, .217 for Model V, and .178 for Model VI.

It is clear from these regression models that Gill's and Lundsgaarde's thesis – that social welfare negatively correlates with religious behavior – still stands. Except for Table 4, Model III, welfare is statistically significant in every case. In Table 2, the welfare variable actually improves substantially over the original model. Gill's and Lundsgaarde's table 2, model IV,[68] which is the only model in the original article that tested for the Catholic variable, shows that welfare is not statistically significant. To address this issue, in their table 3, they run the regression minus Ireland and the Philippines[69] in the first three models, and, in the second three models, they naturally log church attendance. The equivalent Model in this thesis, Table 2, Model I, shows that welfare is statistically significant at the .01 level without excluding outliers or naturally logging the dependent variable. The differences between Gill's and Lundsgaarde's original Model and the new Model is that the new Model tests for twenty-five countries instead of twenty-two[70] and regulation, pluralism, urban, and Catholic have been updated to more recent 2005 data. This change from no statistical significance to a .01 level of significance suggests that the hypothesis of

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[68] Gill and Lundsgaarde, 418.
[69] They surmise that Ireland and the Philippines are outliers because religion was used as a primary vehicle of political mobilization recently. Ibid., 419.
[70] The new Model tests for Canada, El Salvador, and Iceland among the twenty-five nations, which were not tested in the original Model.

Gill and Lundsgaarde becomes stronger as time passes. This suggestion is consistent with Iannaccone's argument that children tend to gain their religious behavior from their parents;[71] if the parents are not attending church, then, over time, their children likely will decrease their own attendance as they become adults.

The leftist variable also performs well in Table 2 with statistical significance in every Model. The adjusted r-squared value of Model V is .819 or 81.9%, which slightly outperforms Models II and III at .816 or 81.6%. The high adjusted r-squared values of Models IV, V, and VI show that while the leftist variable may not perform as well as welfare and regulation in explaining the variance among the data, it can serve as a proxy variable for welfare and regulation and still maintain high adjusted r-squared values and statistically significance.

Table 3 shows that the welfare variable still stands, likely stronger with higher adjusted r-squared values than in the original model. This is consistent with Table 2, where updated data increase the variance explanation, though in Table 3, the sample size is actually smaller than the original model.[72] On the other hand, leftist performs poorly; none of the coefficients are statistically significant.

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[71] Iannaccone, 309.
[72] Gill and Lundsgaarde's table 4, the counterpart to Table 3, includes Australia, Israel, and the United States. Gill and Lundsgaarde, 435.

The secularization variables are all statistically significant at the .01 level in Models IV-VI and explain about 50% of the variable variance in each Model.

The welfare variable does not perform quite as well in Table 4, being less statistically significant in Models I and II (at the .05 and .1 levels, respectively). Welfare loses losing statistical significance all together at Model III; in fact, none of the independent variables are significant in Model III. The welfare variable, however, is the only statistically significant variable in Models I and II, showing that it is still a better predictor that its counterparts. The explained variance drops to about 30% or lower in Models I-III. The leftist variable performs the most poorly in Table 4; none of the leftist variables are statistically significant. Of course, the p-values resulting from the F tests of these models indicate that these setups are likely not the best predictors of strength and comfort. Model IV lacks overall statistical significance, and Models V and VI are overall significant at the .1 level, much worse than their counterparts in Tables 2 and 3. The differences between Table 4 and Gill's and Lundsgaarde's counterpart, table 5, are that Table 4 tests for twenty-five nations instead of sixteen and the data are updated.

How can the results for the leftist variable in Table 2 be consistent with Tables 3 and 4? The dependent variable for Table 2 is religious service attendance, a physical action, while the dependent variables for Tables 3 and 4 are religious affiliation and strength and comfort in religion, both beliefs. It may be easier to be excused from attending religious services than to explain why one

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disassociates from organized religion or finds no strength and comfort in religion. In addition, it may also be unpopular to identify with antireligious ideologies propagated by leftist parties. Lastly, Steigenga found that "broad claims about political outcomes based on religious affiliation in Central America are generally misguided. The differences between Protestants and other religious groups are not nearly as significant as often been assumed."[73] There may not be a noteworthy correlation between differences in religious affiliation and election results, which explains why leftist and nonreligious rate do not correlate well.

Table 2 does demonstrate that leftist parties can serve as a proxy predictor for welfare and regulation, which leads to the question of whether leftist is a variable that is merely predicting leftist policies in a different manner or leftist is a variable that involves some sort of ideological effect on the population. A better way to measure ideological effect would be to present time series data and see whether the correlation coefficients change as expected between the dependent variables and the number of elected leftists in each particular year. Without that data being available at this point, the regression model stands as the best predictor currently available to draw some correlation between religious behavior and leftist party ideology.

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[73] Steigenga, 13.

Conclusion and Additional Questions

This thesis postulates that there is a connection between the ideologies of socialists and religious behavior. Clearly, while Latin Americans exhibit more religious behavior than their North American and Western European counterparts, there are some secular outliers in Latin America: Chile, Cuba, and Uruguay. The religious economy model and secularization theory both are attempts to explain the changes in religious behavior. The religious economy model has been used by Gill and Lundsgaarde to show government-provided welfare and religious behavior negatively correlate. An alternative explanation is possible in correlating religious behavior to the proportion of communists, socialists, and social democrats elected to the legislature of a particular nation. Certainly, Chile, Cuba, and Uruguay have extensive histories of leftist parties propagating socialist policies and antireligious ideologies. Updated regression models show that the social welfare variable explains much more of the variance than the models from Gill and Lundsgaarde's article, indicating that Iannaccone's hypothesis that there is a generational effect as children model their religious behavior based on their parents.[74] Compared against religious service attendance, leftist parties explains nearly as much of the variance as social welfare and demonstrates statistically significance, but leftist parties are not statistically significant in explaining religious beliefs, such as affiliation and strength and comfort.

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[74] Iannaccone, 309.

The increased adjusted r-squared values may suggest that there is a trend toward secularity as explained by social welfare and leftist parties. The religious economy model may suggest that religious organizations become less competitive when governments implement social welfare policies and the populace elect antireligious leftists, thus resulting in less attendance, proclaimed affiliation, and strength and comfort. Secularization theory proponents may believe that social welfare and the election of leftists are indicators of modernization.

Admittedly, there is more that can be done to explore connections between secularism and Latin American nations. Beyond Gill and Lundsgaarde's article, the literature covering this topic is scarce, and some questions still need to be asked to see whether social welfare and leftist parties are correlated with a trend towards secularity. Have religious beliefs changed since the *World Values Survey* conducted its surveys between seven to twelve years ago? Has religious service attendance dropped in the past few years with the election of populist Hugo Chávez in Venezuela, the *Frente Amplio* in Uruguay, and socialist Michelle Bachelet in Chile? What service attendance, strength and comfort, and welfare data would be found in Cuba, and will the recent resignation of Fidel Castro affect the religious behavior of Cubans? Are there atheist or secularist organizations in Latin America? What is their legal status, and what effects do they have on politics and religious behavior? Lastly, can a time-series dataset be constructed that could best explain the connections between leftist ideology and religious

behavior? There are enough nonreligious peoples in Latin America to merit this topic more research, which will only happen when new surveys are conducted, researchers investigate for secular and atheists organizations, and academics rely on explanations and theories of religious and non-religious actors to explain the newfound data.

Appendix

Figure 1: Cross Continent Z-Scores for Religiously-Affiliated People
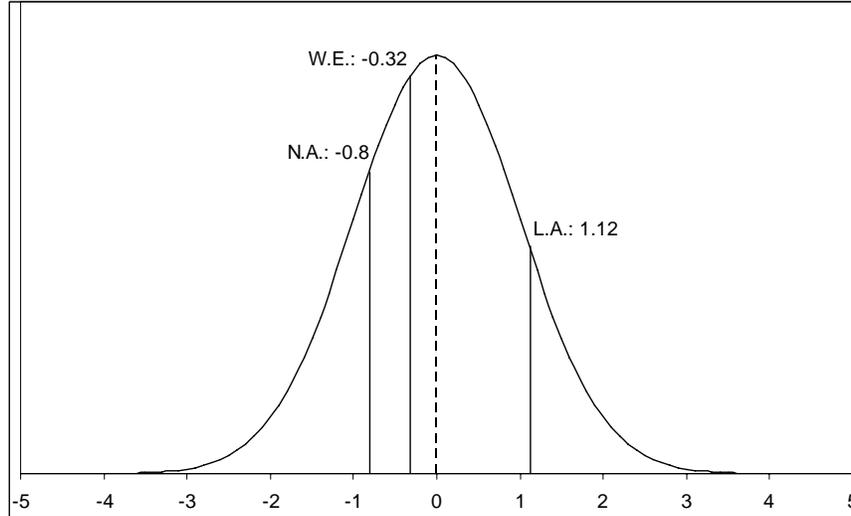
Religiously-affiliated people is defined as the percentage of the population who do not proclaim themselves as either religiously unaffiliated or atheist. L.A. is Latin America, N.A. is North America, and W.E. is Western Europe.

Source: *World Christian Database* (Breur & Co., 2005), http://www.worldchristiandatabase.org.

Figure 2: Cross Continent Z-Scores for High Religious Service Attendance
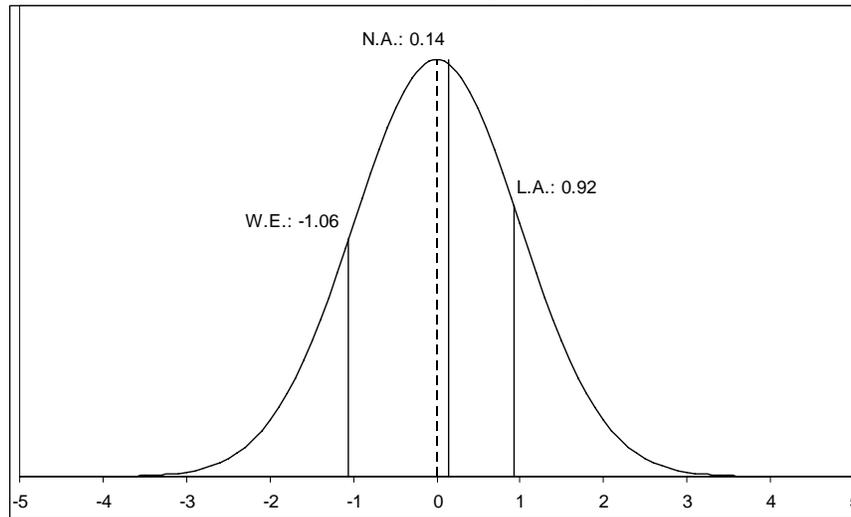
High attendance means attending religious services once or more per month.

Source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

Figure 3: Cross Continent Z-Scores for Religious Strength and Comfort
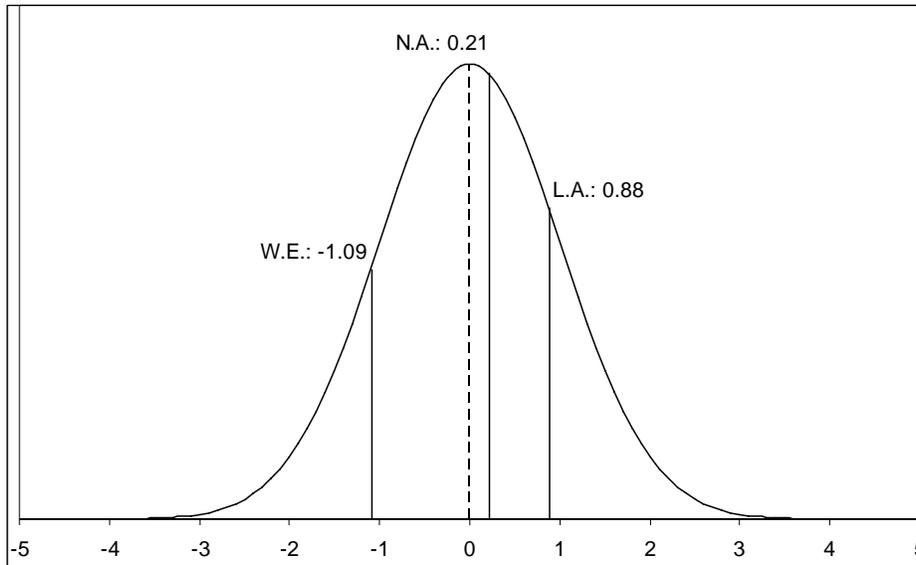
Source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

Figure 4: Cross Continent Z-Scores for Religiosity
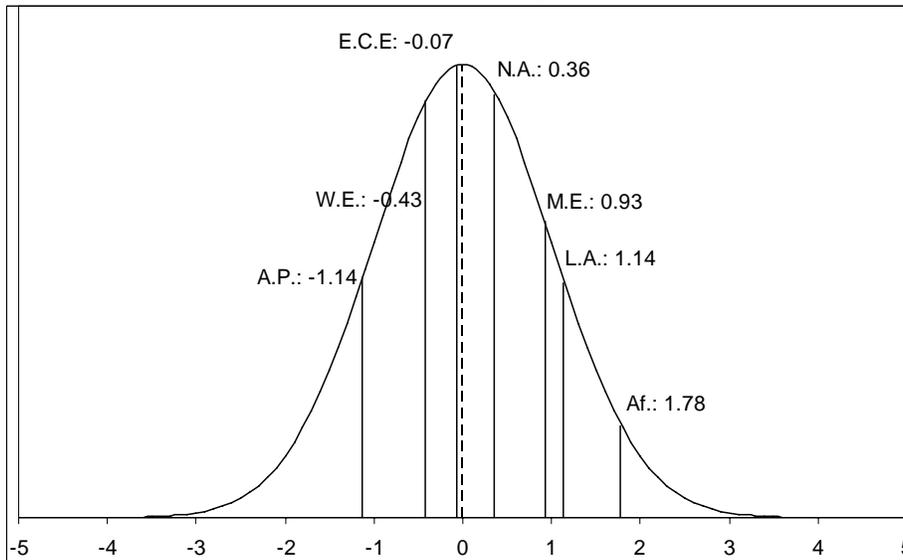
A.P. is Asia Pacific, E.C.E. is East Central Europe, M.E. is Middle East, and Af. is Africa.
Source: "Voice of the People 2005: Religiosity Around the World," *The Voice of the People* (Gallup International Association, 2005), http://www.voice-of-the-people.net/ContentFiles/vop2005.asp.

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Figure 5: Cross Continent Z-Scores for Religious Legal Freedom
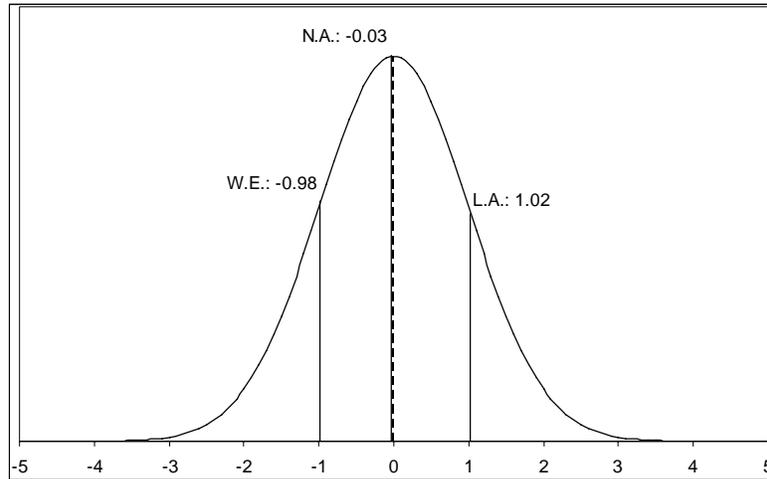
"Close or Legal connection" is a binary defined as the following: whether the country's Constitution explicitly states that a certain religious organization receives benefits or is recognized as a historical or traditional part of that country's heritage; whether the government of said State has a concordat with the Vatican or other major religious organization; whether the State Report explicitly states that a major religious organization exclusively enjoys or benefits from a close relationship with the country's government. Does not include facially neutral government policy that benefits a particular religion or religions.
Source: *International Religious Freedom Report*, (Washington D.C.: Bureau of Democracy, Human Rights, and Labor, 2007), http://www.state.gov/g/drl/rls/irf/2007/90270.htm.


Figure 6: Regional Z-Scores for Religiously-Affiliated People
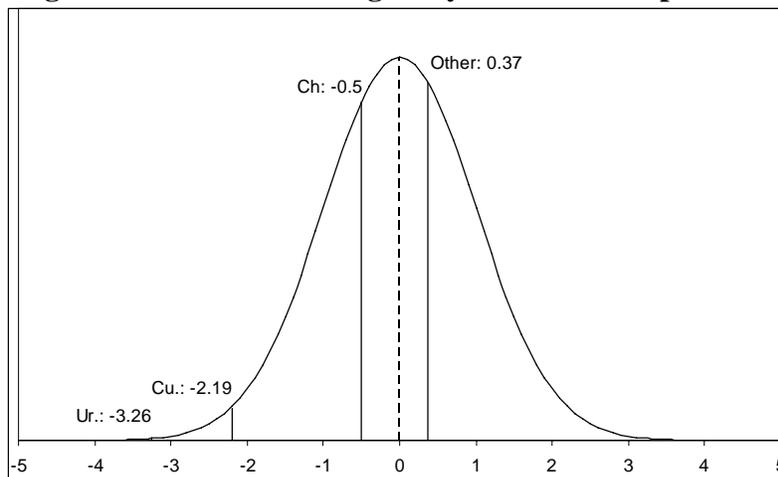
Ch. is Chile, Cu. is Cuba, and Ur. is Uruguay. Other is the average z-score for the other Latin American nations surveyed. Cuba is statistically significant at the .05 level with a p-value of .014, while Uruguay is statistically significant at the .01 level with a p-value of .001.
Source: *World Christian Database* (Breur & Co., 2005), http://www.worldchristiandatabase.org.

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Figure 7: Regional Z-Scores for High Religious Service Attendance
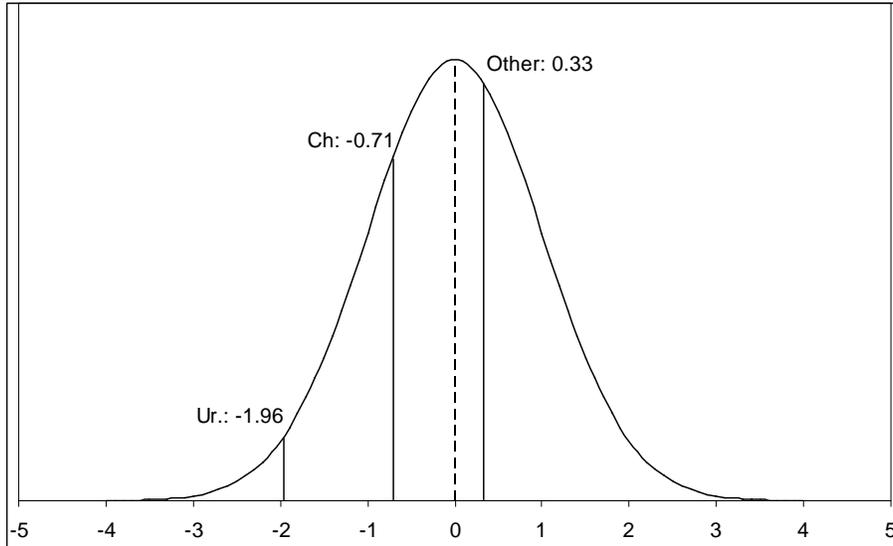
High attendance means attending religious services once or more per month. No data available on Cuba. Uruguay is statistically significant at the .05 level with a p-value of .025.
Source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

Figure 8: Regional Z-Scores for Strength and Comfort in Religion
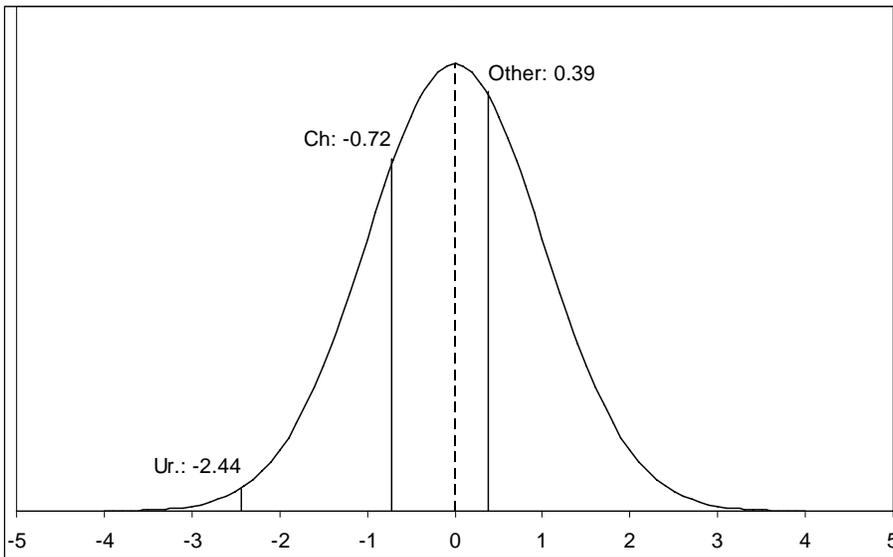
No data available on Cuba. Uruguay is statistically significant at the .01 level with a p-value of .007.
Source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

Table 1: Variable Comparison

Variable	Chile	Cuba	Uruguay	Mexico
Church Attendance	0.31	-	0.13	0.56
Nonreligious*	0.10	0.24	0.34	0.03
Comfort and Strength	0.70	-	0.49	0.88
Welfare	0.07	-	0.18	0.03
Regulation	2.00	3.00	2.00	1.00
Pluralism**	-11.92	-12.48	-11.09	-13.91
Urban	0.88	0.76	0.92	0.76
Literacy	0.95	0.96	0.97	0.90
Televisions	199	228	224	137
Catholic	1.00	1.00	1.00	1.00
Leftist	0.48	1.00	0.55	0.45

Table 2: Weekly Church Attendance

	I	II	III	IV	V	VI
Welfare	-.336***	-.339***	-.294*			
	(.001)	(.009)	(.063)			
Regulation	-.329***	-.334***	-.370***			
	(.000)	(.002)	(.002)			
Pluralism	-0.41	-.065	-.087	-.141	-.084	-.180
	(.607)	(.505)	(.373)	(.249)	(.417)	(.127)
Urban	-.244***			-.204		
	(.005)			(.152)		
Literacy		-.108			-.384***	
		(.399)			(.003)	
Television			-.182			-.339*
			(.390)			(.052)
Catholic	.481***	.457***	.381**	.692***	.554***	.468**
	(.000)	(.000)	(.023)	(.000)	(.000)	(.011)
Leftist				-.247*	-.378***	-.328***
				(.081)	(.001)	(.008)
N	25	25	25	25	25	25
Adj. R²	.875	.816	.816	.693	.819	.719
F	34.642***	22.227***	22.269***	14.528***	22.666***	16.325***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Durbin-Watson	1.192	1.996	1.733	2.060	1.509	1.730

Standardized beta coefficients presented. P-values in parentheses below coefficients.
* p < .10, ** p < 0.05, *** p < 0.01. Two-tailed tests.
This table examines twenty-five nations: Argentina, Austria, Brazil, Canada, Chile, Colombia, Denmark, Dominican Republic, El Salvador, Finland, Germany, Greece, Iceland, Ireland, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Philippines, Spain, Sweden, Switzerland, United Kingdom, and Uruguay.
Dependent variable source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

Table 3: Nonreligious Rate

	I	II	III	IV	V	VI
Welfare	.595*** (.000)	.582*** (.000)	.586*** (.005)			
Regulation	-.025 (.795)	-.038 (.739)	.055 (.657)			
Pluralism	-.182* (.059)	-.193* (.084)	-.213* (.068)	-.121 (.390)	-.208 (.149)	-.139 (.328)
Urban	.351*** (.002)			.574*** (.000)		
Literacy		.266* (.089)			.599*** (.001)	
Television			.230 (.403)			.823*** (.001)
Catholic	-.126 (.238	-.107 (.398)	-.043 (.831)	-.305** (.037)	-.218 (.173)	.140 (.517)
Leftist				-.190 (.188)	.089 (.547)	-.063 (.652)
N	30	30	30	30	30	30
Adj. R²	.767	.691	.661	.530	.494	.510
F	20.044*** (.000)	13.960*** (.000)	12.291*** (.000)	9.164*** (.000)	8.064*** (.000)	8.547*** (.000)
Durbin-Watson	2.517	1.923	1.853	2.413	1.893	1.866

Standardized beta coefficients presented. P-values in parentheses below coefficients.
* $p < .10$, ** $p < 0.05$, *** $p < 0.01$. Two-tailed tests.
This table examines thirty nations: Argentina, Austria, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Denmark, Dominican Republic, El Salvador, Finland, Germany, Greece, Iceland, Ireland, Luxembourg, Mexico, Netherlands, New Zealand, Nicaragua, Norway, Panama, Philippines, Spain, Sweden, Switzerland, United Kingdom, and Uruguay.
Dependent variable source: *World Christian Database* (Breur & Co., 2005), http://www.worldchristiandatabase.org.

Table 4: Strength and Comfort in Religion

	I	II	III	IV	V	VI
Welfare	-.471**	-.430*	-.497			
	(.025)	(.073)	(.107)			
Regulation	-.106	-.106	-.111			
	(.574)	(.574)	(.588)			
Pluralism	.003	.003	-.016	-.053	.010	-.098
	(.989)	(.989)	(.933)	(.797)	(.959)	(.618)
Urban	-.115			-.213		
	(.532)			(.373)		
Literacy		-.133			-.418*	
		(.592)			(.066)	
Television			-.003			-.458
			(.995)			(.118)
Catholic	.214	.182	.215	.401*	.248	.088
	(.275)	(.378)	(.487)	(.062)	(.252)	(.762)
Leftist				-.018	-.156	-.095
				(.939)	(.405)	(.620)
N	25	25	25	25	25	25
Adj. R²	.302	.298	.287	.106	.217	.178
F	3.075**	3.037**	2.931**	1.713	2.662*	2.303*
	(.034)	(.035)	(.040)	(.187)	(.063)	(.094)
Durbin-Watson	1.775	1.699	1.682	1.967	1.713	1.603

Standardized beta coefficients presented. P-values in parentheses below coefficients.
* $p < .10$, ** $p < 0.05$, *** $p < 0.01$. Two-tailed tests.
This table examines twenty-five nations: Argentina, Austria, Brazil, Canada, Chile, Colombia, Denmark, Dominican Republic, El Salvador, Finland, Germany, Greece, Iceland, Ireland, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Philippines, Spain, Sweden, Switzerland, United Kingdom, and Uruguay.
Dependent variable source: "Online Data Analysis," *The World Values Survey* (World Values Survey Association, 1994-2004), http://www.jdsurvey.net/bdasepjds/wvsevs/WVSAnalize.jsp.

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