

Values, Beliefs and Development

Jeffrey Jacob[†] and Thomas Osang^{*‡}

September 2007

ABSTRACT

This paper investigates the consequences of religion for economic development. In particular, we examine whether religious attitudes, beliefs, participation and preference contribute to differences in per capita income across countries. Using a large scale international survey on values and religious behavior, we estimate both cross-section and panel data models, controlling for the “deep determinants” of development: Institutions, geography and trade. Our results indicate that religion plays an important role in economic development, but mostly in a non-linear manner. Countries with moderate religious values and behavior tend to have higher income levels than countries on both ends of the religious spectrum.

JEL: O1, Z12, N1, H1, F1

Keywords: Development, Economics of Religion, Institutions, Openness, Geography

[†] Department of Business and Economics, Bethel University, St. Paul, MN 55112; E-mail: j-jacob@bethel.edu, Phone: (651) 638-6715

^{*} Department of Economics, Southern Methodist University, Dallas, TX 75275; E-mail: tosang@mail.smu.edu, Phone: (214) 768-4398

[‡] We would like to thank seminar participants at SMU, CSB|SJU, and Texas Camp Econometrics for their valuable comments and suggestions. Funding for this research project was provided through a Collin Powell Fellowship research grant from the Tower Center at SMU.

1. Introduction

According to the first three waves of the World Values Survey (Inglehart, 2000), 83% of the people interviewed believe in God, 75% believe in heaven, 26% attend a place of worship at least weekly and 38% at least once a month. More than 65% of the people questioned find comfort and strength in religion. In contrast, only 7% of the world's population are not affiliated with any religion or consider themselves as atheists (Barrett et al, 2001). Nevertheless, the distribution of religious beliefs, values, and practice is not uniform across countries. While the people in some countries such as Bangladesh, the Philippines, and Nigeria are predominantly religious both in expressed opinion and religious practice, other countries such as China, Russia, and Denmark display very low levels of religiosity (see Table 1(c) in the appendix for a ranking of countries by our religiosity index). Thus, given the importance of religion in many people's lives as well as the observed cross-country heterogeneity in religious beliefs and practice, it is worthwhile to examine whether religious behavior contributes to the existing differences in economic performance across countries.

The importance of religion as a determinant of economic development was introduced in the mainstream economic literature almost a century ago. Max Weber (1905) recognizing the far reaching role that religion can play in social transformation, went on to claim that the Protestant Reformation, through its impact on the belief system, was central to the emergence of capitalism. There have been several studies that have challenged the validity of this claim. Tawney (1926) and Samuelsson (1993) argue that the main capitalist institutions which Weber (1905) ascribes to the transformative power of the Protestant Reformation, predated that movement. A weaker version of the Weberian thesis was proposed by Eisenstadt (1968), according to whom it is not a particular theology or belief, but the "transformative potential" of religion that can result in shifts in values and behavior, which in turn can alter outcomes. Iannaccone (1998) provides an excellent survey of this literature on the economic of religion.

The direct link between religion and macroeconomic development of a country, though generally acknowledged, has received little attention in terms of empirical research. An

exception is the paper by Barro and McCleary (2003) who examine the growth impact of a number of religious variables in a panel of 59 countries. They find a statistically significant, inverse relationship between shares of Hindu, Muslim, Orthodox, and Protestant population and economic development, relative to the Catholic religion. Moreover, they find a significant positive relationship between belief in hell and development, as well as a significant negative relationship between monthly attendance and economic growth. Instrumental Variable (IV) estimates are used to account for the potential endogeneity of belief in hell and attendance. In a more recent study, Noland (2005) finds evidence that the hypothesis of religious faiths affecting economic performance cannot be rejected within a Neo-Classical production function approach. However, there is no clear cut evidence regarding the impact of any specific religious denomination on economic performance. For example, the share of Protestants is positive in some regressions and negative in others. Instead of examining the direct link between economic performance and religion, Guiso et al (2003) examine a variant of the Weberian hypothesis by focusing on how religion shapes people's attitudes. They find that Jews and Protestants have the greatest aversion to cheating on taxes, while Buddhists and Protestants are least likely to accept bribe. Private ownership is supported most strongly by Catholics, while Hindus and Muslims are the strongest opponents of competition.

More recently, Durlauf, Kourtellos and Tan (2006) re-examine the results in Barro and McCleary (2003). In particular, they test the robustness of the earlier results by including a wider set of control variables. To evaluate robustness, they use Bayesian model averaging methods. They confirm as robust the Barro and McCleary finding that monthly church attendance has a significant and negative impact on economic growth, but, in contrast to the Barro and McCleary results, they find that belief in heaven or hell is unrelated to economic growth. On a micro level, Gruber (2006) carries out a sub-national study linking religious attendance and economic outcomes in the United States. He finds that higher attendance, instrumented by a geographic measure of religious density, is generally related to better economic outcomes such as higher incomes, higher educational attainment, less reliance on welfare and disability receipt. A common

characteristic of the above studies is the use of a set of controls to account for other factors affecting economic performance such as measures of labor, physical and human capital.

As Rodrik et al. (2004) point out labor, physical and human capital, while affecting economic development, are in turn determined by deeper and more fundamental factors which fall into three broad categories: Geography, institutions and trade (Acemoglu et al., 2001, Rodrik et al., 2004, Frankel and Romer, 1999, Sachs, 2003, among others). Easterly and Levine (2003) provide a good overview of how each of these three determinants has been treated in the literature with the aim of explaining the vast differences in growth and levels of income amongst countries. Regarding the relative importance of the three deep determinants, Rodrik et al. (2004) report that institutions matter most for economic development once the endogeneity of institutions and trade has been properly accounted for, leaving a negligible role for geography and trade. Sachs (2003), on the other hand, finds that geography is the most important deep determinant of income and output, while Frankel and Romer (1999) underscore the importance of international trade. Re-examining this issue in a panel data context, Jacob and Osang (2006) find that all three determinants play a significant role in economic development, but that the economic and statistical significance varies with the way in which we measure institutional, trade-based, and geographic determinants.

In this study, we extensively examine the role of various aspects of religion - attitudes, beliefs, participation and preferences- on per capita incomes across countries, while controlling for the impact of the three deep determinants of economic development.

We make several contributions to the existing literature. First, our approach can be regarded as a synthesis of two different strands in the development literature: Economics and religion on the one hand, and deep determinants of development on the other. Second, we control for the potential endogeneity of the institutions and trade covariates as well as of some of the religious variables using alternative sets of instruments. In addition to external instruments as in Barro and McCleary (2003), we also construct instruments from within the model (Lewbel, 1997). Third, we account for a potentially

non-linear relationship between religious variables and economic performance. This is in contrast to the existing literature which has focused almost exclusively on a linear relationship. Finally, given that the religious experience is multi-dimensional, we investigate all major aspects of religion - attitudes, beliefs, participation and preferences. Thus, our approach is more extensive in scope than most previous inquiries.

The main findings of the paper are as follows. First and foremost, all four aspects of religion – attitudes, beliefs, participation and preferences – appear to matter for a country’s level of economic development, even after adequately controlling for measures of institutional quality, international linkages, and geography. Second, we find that the relationship between religion and income is non-linear (in variables) in most cases. In particular, we find that income levels tend to be the highest for countries with moderate expressions of religiosity and lowest for those at both ends of the religious spectrum. Third, we find that within each of the four aspects of religion, some variables are significant and others are not. For example, among the *religious belief* variables, we find that “Belief in God/Heaven” impact economic performance (non-linearly), while “Belief in Devil/Sin” typically do not. Similarly, among the *participation* variables, the impact of weekly and monthly attendance on income per capita is much less pronounced than the (non-linear) effect of yearly attendance. Finally, among the four aspects of religion that we investigate, the effect of religious *preference* (i.e., denominations) on economic performance is the most diffuse with no clear pattern emerging. For example, in the cross-section specifications, the Protestant population share estimates are insignificant, while in the panel data framework, the coefficient estimates for Protestants are highly significant and display a non-linear pattern of positive first and negative second order terms. Like Noland (2004), we do not find the share of Muslim population to exhibit a significant relationship with income in the panel data specifications. In the cross-section models, however, the Muslim share is negative and statistically significant.

The rest of the paper is organized as follows: Section 2 of the paper describes our empirical methodology, while Section 3 contains a discussion of the dataset. Results are presented in Section 4. Section 5 concludes.

2. Empirical Methodology

Our main objective is to study the relationship between religion and economic development, controlling for the commonly accepted deep determinants of development - institutions, trade and geography. We classify religious variables into four categories: Religious attitudes, religious beliefs, religious participation and religious preference. Attitudes capture people's perception of religion as a factor in their lives, as exemplified by the question whether they derive comfort and strength from religion. Beliefs measures people's faith in core religious concepts such as God, Heaven, Hell and Sin. Participation is a measure of the frequency with which people attend religious ceremonies. Finally, preference captures the share of the population belonging to one of the major religious denominations. We use per capita income as our measure of economic development. While other measures of development such as the United Nations' Human Development Index or inequality measures such as the Gini index have also been used in the literature (Abadie, 2004; Barro and McCleary, 2003), per capita income is by far the most frequently used measure of economic performance and thus makes the results from this study readily comparable to the existing literature. In addition to the religion variables, we control for Rodrik et al.'s (2004) deep determinants of development. We use two measures of institutional quality (Rule of Law and Contract Intensive Money), two measures of global integration (Trade Share and Import Tariff) and one measure of geography (Malaria Ecology). Based on introspection from bivariate scatter plots between per capita income and various religious variables (see Figs. 1(a)-(d)), which demonstrate a non-linear relationship, we use a linear as well as a quadratic term the religious variables. Thus, our main empirical specification is:

$$Inc_{iT} = \alpha + \beta_1 * \overline{Inst}_i + \beta_2 * \overline{Trade}_i + \beta_3 * \overline{Geog}_i + \gamma_1 * \overline{Religion}_i + \gamma_2 * \overline{Religion}_i^2 + \varepsilon_i \quad (1)$$

where Inc_{iT} is income per capita in the year 2000, and \overline{Inst}_i , \overline{Trade}_i , and $\overline{Religion}_i$ are the time-averaged measures of institutions, trade, and religion, respectively. $Geog$ is the time-invariant measure of geography and ε_i is the error term assumed to be iid and normally distributed.

Estimation of (1) poses a number of difficulties that need to be addressed. First, institution, trade and some religion measures are likely to be endogenous due to measurement error, survey bias, and/or reverse causality.¹ Consequently, appropriate instruments are needed for these measures. Of the various instruments found in the literature for institutions and trade, two stand out due to their desirable properties and widespread use: Settler Mortality as an instrument for institutions (see Acemoglu et al., 2001)² and Predicted Trade Shares as an instrument for a country's degree of integration (see Frankel and Romer, 1999). Though these two instruments have been shown to perform well in a number of studies, their first stage diagnostics have not measured up well according to some studies (Dollar and Kraay, 2003). Consequently, we use three other approaches to construct instruments for the institutions and trade measures.

The first approach builds on the idea suggested by several social scientists that a nation's culture can have an important impact on economic outcomes (Inglehart and Baker (2000), Landes (1998)). One channel through which culture and values affect economic performance is through institutions. Institutions are defined as the "humanly devised constraints that structure human interactions" (North, 1994). They are the rules of the game which govern how humans interact with each other. Naturally, the enforcement of rules is part of the effectiveness of institutions. The strength of contract enforceability can be gauged by the degree of confidence which citizens have in the establishment. We exploit this relationship by using measures of people's confidence in the government as instruments for institutional quality. This idea of using underlying cultural values- in this case, confidence in the establishment- as instruments for institutions follows from Grief (1994). Grief (1994) develops a formal model to show the impact of culture on institutions and traces out how cultural differences between two pre-modern trading

¹ For instance, see Frankel and Romer (1999)

² Acemoglu et al. (2001) argue that settler mortality is a truly exogenous instrument for institutions since it is not correlated with current income. However it determined the colonization strategies, which shaped past institutions. Current institutions were in turn shaped by these past institutions.

groups, one from the Muslim and the other from the Latin world, led to widely divergent institutional outcomes.³

We use a similar approach to find instruments for trade. International trade has been widely credited with increasing competition and improving efficiency. The most noted case of trade-led growth is the East Asian economic miracle. Several studies (for e.g. World Bank, 1993) ascribe the successful adoption of trade promoting policies in these emerging markets to the people's culture of hard work and openness to exploit the market opportunities. In this spirit, we use data on attitude towards market as instruments for trade.

Our third set of instruments is derived by applying the principal components analysis to obtain instrument indices from the set of instruments used in the previous approach⁴. Specifically, we create an index of the variables capturing the attitude towards the establishment and another one for the square of these variables. An instrument index measuring the attitude towards the market was created in a similar way. Based on the screeplot⁵, we picked principal components whose eigenvalues were greater than one. In each case, only the first principal component met this criterion. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which measures whether a low-dimensional representation of the data is possible, was in the acceptable range for all cases.⁶

Finally, for our fourth set of instruments, we follow the approach suggested by Lewbel (1997) to find instruments within the model by using second and third ordered centered moments of the endogenous institution and trade variables.

While the parameter estimates of some religion variables such as preference are not likely subject to an endogeneity bias, others are. In particular, religious attendance may be

³ In a related study Gwin and North (2004) show that a country's dominant religion is an important determinant in the quality of institutions.

⁴ See Tabellini (2005) and Filmer and Pritchett (2001) for applying principal components analysis in constructing economic indices.

⁵ A screeplot plots the variances against the number of the principal component

⁶ The KMO measure (Kaiser, 1974) was 0.64 and 0.62 for the levels and squares of the variables capturing the attitudes towards the government, respectively. It was 0.52 and 0.51 for the corresponding variables representing attitudes towards the market.

endogenous, as has been noted in the discussion of the secularization hypothesis. We use a three variables to instrument for religious variables. The first is a Hirschfeld Index of religious concentration. The idea here is that if a religion is dominant within a country, religious attendance will be strengthened, while a more diffused field of religions may make religious attendance less likely. Gruber (2005) makes a similar argument using religious density as an instrument for religious participation in the United States.⁷ The other two instruments are a dummy variable for the presence of state religion and an index of government regulation of religion (obtained from Grim and Finke, 2006).

We first carry out a Hausman (1978) specification test to check the endogeneity of the institutional and trade measures. If found endogenous, we use appropriate instrumental variable techniques to obtain consistent estimates.

For the instruments to be valid, they must meet two conditions: They need to be correlated with the endogenous variables and uncorrelated with the dependent variable, conditional on the fitted variables and the exogenous controls. Whenever possible, we therefore carry out Sargan's test for validity of the proper exclusion of the instruments from the second stage regression.⁸

Regarding the validity of the instruments in the first stage (reduced form regression) we report a battery of diagnostic tests. First, the Cragg-Donald (1993) chi-square statistic tests the null that the matrix of reduced form coefficients has rank= $K-1$ where K =number of regressors, i.e., that the equation is underidentified. This is a test of instrumental relevance and a rejection of the null means that there is at least one available instrument for each endogenous variable (see Hall et al., 1996). Second, we report the Anderson-Rubin underidentification test of the instrumental variables. This test is similar to the Cragg Donald test, but is robust to the presence of weak instruments (see Dufor, 2003, for a discussion). Third, we report Shea's partial R^2 (Shea, 1997). This is a simple diagnostic statistic for determining the strengths of instruments when there are multiple endogenous

⁷ Note that Barro and McCleary (2003) use religious pluralism as an instrument for attendance. They argue that greater plurality of religions and therefore more competition among them encourages religious participation. Hence they use 1-Hirschfeld Index as instrument.

⁸ Since Sargan's test is valid only in the case of homoscedastic errors, we also report the Pagan and Hall (1983) test of heteroscedasticity.

variables. Weak instruments may cause an identification problem for the partial effects of the endogenous variables in the IV regression framework (Dollar and Kraay, 2003). The final first-stage test we report is the F-stat form of the Cragg Donald (CD) test statistic (see Stock and Yogo, 2002). This statistic tests for the existence of a bias in the IV estimates resulting from weak instruments. For example, the null of a 30% bias in the IV estimator is rejected if the CD F statistic is larger than 4.73 for the case of 2 endogenous variables and 4 instruments (see Stock and Yogo, 2002; Table 1).⁹

We also extend our analysis to a panel data setup. Using a panel data approach enables us to exploit the time dimension of the data to account for unobserved cross-section heterogeneity. The estimated panel data model is:

$$\text{Inc}_{it} = \alpha + \beta_1 * \text{Inst}_{it} + \beta_2 * \text{Trade}_{it} + \beta_3 * \text{Geog}_i + \gamma_1 * \text{Religion}_{it} + \gamma_2 * \text{Religion}_{it}^2 + \varepsilon_{it} + \eta_r + \vartheta_t$$

where Inc_{it} , Inst_{it} , Trade_{it} , Religion_{it} , are time-varying measures of per capita income, institutions, trade and religion. Geog_i , is the time-invariant measure of geography. To control for some aggregate regional unobserved heterogeneity, we include region dummies (η_r) and time dummies (ϑ_t). ε_i is the error term assumed to be iid and normally distributed.

Due to the restricted sample size in many panel specifications, a fixed effect (FE) analysis is often not feasible. In those cases, we perform pooled OLS and Random Effect (RE) estimations instead. The decision to choose between pooled OLS and RE model is based on the Breuch-Pagan (BP) test for error components. Once, the appropriate model is chosen, we conduct the Hausman (1978) specification test to determine the need for instrumental variable estimation.

In some panel data specifications, a larger dataset is available enabling us to use FE estimation as well. In those cases, we again carry out a series of specification tests to choose the appropriate estimation technique. As before, we first check the appropriateness of the panel data methods using the BP test. Next, using a Hausman test, we check the appropriateness of the RE versus the FE specification. Finally, we test the

⁹ Estimation is done in STATA using ivreg2 (Baum et al., 2003)

chosen model from the previous step against its IV counterpart, again using a Hausman test.

3. Dataset

Our data spans three decades, 1970s, 1980s, and 1990s. For panel data analysis, we average our time varying macroeconomic variables for each decade to get a maximum of three observations per country. For cross section analysis, we average data over the three decades. Our dependent variable for cross-section study is GDP per capita in 2000, expressed in 1996 international dollars. Information on religion and culture variables are available, however, only for certain discrete time points. Based on the survey time periods, we match these observations to the respective decades considered in our study.

Our data on attitudes, values and beliefs comes from the first three waves of the World Values Survey (WVS; Inglehart et al, 2000). The WVS is a large scale international survey aimed at collecting national level data on a wide variety of cultural, religious and political variables. The survey contains socio-cultural information on 59 different countries, which together account for more than 80% of the world population. The three waves of the WVS we use are for the years 1980-80, 1990-93 and 1995-97. We match these time periods to the non-WVS data from the seventies, eighties and nineties respectively.

In each wave, an attempt is made to interview a nationally representative sample of at least a 1000 individuals from each country under study. Even though attempt is made to keep the sample large and free from any biases, some under or oversampling might occur. The WVS provides individual weights for each observation to correct for these sampling issues. We conduct our analyses on the weighted sample. Below, we provide a brief discussion of the variables used in our study.

3.1 Measures of Religion

As mentioned above, our religion measures cover four different religious dimensions: attitude towards religion, belief in various aspects of religion, religious attendance and

religious preference. The first three categories are drawn from the WVS (Inglehart, 2000) and the preference variables are drawn from Barrett et al (2001).

3.1 (a) Attitude Towards Religion

The first category of religious variables measures a country's attitude towards religion. They are based on two questions: "How important is religion in your life?" (Variable 9) and, "Do you find that you get comfort and strength from religion?" (Variable 191). The first question is measured on a scale of 1-4, with 1 implying "Very Important" and 4 representing the response: "Not at all important". We recode them so that higher number represents increased importance. The second has two responses: 1=Yes and 2=No. We recode "No" as 0.

3.1 (b) Belief in Religion

The next category is an indicator of people's beliefs in various dimensions of religion. The five questions we look at are, "Do you believe in God, Heaven, Soul, Devil and Sin?" (Variables 182, 188, 185, 186 and 189, respectively). Again, the responses are 1=Yes and 2=No. We dichotomize them with 1 representing a positive belief in the respective dimension.

3.1 (c) Religious Attendance

Religious Attendance variables are derived from the response to the question: "Apart from weddings, funerals and christenings, about how often do you attend religious services these days?" The responses are: 1= More than once a week, 2= Once a week, 3= Once a month, 4= Only on special holy days, 5= Once a year, 6= Less often and, 7= Never, practically never. From this, we construct three indicator variables: "Attend at least weekly" if response is 1 or 2, "Attend at least monthly" if response is 3 or less and "Attend yearly" if response is 5 or less.

3.1 (d) Religious Preference

The religious preference variable in the WVS survey contains some coding errors and possible corrections are suggested in the codebook. Even after implementing these changes, we found some discrepancies between the WVS data and the Central Intelligence Agency's World Factbook (CIA, 2001) data. Most importantly, an alternative data source on religious preference (World Christian Encyclopedia; Barrett et al, 2001) yields a much larger set of countries than that covered by the WVS. Consequently, we obtain information on religious preference from the alternative source. We construct eight religious preference variables: Percentage of population that is Protestant, Roman Catholic, Orthodox Christian, Jewish, Muslim, Buddhist, Hindu and following a religious faith other than the one listed above (Other Religion)¹⁰. The excluded religious group in our study is the share of percentage of population that is either atheist or has no religious affiliation. We also have a variable which captures the fraction of religious population, which is just the sum of the share of population adhering to any of the eight religious categories mentioned above. Note that of the 173 countries included in our religious preference sample, 14% report a total religious population that is greater than 100%, with Philippines having the largest share at 120.3% (see Table 1(c)).

3.1 (e) Index of Religiosity

Finally, we aggregate the above four categories of religious variables- attitudes, beliefs, attendance and the fraction of religious population into an Index of Religiosity. This is done by normalizing each of the four religious to lie between zero to one and then adding them up to obtain the index. The index thus ranges from lowest possible score zero to a highest possible value of four. Table 1(c) provides a ranking of countries based on our religiosity index.

3.2 Other Explanatory Variables

Our main measure of institution is contract intensive money (CIM) which was proposed by Clague et al (1999). It is defined as the ratio of non-currency money to total money.

¹⁰ The full set of religious groups used by Barrett et al. (2001) is: Roman Catholics, Protestants, Orthodox, Anglicans, Marginal Christians, Independent Christians, Muslims, Hindus, Chinese Folk Religionists, Buddhists, Ethnoreligionists, New Religionists, Sikhs, Jews, Spiritists, Baha'is, Confucianists, Jains, Shintos, Taoists, Zoroastrians, and Other Religionists. We combine Anglicans with Protestants.

The basic argument for such a measure stems from the fact that in societies where the rules of the game and property and contract rights are well defined, even transactions which heavily rely on outside enforcement can be advantageous. Currency in this setting is used only in small transactions. Agents are increasingly able to invest their money in financial intermediaries and exploit several economic gains. Clague et al (1999) discuss the various gains from increased use of CIM and augment their use of CIM with case studies. They also show that CIM is a measure of contracting environment and not of financial development, as one might suspect. This measure is thus in line with the definition of institutions as defined above. Moreover, CIM is a more objective measure that is free from some of the biases and measurement errors that affect many survey based measures of institutions. As an alternative institutional measure, we use Rule of Law (Kaufman et al., 2003). This variable captures the extent to which agents have confidence in and abide by the rules of society.

The extent of openness of a country is measured by its share of trade in the GDP as well as import tariffs (obtained from the World Bank, 2003). For geography, we used a recently developed measure of disease environment called Malaria Ecology, proposed by Sachs (2003). Sachs has argued that the traditional malaria index (Gallup, Sachs and Melligner, 1998) used in the literature is not a good indicator of the disease environment. Instead, he uses a new measure, named Malaria Ecology (ME) that combines temperature, mosquito abundance and vector specificity. In contrast to the old measure, this new variable is an ecology-based measure that is predictive of malaria risk.

3.3 Variables used as Instruments

Our set of instruments is based on people's attitude towards the establishment (as instruments for institutions) and markets (as instruments for trade). In particular, we use the following four questions from the WVS as instruments for institutions: "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?" The organizations we look at are: Government (Variable 142), Parliament (Variable 144), Police (Variable 141) and Armed Forces (Variable 136). The

responses are originally coded from 1 to 4, with 1=Great deal of confidence and 4= None at all. However, we rescale them so that a higher number represents a greater degree of confidence.

We use three questions from the WVS measuring people's attitude towards markets as instruments for trade. Specifically, these questions ask the respondent to rank a given statement in the following way: "Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between." The three statements we look at are: (i) "Competition is good. It stimulates people to work hard and develop new ideas"; (ii) "In the long run, hard work usually brings a better life"; (iii) "Wealth can grow so there's enough for everyone" (Variables 128-130, respectively). We recode the answers to these questions such that higher scores reflect a more positive attitude towards the market.

Religious variables are instrumented by a set of three variables. Two are constructed from Barret et al (2004)- Hirtendahl index of religious concentration and the presence of state religion. Latter is a dummy variable taking the value of one if there was a state religion in two out of the three sample periods. We also use as instrument an index of government regulation of religion constructed by Grim and Finke (2006).

4. Empirical Results

4.1 Cross-Section Analysis

We first estimate the impact of religious attitudes on economic performance within a cross-section context (see Table 2), using measures of institutions, trade and geography as covariates. Based on introspection from bivariate scatter plots (see Figs. 1(a)-(d)), we model the potential non-linearity between the religious variables and economic performance using a second-order polynomial for the religious variables. Given the potential simultaneity between the economic performance variable and measures of institution and trade, we compare and test the OLS estimate (Col. 1 and 6) with various

sets of IV estimators (Cols. 2-5 & 7-10). In particular, we use three sets of instruments. The first set of instruments (IV(A)) uses attitudes towards hard work, competition and wealth accumulation and their square terms as instruments for trade; as well as confidence in government, parliament, army and police and their square terms as instruments for institutions. The second set (IV(B)) employs the first principal component of the levels and squares of the variables in set A as instruments for institutions and trade. The third set (IV(C)) uses the second and third order centered moments of each endogenous variable as instruments for that particular variable. For each IV specification, we also estimate an extended IV model (IV-R(A), IV-R(B) and IV-R(C)) where we not only instrument for trade and institutions but also for the religion variables. Specifically, we use the Herfindahl index of religious preference, an index of government regulation of religion, and the presence of a state religion as instruments in sets A, B, and C.

The main finding from Table 2 is that the two variables measuring religious attitudes - importance of religion (Cols. 1-7) and religion as a source of comfort and strength (Cols. 8-14) - exhibit a statistically significant impact on per capita income. The positive sign of the level estimate and the negative sign for the square term imply that income levels initially rise, then taper off, and eventually decline as religious attitudes gain strength.¹¹ The Hausman specification test indicates that only IV(A) estimates are preferred to OLS at the 5% level (col. 2 and 9), but not IV(B) and IV(C). Furthermore, when comparing IV(A) to IV-R(A), we get mixed results. For the importance of religion variable, we cannot reject the IV(A) null (col. 2), while for the comfort in religion variable, the IV(A) specification is rejected in favor of IV-R(A). Thus, the two preferred specifications in Table 2 are those in columns 2 and 10.

Regarding the strength of the instruments used in the IV regressions, we find that, for the specification in col. 2, all tests indicate the validity of the instrument set with the

¹¹ Note that linear and quadratic terms are also jointly significant in all specifications, as reported in the table.

exception of the relatively low value of the CF-F statistic of 0.8. For the specification in col. 10, the CD Underid. Test now rejects the instruments in the first stage, while the CD – F statistic is even lower (0.08). All other tests, however, underscore the relevance of the instrument set including Sargan’s overidentification test. Note that the Pagan-Hall test indicates that – across all specifications – the null of homoscedastic error terms cannot be rejected.

With one exception (import tariffs in Col. 13), all covariate estimates have the expected signs, that is positive for CIM and negative for import tariffs and malaria ecology. Furthermore, the majority of CIM estimates are statistically significant at the 10% level. However, only four import tariffs and malaria ecology estimates are significant. The imprecision in the estimation of these two deep determinants is most likely the result of the small sample size in most specifications in Table 2(a) and not a reflection of the dominance of institutional measures over trade and geography variables.

In all subsequent tables we use CIM and Import Tariff as our primary measures of institutions and trade, respectively. We always present the OLS results as a benchmark, but report only those IV estimates which are preferred to the OLS estimates according to the Hausman test. For each IV estimator, we report the same first and second stage diagnostic tests as in Table 2.

Table 3 examines the role of religious beliefs in economic development. In particular, we use five different forms of religious beliefs: In God (Cols. 1-5), Heaven (Cols.6-11), Soul (Cols. 12-17), Devil (Col. 18. 19) and Sin (Col. 20, 21). The strongest results from Table 3 are with respect to Belief in God (Cols. 1-5) which is statistically significant in both linear and second order term in all cases. Using alternate trade measures does not affect these results. Belief in Heaven (Cols 6-11) also shows a non-linear pattern but is statistically significant in fewer cases. When combined with Import Tariff (Cols 6 & 7), only the second order term is significant in the OLS regression, while both terms are statistically significant in the IV (A) estimator (Col 7). Replacing Import Tariff with Trade Share (Cols. 8-11), we find that OLS is rejected against all IV estimates. Interestingly, neither OLS nor IV estimates yield significant results, except the second

order term in IV(A) (Col. 9). For Belief in Soul (Cols. 12-17), only IV(A) and IV(C) yield statistically significant results for both, linear and the second order term while only the latter is significant in Cols. 15 and 16. The remaining religious belief variables - Belief in Devil and Belief in Sin- are never statistically significant. While the last two religious belief variables can be thought of as representing the deterring aspect of religion, the first three –Belief in God, Heaven and Soul- reflect, at least to some degree, the redeeming side of religion which may explain their stronger explanatory power. Except for Shea's Partial R^2 for IV(A) (Col. 2) and the CD F-statistic for all IV estimators, the first and second stage diagnostic statistics confirm the relevance of the chosen instruments.

Regarding the other covariates, CIM has a positive and statistically significant impact on economic development in 15 out of 21 cases. With one exception, the Import Tariff estimates are negative and statistically significant, while Trade Share is statistically significant (and has the right sign) in four out of eleven cases (Cols. 9, 10, 15 & 16). As expected, Malaria Ecology exerts a negative impact on development but is significant in only half of all cases.

In Table 4, we look at the third category of religious variables: Religious Participation or Attendance. Attendance has been linked to the extent of religiosity in several previous studies. One concern with using attendance as a determinant of economic development has become known as the secularization hypothesis: In the early stages of development, places of religious worship tend to serve as important venues for networking and social capital formation. As a result, greater attendance can have a positive impact on income levels. However, as a country develops, formal institutions start maturing causing the demand for places of worship as facilitators of social capital to decline. As a result, attendance will decline. This potential feedback from income to attendance may bias the attendance estimates. In our analysis, we control for this potential endogeneity by using the instruments for religion discussed earlier. We consider three levels of religious participation: Attend religious worship at least once a week, at least once a month, and at least once a year.

Weekly attendance exerts a linear negative impact on development (Cols. 1 and 3). Since estimates for monthly attendance are statistically insignificant across most specifications, we only report the benchmark OLS results (Col. 3). For both these attendance variables, the linear terms are negative and the quadratic terms are positive. In contrast, Yearly attendance demonstrates the nonlinear relationship found in the previous tables – a positive linear and a negative second order term (Cols. 5-9). All second order terms are statistically significant at the 10% level. The linear terms are significant too, but most of them at a lower level (e.g. 15% level).

While CIM is statistically significant in only one case (Col. 6), its point estimates are in the familiar range between two and ten (see Tables 2 and 3). Import Tariff and Trade Share have the expected signs (except for Cols. 2 and 10), but only Import Tariff are statistically significant. Malaria Ecology has the expected negative sign in all cases and is statistically significant at the 10% level in all but one.

In terms of the validity of the instruments, the AR joint significance test, which is robust to the presence of weak instruments, rejects the null of underidentification of the first stage equation in Cols. 6, 8 and 9. The Shea's partial R^2 values are also reasonably high in most cases, indicating that collinearity between instruments is not a problem. Except for Col. 6, Sargan's overidentification test indicates that the instruments are correctly excluded from the second stage regressions.

In Table 5 we report our findings regarding the impact of the size of the religious population on economic development. The size of the religious population is defined as the share of population adhering to any religious group. The difference between Cols. 1-2 and 3-4 is that we alternate between the two trade measures. The size of the religious population does not appear to have any statistically significant impact on economic development, while institutions (CIM), trade (import tariff) and geography (Malaria Ecology) exhibit the expected signs, with the latter two also statistically significant in most specifications. With regard to instrument strength, all tests are favorable including the CD F-statistics.

Next we combine the variables measuring religious attitudes, beliefs, participation and population size into an index of religiosity (Table 6).¹² The results confirm our previous findings. The religiosity index has a non linear impact on economic development. Per capita income levels increase with the index of religiosity, taper off and then eventually experience a decline as the index increases. Furthermore, the linear and square terms of the index variable are significant in four out of six specifications. The magnitude of the impact remains robust to alternative choice of trade policy variables. As before, CIM, Malaria Ecology and Import Tariff are mostly statistically significant and display the expected signs.

We now turn our attention to the most frequently studied question in the area of religion and development: The impact of different religions on economic development. In the most disaggregated specification (Table 7a), we include the following religious groups: Protestants, Roman Catholics, Orthodox Christians, Jews, Muslims, Buddhists, Hindu and Other Religion. In a more aggregated specification (Table 7b-c), we use only five groups: Muslims, Buddhists, Hindu, Other Religion, and Judeo-Christian (an aggregation of the first four religious denominations).

Since the data on religious denominations are more widely available than on religious attitudes, beliefs and participation, the sample size in Table 7a-c is substantially larger than in the previous tables.

In Table 7(a), we alternate between the two institution measures (CIM, Cols 1-4 & Rule of Law, Cols 5-7) and the two trade measures (Import Tariff, Cols 1,2,5,6 and Trade Share, Cols 3,4,7). As before, we report both OLS and IV estimators. Given the data limitations, the only available instrumental estimator is IV(C)¹³.

Interestingly, most of the denomination variables have a statistically *insignificant* impact on income levels. The two exceptions are the variables for Muslim and Other Religion, both of which exhibit a negative sign. The share of the Protestant population is

¹² For a ranking of countries by the religiosity index, see Table 1(c).

¹³ We can not use instrument sets A and B as they are derived from the WVS, which only cover a limited set of countries.

statistically significant in four specifications, of which three are negative (Cols 5-7) cases. The positive coefficient estimates for the shares of the Jewish and Buddhist population are statistically significant in only two out of seven cases. There is not a single significant point estimate for the shares of Catholic, Hindu, and Orthodox population. Signs vary for Catholics and Orthodox, but are negative throughout for Hindus.

The other covariates display mixed results. The institution variables (CIM and Rule of Law) have the expected sign and magnitudes and are statistically significant in most cases. The Import Tariff variable has the expected sign and is mostly statistically significant. In contrast, the Trade Share covariate is never statistically significant and has the wrong sign in 50% of the cases. Malaria Ecology exhibits the expected sign in all cases and is statistically significant near the 15% level in most. The quality of the instruments (first and second stage) is supported by all test statistics except for the AR Joint significance test (Col. 4).

When switching to more aggregate religious groups (Table 7 (b)), the main finding is that the sign of the point estimates for each group is now uniform across all specifications (Cols. 1-8). A larger share of Judeo Christians and Buddhists increases per capita income, while larger shares of the other three religious denominations reduce it. However, the positive sign is always statistically insignificant for the Judeo Christian group and in half of the cases (Cols. 5-8) for the Buddhist population share. Similarly, the negative sign for the share of Hindus is never statistically significant. Thus, only the share of Muslims and Other Religion exerts a statistically significant negative impact on per capita income.

Except for the Trade Share, all remaining covariates have the expected sign and are statistically significant in most cases. Just as in Table 7(a), the quality of the instruments (first and second stage) is supported by all test statistics except for the AR Joint significance test in Col. 4. Once again, the CD F-statistics are encouragingly high indicating a low bias of the IV estimates.

In Table 7(c), we repeat the analysis of the previous table but allow for non-linearities in the religious preference variables. Allowing for non-linearities leads to some important

differences in results. For example, the Judeo Christian religion, which was statistically insignificant in the previous table, now has a statistically significant non-linear impact on pre capita income. The same holds for the share of the Buddhist population. For both religious groups, the linear terms are positive, while the second order terms are negative, the familiar finding from Tables 2-6. There is no evidence that a similar non-linear relationship between religious preference and income exists for the other religious groups. Rather, we find that in the case of Muslim, Hindus and Other Religion the linear term is statistically insignificant at the 10% level in all but one case (Col. 4, % Muslim), while the second order term is negative and significant in most specifications. This implies that Table 7(c) reinforces the results of Table 7(b) with regard to Muslim, Hindu and Other Religion shares. For the other two groups, the results change from “indifferent impact” to “non linear impact” where extremely high or low shares are associated with lower income levels, while moderate shares of either group are linked to the highest per capita income levels.

CIM, Rule of Law and Import Tariff all have the expected sign and are statistically significant in the majority of cases. As before, the Trade Share variable performs poorly and is statistically insignificant throughout. The main difference here is that Malaria Ecology is estimated less precisely, with its point estimate generally not statistically different from zero. With the exception of the AR Joint Significance test in Cols. 2 and 4, all first and second stage diagnostic tests for instrument relevance and validity are quite satisfactory.

4.2 Panel Data Results

A shortcoming of the cross-section approach is that it assumes that all covariates have the same impact across countries. In other words, the model ignores unobserved cross-country heterogeneity. Using a panel data approach enables us to exploit the time dimension of the data to account for unobserved country-specific heterogeneity. This typically requires the estimation of fixed-effect model. However, due to the limited coverage in the WVS dataset (some of the variables are available only for one or two years) estimating a country-specific fixed-effect model would result in imprecise point

estimates due to the large number of parameters to be estimated. Instead, we include model specifications with region dummies and time dummies (1980 and 1990). In addition to pooled OLS, we report random-effects (RE) and instrumental (IV) estimates. As before, we report IV estimates whenever the Hausman specification test favors the IV approach. Similar to section 4.1, we investigate the impact of religious attitudes, beliefs, attendance, and overall religious population, followed by the analysis of religious denominations.

In Table 8 we study the impact of two religious variables –one capturing religious attitudes (Comfort in Religion, Cols. 1-4) and the other capturing religious beliefs (Belief in God, Cols. 5-7). This table is the panel data equivalent of Tables 2 and 3. In Cols. 1 and 2, we report the pooled OLS and RE results, respectively. Comfort in Religion has a statistically significant and non-linear impact on income in the pooled OLS case. The BP test, however, indicates the presence of error components and thus the appropriateness of the RE model. In that specification, the linear term of the Comfort in Religion variable is no longer significant. In Cols. 3 and 4, we add region and time dummies to the OLS and RE model, respectively. Compared to the specifications without dummies, the parameter estimates for the Comfort in Religion variable are no longer significant, but sign and magnitude of the two terms are similar. The two time dummies and most of the region dummies are statistically significant and have the expected signs. For the Belief in God variable, we report the benchmark pooled OLS case (Col. 5), pooled OLS with region and time dummies (Col. 6) as well as pooled IV with region and time dummies (Col. 7). In all three cases Belief in God has a statistically significant and non-linear impact. The Hausman specification test indicates again the appropriateness of the IV approach (Col. 7) over the simple pooled OLS model (Col. 6).

As in the cross-section models, most control variables have the expected sign and are generally statistically significant. The exception are the Trade Share estimates, two of which not only have the wrong sign but are statistically significant at the 5% level (Cols 6 & 7). Regarding instrument quality, all tests indicate the validity of the instruments in the reduced form regression as well as their proper exclusion from the second stage regression (Col. 7).

Table 9 (the panel data version of Table 4) investigates the impact of the religious attendance variables. The results for Weekly Attendance were not statistically significant in a panel framework when both linear and non-linear terms were included. Thus, we restrict our attention to just the linear form (Cols 1-4). Weekly Attendance exhibits a negative sign and is highly significant in all four specifications. This result points to a clear trade-off between intense religious participation and economic performance: The higher the percentage of people attending religious ceremonies at least once a week, the lower a country's per capita income. Monthly Attendance (Cols. 5,6) produces similar results. In contrast, the Yearly Attendance variable demonstrates the familiar non-linear pattern of positive linear and negative second order term and is statistically significant near the 10% level in most cases (Cols. 7-9). These results suggest that countries with moderate coverage rates regarding religious participation (i.e. the percentage of people attending religious ceremonies at least once a year) have higher income levels than countries with both, extremely low or extremely high coverage rates.

All control variables perform fairly well in Table 9. CIM has the correct sign and is statistically significant at the 5% level in two third of the cases. The Trade Share variable is positive and statistically significant around the 10% level in three out of four cases. The Import Tariff covariate is also statistically significant in three specifications but has the expected sign in all five cases. Malaria Ecology always has the expected sign and is statistically significant at the 5% level. As in Table 8, the diagnostic tests confirm the appropriateness of the instruments in the IV(C) specification.

The panel estimates in Table 10 correspond to the cross-section regressions in Table 5. Given the larger sample size compared to the previous two tables, we estimate fixed effects (FE) models (Cols. 1 and 3) and compare them to their IV counterparts (FEIV, Cols. 2 and 4). As in Table 5, our findings illustrate a non-linear relationship between religious population size and per capita income. Interestingly, the panel estimates yield the exact opposite signs for the linear and the quadratic terms. This implies that countries with moderate sized religious population have lower income levels than countries with populations leaning towards the extremes of atheism or complete religious affiliation. One caveat to this finding is that the positive quadratic term is small in magnitude

relative to the size of the negative linear term and lacks significance in all but one case (Col. 4). Therefore, an alternative interpretation of the results in Table 10 points to a simple inverse relationship between religious population size and economic performance.

Both institution and trade exhibit the expected signs and are highly significant in most cases. Note that Malaria Ecology, as a time invariant variable, had to be dropped from all regressions due to the inclusion of fixed effects. With regard to the specification tests, the BP test indicates a preference of the RE model over pooled OLS. In turn, the Hausman test indicates that the FE model is the correctly specified model when compared to the RE model. Finally, the Hausman test between FE and FEIV points to the latter model as the correctly specified model. While the first stage instrument diagnostic tests are favorable, Sargan's overidentification test raises doubts concerning the validity of the exclusion restrictions.

Table 11 is the panel data counterpart to Table 7. In both tables, we examine the role of religious denominations on economic development. In Cols. 1 and 2 of Table 10, we enter the different religious faiths linearly followed by their corresponding non-linear specifications in Cols. 3 and 4. The non-linear terms for Roman Catholic and Muslim have been omitted due to their statistical insignificance. We apply the same approach for the aggregated case of five religious groups (Cols. 5-8). Again, we omit the squared terms for Judeo Christian and Muslim (Cols. 7 and 8).

Cols. 1-2 indicate that the share of protestant population has a positive sign but, as in Table 7(a), is not particularly significant. As Cols. 3 and 4 show, allowing for non-linearities leads to significant linear (positive) and quadratic (negative) terms. In addition, it increases the magnitude of the linear term substantially. This type of non-linearity is a familiar finding from previous tables. Cols. 3 and 4 also reveal that Orthodox, Buddhist, Hindu and Other Religion exhibit the same non-linear pattern as the Protestant faith. In the case of the Orthodox and Buddhist faith, however, the level of significance is diminished. There are important differences between the panel and cross section results. First, the impact of the share of Catholic population is now positive and statistically significant at the 1% level. The point estimates are also much larger (around 0.5 as

compared to 0.03). Second, the share of the Jewish population is now negatively correlated with income, though the point estimates are statistically significant in only one case (Col. 4). Third, the share of the Muslim population now has a positive sign in three out of four cases but is significant in only one of them (Col. 2).

As in Table 7(b) we combine the first four religious groups into one group (Judeo-Christian, Cols. 5-8). As with the cross section results, the share of the Judeo Christian population is positive, but in contrast to the earlier results, the estimates are now highly significant. Unlike, the findings from Table 7(b) the estimate of the share of the Muslim population are now mostly positive but significant in only one case (Col. 6). As in Table 7(b) the share of the Buddhist population is positive but insignificant (Cols. 5 and 6). In contrast to Table 7(b), both, Hindu and Other Religion now have positive parameter estimates, but only the latter group's estimates are statistically significant.

The findings regarding the signs of the non-linear specifications (Cols. 7 and 8) mirror those of Table 7(c), at least with regard to Buddhist, Hindu and Other Religion. The main difference pertains to the level of significance. In Table 11, both Hindu and Other Religion have significant linear and quadratic terms, while for Buddhist only the square term is significant.

The results for the other covariates are, at best, average. While CIM has the expected positive sign in all but one case, it is statistically significant in only half of them. The Import Tariff covariate has the expected negative sign only in the simple FE models and is insignificant in all cases.

The BP test clearly rejects pooled OLS in favor of the RE specification. Furthermore, the Hausman test between RE and FE specification favors the FE estimation in all four cases. Finally, the Hausman test of IV versus non IV models indicates the appropriateness of the latter specification. Regarding the first and second stage diagnostic test results, except for the AR joint significance test, all results affirm the validity and relevance of the instruments used in the IV(C) estimations.

5. Summary and Conclusions

We find that religion matters for the economic performance of countries, even after controlling for the influence of such important determinants as public institutions, international linkages, and geography. In contrast to previous findings in the literature, however, our evidence points to a non-linear relationship between measures of religiosity and per capita income. Countries with moderate values for their religious indicators tend to enjoy higher levels of income than those with extremely high or low values. There is a plausible explanation for this non-linearity. When comparing low- to mid-level religious countries, the latter may benefit from incentives and behavioral modifications triggered or provided by religious beliefs and practice. In the context of countries with Christian faith, this could be called the “Protestant Ethics” effect. When comparing mid- to high-level religious countries, the latter may experience income losses due to reduced labor productivity as a result of the extensive involvement of their citizens in religious practice or due to barriers to scientific research, gender equality, and educational attainments, among others, justified by overbearing religious beliefs and attitudes.

In addition to our main ‘non-linearity’ finding, several more specific results emerge concerning the impact of religion on economic performance. Two religious attitude variables - importance of religion and religion as a source of comfort and strength - have a strongly significant (non linear) effect on per capita income levels. Regarding religious beliefs, those representing the redeeming aspect of religion – Belief in God, Heaven and Soul - have a more pronounced statistically significant impact on income than those capturing the punishing aspects (Belief in Devil and Sin). Like some of the previous studies, we find a negative relationship between both weekly and monthly religious participation and income levels. Participation in religious ceremonies at least once a year, however, demonstrates the same non-linear relationship with income as the religious attitudes and beliefs variables. Finally, the effect of religious denominations on economic performance is more diffuse with no clear pattern emerging.

As in some of the existing studies, we find that the three deep determinants – institutions, trade and geography - exhibit strong linkages with income. While endogeneity of the explanatory variables (including some of the religion variables) is an ongoing issue, we

find that our instrumental variables for institutions, trade, and religion perform well in most cases.

Regarding the robustness of our results, we find that most of the cross-section findings carry over to the panel data framework, which allows us to control for region and time effects and, in some cases, even for country-fixed effects.

There are several possible extensions of our work. As noted in Section 2, economic development has several dimensions besides per capita income. It will be interesting to explore the linkage between religion and some other development measures such as educational attainment, health, income inequality and attitude towards violence. Following Gruber (2005), it would be interesting to examine the role of religion and economic outcomes at the individual level, with individual data coming from several countries as in Guiso et al. (2003).

References

- Abadie, Alberto (2004), "Poverty, Political Freedom, and the Roots of Terrorism," *NBER Working Paper No. W10859*.
- Acemoglu, Daron, Simon Johnson and James A. Robinson (2001), "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review*, 91, 1369-1401.
- Barrett, David B., George T. Kurian, and Todd M. Johnson (2001), *World Christian Encyclopedia* (2nd edition), Oxford: Oxford University Press.
- Barro, Robert J., Rachel M. McCleary (2003), "Religion and Economic Growth Across Countries," *American Sociological Review*, 68 (5), 760-781
- Baum, C. F., M. E. Schaffer, and S. Stillman (2003), "Instrumental variables and GMM: Estimation and testing," *Stata Journal*, 3(1), 1-31.
- Central Intelligence Agency (2001), *The World Factbook, 2001*, Washington, DC: U.S. Government Printing Office.
- Clague, Christopher, Stephen Knack and Mancur Olson (1999), "Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance," *Journal of Economic Growth*, 4(2), 185-211
- Cragg, J.G. and S.G. Donald (1993), "Testing Identifiability and Specification in Instrumental Variable Models," *Econometric Theory*, 9, 222 – 240.
- Dollar, David and Aart Kraay (2003), "Institutions, trade, and growth : revisiting the evidence," *Policy Research Working Paper Series 3004*, *The World Bank*.
- Dufour, J. M. (2003), "Identification, Weak Instruments, and Statistical Inference in Econometrics," *CIRANO Working Paper*.
- Durlauf, Steven N., Kourtellos, Andros and Tan, Chih Ming (2006), "Is God in the Details? A Reexamination of the Role of Religion in Economic Growth" (September 27, 2006). Available at SSRN: <http://ssrn.com/abstract=933989>
- Easterly, William and Levine, Ross (2003), "Tropics, Germs, and Crops: How Endowments Influence Economic Development," *Journal of Monetary Economics*, 50(1): 3-39
- Eisenstadt, Shmuel N. (1968), *The Protestant Ethic and Modernization: A Comparative View*. New York: Basic Books.
- Filmer, Deon and Lant H. Pritchett (2001), "Estimating Wealth Effects without Expenditure Data--Or Tears: An Application to Educational Enrollments in States of India," *Demography*, 38 (1), 115-132.
- Frankel, Jeffrey A. and David Romer (1999), "Does Trade Cause Growth?," *American Economic Review*, 89(3), 379-99

- Gallup, John Luke, Jeffrey D Sachs and Andrew D Mellinger (1998), "Geography and Economic Development," *Harvard Institute of Economic Research Working Papers*, Harvard - Institute of Economic Research.
- Greif, A. (1994), "Cultural beliefs and the organization of society: A historical and theoretical reflection on collectivist and individualist societies," *Journal of Political Economy*, 102(5), 929-950
- Grim, Brian J. and Roger Finke (2006), "International Religion Indexes: Government Regulation, Government Favoritism, and Social Regulation of Religion," *Interdisciplinary Journal of Research on Religion*, 2(Article 1), 1-40
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales (2003), "People's Opium? Religion and Economic Attitudes," *Journal of Monetary Economics*, 50, 225-282.
- Gruber, Jonathan (2005), "Religious Market Structure, Religious Participation, and Outcomes: Is Religion Good for You?," *Advances in Economic Analysis & Policy*, Berkeley Electronic Press, 5(1), 1454-1454
- Gwin, Carl R. and North, Charles M (2004), "Religion's Role in the Rule of Law", *Working Paper*.
- Hall, A. R., G. D. Rudebusch, and D. W. Wilcox (1996), "Judging Instrument Relevance in Instrumental Variables Estimation," *International Economic Review*, 37(2), 283-298.
- Hausman, J. (1978), "Specification Tests in Econometrics," *Econometrica*, 46(6), 1251-1271.
- Iannaccone, L.R. (1998), "Introduction to the Economics of Religion," *Journal of Economic Literature*, 36 (3), 1465-1496.
- Inglehart, R. and W. E. Baker (2000), "Modernization, Cultural Change and the persistence of Traditional Values," *American Sociological Review*, 65, 19-51
- Inglehart, R. et al (2000), "World values surveys and European values surveys, 1981-1984, 1990-1993 and 1995-1997 [Computer File]", Ann Arbor-Michigan, Institute for Social Research, ICPSR version.
- Jacob, Jeffry and Thomas Osang (2006), "What Matters for Economic Development: Institutions, Geography and Trade- A Panel Data Study," *Working Paper*
- Kaiser, H. F. (1974), "An Index of Factor Simplicity," *Psychometrika*, 39, 31-36
- Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi (2003), "Governance Matters III: Governance Indicators for 1996-2002".
www.worldbank.org/wbi/governance/govdata2002/
- Landes, D., (1998), *The Wealth and Poverty of Nations*, Little, Brown, and Company, London.
- Lewbel, Arthur (1997), "Constructing Instruments For Regressions With Measurement Error When No Additional Data Are Available, With An Application To Patents And R&D," *Econometrica*, 65(5), 1201-1213.

- Noland, Marcus (2005), "Religion and economic performance," *World Development*, 33 (8), 1215-1232
- North, Douglass C. (1994), "Institutions Matter," Working Paper Archive at WUSTL. Paper # 9411004
- Pagan, A. R. and D. Hall (1983), "Diagnostic Tests As Residual Analysis," *Econometric Reviews*, 2(2), 159-218.
- Rodrik, Dani, Arvind Subramanian and Francesco Trebbi, (2004). "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development," *Journal of Economic Growth*, 9(2):131-165
- Sachs, Jeffrey D (2003). "Institutions Don't Rule: Direct Effects of Geography on Per Capita Income", National Bureau of Economic Research, Inc, NBER Working Papers: 9490. Data on Malaria Ecology obtained from:
<http://www.earth.columbia.edu/about/director/malaria/index.html>
- Samuelsson, Kurt (1993), *Religion and Economic Action: The Protestant Ethic, the Rise of Capitalism, and the Abuses of Scholarship*, Toronto: U. Toronto Press.
- Shea, J. (1997), "Instrument Relevance In Multivariate Linear Models: A Simple Measure," *Review of Economics and Statistics*, 49(2), 348-352.
- Stock, James H. and Motohiro Yogo (2002), "Testing for Weak Instruments in Linear IV Regression," *NBER Technical Working Papers 0284*.
- Tabellini Guido (2005), "Culture and institutions: economic development in the regions of Europe," *Working Paper*.
- Tawney, Richard H (1926), *Religion and the Rise of Capitalism*, New York: Harper and Row.
- Weber, Max ([1905]1958), *The Protestant Ethic and the Spirit of Capitalism*, translated by Talcott Parsons. New York: Free Press.
- World Bank (1993), *The East Asian Miracle: Economic Growth and Public Policy*, New York: Oxford University Press.
- World Bank (2003), *World Development Indicators CD ROM, 2003*, Washington DC, USA.

Table 1(a): Summary Statistics I: Distribution of Religious Attitudes and Beliefs

Country	Attitudes		Beliefs in.. (% of "yes" answer)					Attend church at least...		
	Religion Important (On a scale of 1-4)	Comfort in Religion (% of "yes" answer)	God	Heaven	Soul	Devil	Sin	Weekly	Monthly	Yearly
Argentina	2.90	65.99%	91.96%	65.05%	79.01%	46.43%	68.46%	28.85%	50.76%	77.91%
Armenia	2.82	69.84%	85.64%	41.21%	64.88%	40.28%	65.39%	7.49%	29.50%	74.65%
Australia	2.52	48.99%	82.38%	63.74%	79.08%	44.63%	71.38%	22.27%	32.44%	68.79%
Austria	2.70	60.76%	86.69%	47.10%	72.49%	23.05%	66.37%	25.50%	44.12%	67.90%
Azerbaijan	3.10	87.65%	97.79%	61.27%	69.40%	47.29%	75.31%	5.92%	13.98%	70.99%
Bangladesh	3.80	98.78%	98.62%	97.87%	97.99%	95.91%	87.71%	63.75%	76.47%	90.99%
Belarus	2.39	56.55%	60.21%	28.70%	59.21%	28.82%	62.88%	4.40%	10.16%	43.30%
Belgium	2.33	50.64%	76.68%	36.19%	61.71%	20.84%	48.86%	26.27%	33.58%	48.61%
Brazil	3.44	87.67%	98.86%	79.30%	83.04%	50.26%	85.50%	34.70%	51.90%	68.92%
Bulgaria	2.18	46.07%	53.72%	21.59%	41.36%	17.12%	40.81%	6.34%	12.50%	44.86%
Canada	2.79	64.75%	91.21%	73.87%	85.58%	43.98%	75.11%	29.66%	43.27%	66.85%
Chile	3.18	81.06%	96.50%	78.04%	81.70%	54.94%	87.11%	26.06%	45.20%	63.64%
China	1.51	3.43%						0.35%	0.88%	2.85%
Colombia	3.36	90.70%	99.10%	81.68%	87.12%	40.65%	85.45%	45.81%	66.57%	80.43%
Czech Republic	1.77							6.36%	10.79%	35.71%
Denmark	2.10	23.70%	57.60%	16.01%	42.96%	9.89%	24.27%	2.22%	9.04%	40.83%
Dominican Republic	3.33	80.99%	92.74%	81.14%	88.72%	76.18%	83.46%	44.25%	55.26%	73.35%
Estonia	1.92	84.46%	51.77%	20.58%	63.49%	26.00%	56.57%	3.63%	8.63%	50.39%
Finland	2.37	51.17%	78.27%	57.96%	77.19%	38.73%	69.20%	3.98%	11.80%	57.17%
France	2.27	37.55%	64.58%	30.72%	53.30%	19.44%	43.79%	10.89%	17.32%	38.15%
Georgia	3.18	82.65%	93.24%	62.43%	75.33%	55.60%	83.17%	9.60%	26.48%	74.42%
Germany	2.26	51.19%	78.51%	39.19%	77.86%	19.81%	61.56%	17.92%	32.21%	57.14%
Ghana	3.81	96.67%	98.95%	92.39%	89.01%	73.91%	86.17%	80.22%	82.42%	84.62%
Hungary	2.52	46.49%	61.33%	23.61%	29.91%	14.17%	42.55%	16.33%	25.42%	57.44%
Iceland	2.65	75.73%	83.55%	58.17%	87.42%	17.27%	69.82%	2.41%	10.16%	54.81%
India	3.32	87.57%	95.74%	58.83%	77.90%	39.33%	73.77%	50.15%	64.51%	90.53%
Ireland	3.28	79.43%	96.66%	87.02%	86.63%	55.33%	87.33%	80.18%	86.68%	92.95%
Italy	2.87	67.58%	89.53%	49.99%	74.80%	37.54%	70.40%	35.94%	50.78%	77.13%
Japan	1.93	40.02%	61.45%	38.39%	73.11%	19.12%	29.11%	2.93%	12.68%	71.33%
Korea, Rep.	2.61		60.35%	53.38%	72.67%	46.88%	57.50%	18.31%	39.64%	65.90%
Latvia	2.11	62.55%	65.93%	20.49%	75.80%	25.76%	60.14%	3.99%	12.26%	56.16%
Lithuania	2.46	68.30%	86.61%	70.14%	85.96%	59.30%	88.65%	15.90%	31.47%	77.34%
Macedonia, FYR	2.88	57.52%	83.84%	45.71%	79.14%	38.01%	83.52%	10.95%	17.69%	71.16%
Mexico	3.11	82.85%	95.25%	75.11%	77.01%	51.95%	78.80%	48.02%	67.61%	82.04%
Moldova	2.88	92.30%	90.59%	53.43%	72.32%	44.92%	83.90%	10.82%	22.65%	75.51%

Table 1(a), Contd.: Summary Statistics I: Distribution of Religious Attitudes and Beliefs, Contd.

Country	Attitudes		Beliefs in.. (% of "yes" answer)					Attend church at least...		
	Religion Important (On a scale of 1-4)	Comfort in Religion (% of "yes" answer)	God	Heaven	Soul	Devil	Sin	Weekly	Monthly	Yearly
Netherlands	2.34	45.48%	66.56%	39.71%	71.72%	18.73%	48.10%	21.48%	34.56%	54.28%
Nigeria	3.87	97.99%	98.62%	96.93%	88.72%	65.10%	71.06%	83.09%	85.63%	87.81%
Norway	2.32	40.88%	69.58%	47.24%	57.40%	27.23%	49.20%	5.21%	13.34%	48.76%
Pakistan	3.75	97.36%								
Peru	3.37	91.77%	97.99%	85.85%	89.72%	68.81%	94.11%	42.88%	64.07%	80.85%
Philippines	3.76	92.99%	99.75%	98.23%	96.51%	92.15%	99.83%	70.00%	89.92%	97.33%
Poland	3.33	85.35%	96.60%	80.13%	85.84%	50.47%	90.75%	60.69%	79.34%	93.01%
Portugal	2.56	67.30%	85.66%	55.73%	66.20%	27.60%	68.22%	33.29%	41.16%	53.09%
Puerto Rico	3.62	88.77%	99.31%	91.99%	94.93%	78.83%	96.52%	51.77%	65.06%	81.54%
Romania	3.10	75.68%	93.71%	57.49%	76.07%	42.26%	76.66%	18.64%	30.64%	85.64%
Russian Federation	2.22	46.30%	55.63%	25.61%	59.63%	27.27%	59.37%	2.06%	7.03%	30.07%
Slovak Republic	2.31							33.33%	40.22%	61.72%
Slovenia	2.38	54.20%	63.52%	32.83%	58.58%	21.81%	53.28%	22.50%	34.24%	63.84%
South Africa	3.54	90.06%	98.39%	89.00%	85.38%	55.84%	71.16%	46.99%	63.30%	73.57%
Spain	2.62	60.88%	89.58%	56.79%	73.42%	37.36%	62.97%	32.51%	43.97%	61.69%
Sweden	2.08	30.18%	53.37%	32.62%	59.17%	14.25%	34.37%	4.60%	11.63%	38.46%
Switzerland	2.47	54.91%	83.10%	44.28%	85.11%	29.47%	60.42%	18.11%	33.52%	59.17%
Taiwan	2.52	67.90%	76.92%	59.40%	76.70%	66.89%	43.88%	11.19%	23.74%	56.05%
Turkey	3.52	88.61%	97.56%	88.28%	88.88%	76.69%	91.70%	38.26%	41.23%	65.71%
Ukraine	2.55	88.55%	76.53%	44.24%	67.62%	47.25%	72.78%	10.12%	17.60%	56.12%
United Kingdom	2.42	47.88%	81.15%	61.38%	69.92%	33.11%	72.80%	14.07%	24.08%	43.72%
United States	3.30	81.04%	96.55%	87.28%	92.84%	71.91%	89.76%	42.94%	57.59%	74.56%
Uruguay	2.53	54.97%	86.65%	50.85%	60.96%	27.16%	52.53%	13.25%	23.27%	33.79%
Venezuela, RB	3.41	88.68%	99.08%	88.44%	90.19%	58.17%	93.51%	30.92%	49.33%	77.92%

Table 1 (b): Summary Statistics II: Distribution Religious Preferences Across Countries

Country	Protest- ants	Roman Catholics	Orthodox	Jews	Muslims	Buddhists	Hindus	Other Religions	No- religion
Afghanistan	0.00%	0.00%	0.00%	0.00%	97.97%	0.00%	0.57%	1.40%	0.00%
Albania	0.23%	10.47%	11.30%	0.00%	36.57%	0.00%	0.00%	1.67%	40.13%
Algeria	0.00%	0.00	0.00	0.00	0.98	0.00%	0.00%	0.17%	2.00%
Angola	16.27%	58.20%	0.00%	0.00%	0.00%	0.00%	0.00%	29.70%	0.63%
Antigua and Barbuda	73.20%	10.33%	0.00%	0.00%	0.53%	0.00%	0.10%	16.53%	0.60%
Argentina	5.00%	91.97%	0.37%	1.60%	1.27%	0.03%	0.00%	7.03%	2.63%
Armenia	0.10%	3.40%	57.37%	0.07%	3.60%	0.00%	0.00%	0.77%	34.77%
Australia	39.17%	26.27%	3.00%	0.50%	0.90%	1.00%	0.37%	20.43%	12.60%
Austria	5.37%	79.73%	1.07%	0.10%	1.67%	0.03%	0.00%	4.60%	7.57%
Azerbaijan	0.03%	0.10%	4.00%	0.27%	76.33%	0.00%	0.00%	0.03%	19.17%
Bahamas, The	67.73%	17.30%	0.20%	0.30%	0.00%	0.00%	0.00%	13.77%	3.77%
Bahrain	1.47%	3.23%	0.33%	0.10%	87.40%	0.07%	4.37%	2.73%	0.23%
Bangladesh	0.10%	0.20%	0.00%	0.00%	85.20%	0.63%	13.13%	0.80%	0.07%
Barbados	62.40%	3.83%	0.10%	0.00%	0.57%	0.00%	0.20%	34.40%	0.87%
Belarus	0.70%	10.43%	49.00%	0.33%	0.17%	0.00%	0.00%	5.37%	34.17%
Belgium	1.17%	83.90%	0.53%	0.27%	2.63%	0.13%	0.00%	3.93%	7.43%
Belize	25.73%	58.00%	0.00%	1.10%	0.37%	0.23%	1.50%	15.67%	0.47%
Benin	4.37%	19.67%	0.00%	0.00%	17.63%	0.00%	0.00%	60.37%	0.20%
Bermuda	57.80%	12.40%	0.00%	0.00%	0.00%	0.03%	0.00%	26.47%	3.83%
Bhutan	0.13%	0.00%	0.00%	0.00%	2.43%	72.03%	21.13%	4.10%	0.07%
Bolivia	6.53%	89.80%	0.00%	0.00%	0.00%	0.10%	0.00%	7.50%	1.43%
Botswana	13.33%	3.67%	0.00%	0.00%	0.17%	0.07%	0.07%	83.57%	0.10%
Brazil	12.73%	87.30%	0.10%	0.20%	0.10%	0.27%	0.00%	15.53%	1.97%
Bulgaria	0.87%	0.87%	73.50%	0.03%	11.50%	0.00%	0.00%	3.13%	12.60%
Burkina Faso	5.37%	9.40%	0.00%	0.00%	43.47%	0.00%	0.00%	42.13%	0.43%
Burundi	14.73%	60.67%	0.00%	0.00%	1.20%	0.00%	0.07%	24.80%	0.07%
Cambodia	0.33%	0.20%	0.00%	0.00%	2.27%	86.23%	0.13%	8.33%	2.50%
Cameroon	16.23%	25.00%	0.00%	0.00%	19.73%	0.00%	0.00%	38.83%	0.33%
Canada	21.00%	42.63%	1.87%	1.33%	0.90%	0.63%	0.60%	25.93%	9.37%
Cape Verde	3.33%	94.10%	0.00%	0.00%	1.67%	0.00%	0.00%	4.57%	0.63%
Central African Rep	13.87%	17.07%	0.00%	0.00%	11.53%	0.00%	0.00%	60.23%	0.47%
Chad	8.87%	6.60%	0.00%	0.00%	53.83%	0.00%	0.00%	30.67%	0.07%
Chile	2.43%	79.07%	0.70%	0.23%	0.13%	0.00%	0.00%	26.73%	8.20%
China	0.03%	0.37%	0.00%	0.00%	1.90%	7.77%	0.00%	36.67%	53.40%
Colombia	2.00%	95.33%	0.00%	0.00%	0.10%	0.00%	0.00%	3.43%	1.10%
Comoros	0.13%	0.33%	0.00%	0.00%	98.40%	0.00%	0.00%	1.00%	0.10%
Congo, Dem. Rep.	22.57%	51.33%	0.00%	0.00%	1.23%	0.00%	0.13%	30.87%	0.30%
Congo, Rep.	12.60%	41.13%	0.00%	0.00%	0.90%	0.00%	0.00%	43.77%	1.87%
Costa Rica	6.50%	92.50%	0.00%	0.10%	0.00%	0.10%	0.00%	7.63%	1.43%
Croatia	0.60%	82.97%	7.27%	0.00%	2.37%	0.00%	0.00%	1.53%	5.13%
Cuba	2.00%	44.93%	0.13%	0.00%	0.07%	0.10%	0.13%	20.43%	32.57%
Cyprus	1.57%	1.80%	89.03%	0.00%	0.73%	0.00%	0.00%	3.37%	3.70%
Czech Republic	3.30%	46.87%	0.53%	0.10%	0.00%	0.03%	0.00%	17.63%	31.73%
Denmark	91.13%	0.60%	0.03%	0.10%	1.10%	0.03%	0.07%	2.30%	6.07%
Djibouti	0.03%	3.20%	1.47%	0.00%	94.23%	0.00%	0.07%	0.17%	0.83%
Dominica	14.83%	80.83%	0.00%	0.00%	0.10%	0.07%	0.10%	7.47%	0.10%
Dominican Republic	4.10%	87.90%	0.00%	0.00%	0.00%	0.00%	0.00%	8.33%	1.67%
Ecuador	2.07%	95.47%	0.00%	0.00%	0.00%	0.07%	0.00%	4.90%	0.97%
Egypt, Arab Rep.	0.60%	0.40%	14.97%	0.00%	83.33%	0.00%	0.00%	0.23%	0.50%
El Salvador	7.57%	91.20%	0.00%	0.00%	0.00%	0.00%	0.00%	10.77%	1.00%
Equatorial Guinea	4.47%	82.83%	0.00%	0.00%	2.80%	0.00%	0.00%	9.90%	4.70%

Table 1 (b), Contd.: Summary Statistics II: Distribution Religious Preferences Across Countries

Country	Protest- ants	Roman Catholics	Orthodox	Jews	Muslims	Buddhists	Hindus	Other Religions	No- religion
Eritrea	0.73%	3.93%	43.80%	0.00%	48.03%	0.00%	0.00%	1.70%	2.10%
Estonia	18.70%	0.27%	17.87%	0.30%	0.43%	0.00%	0.00%	20.03%	43.20%
Ethiopia	10.87%	0.50%	36.30%	0.03%	32.40%	0.00%	0.00%	20.13%	0.10%
Fiji	43.23%	9.50%	0.00%	0.00%	7.23%	0.00%	35.63%	12.00%	0.97%
Finland	91.43%	0.13%	1.13%	0.00%	0.17%	0.03%	0.00%	4.53%	6.07%
France	1.83%	82.87%	0.97%	1.03%	5.97%	0.53%	0.07%	3.53%	16.90%
Gabon	16.70%	57.13%	0.00%	0.00%	3.20%	0.00%	0.00%	23.73%	1.33%
Gambia, The	0.67%	2.23%	0.00%	0.00%	85.67%	0.00%	0.00%	11.00%	0.40%
Georgia	0.23%	0.50%	47.30%	0.47%	18.83%	0.00%	0.00%	1.90%	30.63%
Germany	39.33%	34.77%	0.87%	0.13%	2.90%	0.07%	0.07%	7.17%	16.03%
Ghana	18.20%	11.80%	0.00%	0.00%	17.60%	0.00%	0.00%	52.97%	0.23%
Greece	0.23%	0.53%	93.33%	0.03%	3.07%	0.00%	0.00%	3.17%	1.40%
Grenada	38.50%	64.83%	0.00%	0.00%	0.27%	0.00%	0.47%	5.80%	0.37%
Guatemala	10.37%	83.27%	0.00%	0.00%	0.00%	0.00%	0.00%	14.80%	1.07%
Guinea	0.63%	1.40%	0.00%	0.00%	67.97%	0.00%	0.00%	29.80%	0.17%
Guinea-Bissau	0.67%	10.17%	0.00%	0.00%	37.33%	0.00%	0.00%	50.93%	0.97%
Guyana	27.67%	13.03%	1.03%	0.00%	8.67%	0.23%	32.23%	16.23%	1.43%
Haiti	15.20%	80.73%	0.00%	0.00%	0.00%	0.00%	0.00%	9.60%	1.17%
Honduras	7.23%	87.80%	0.13%	0.00%	0.10%	0.07%	0.00%	8.97%	0.70%
Hungary	24.27%	61.20%	0.77%	0.87%	0.13%	0.00%	0.00%	1.77%	12.83%
Iceland	89.93%	0.97%	0.00%	0.00%	0.03%	0.10%	0.13%	7.87%	1.60%
India	1.60%	1.53%	0.30%	0.00%	11.87%	0.70%	75.70%	8.67%	1.13%
Indonesia	5.67%	2.63%	0.00%	0.00%	50.33%	0.90%	2.83%	36.07%	1.67%
Iran, Islamic Rep.	0.03%	0.03%	0.50%	0.13%	96.40%	0.00%	0.00%	2.67%	0.20%
Iraq	0.00%	1.93%	0.70%	0.00%	95.67%	0.00%	0.00%	1.17%	0.57%
Ireland	4.07%	87.03%	0.00%	0.07%	0.23%	0.00%	0.07%	6.90%	1.73%
Israel	0.27%	2.10%	0.70%	78.30%	14.30%	0.17%	0.00%	1.03%	3.47%
Italy	0.73%	96.40%	0.13%	0.10%	0.80%	0.00%	0.00%	1.33%	14.40%
Jamaica	32.80%	5.97%	0.17%	0.03%	0.13%	0.00%	0.87%	60.50%	2.73%
Japan	0.40%	0.37%	0.00%	0.00%	0.07%	57.67%	0.00%	29.37%	12.13%
Jordan	0.47%	1.27%	2.10%	0.00%	93.03%	0.00%	0.00%	0.97%	2.23%
Kazakhstan	1.00%	0.73%	12.13%	0.07%	38.50%	0.10%	0.00%	3.23%	44.37%
Kenya	29.57%	21.13%	2.17%	0.00%	6.87%	0.00%	0.53%	43.33%	0.07%
Korea, Dem. Rep.	0.30%	0.17%	0.00%	0.00%	0.00%	1.70%	0.00%	30.73%	67.13%
Korea, Rep.	14.63%	6.37%	0.00%	0.00%	0.07%	15.87%	0.00%	65.10%	1.10%
Kuwait	0.27%	4.63%	0.97%	0.00%	89.90%	0.00%	1.83%	1.83%	0.47%
Kyrgyz Republic	0.90%	0.00%	7.67%	0.07%	50.73%	0.37%	0.00%	2.27%	38.03%
Lao PDR	0.63%	1.00%	0.00%	0.00%	0.53%	48.40%	0.07%	44.97%	4.43%
Latvia	16.47%	16.67%	24.57%	0.70%	0.30%	0.00%	0.00%	4.27%	39.40%
Lebanon	0.83%	38.97%	13.83%	0.10%	46.53%	0.00%	0.00%	2.77%	3.40%
Lesotho	24.90%	44.00%	0.00%	0.00%	0.07%	0.00%	0.07%	35.70%	0.13%
Liberia	12.23%	3.70%	0.00%	0.00%	17.27%	0.00%	0.00%	69.37%	1.07%
Libya	0.13%	0.83%	1.93%	0.00%	96.37%	0.23%	0.07%	0.23%	0.20%
Lithuania	1.20%	71.43%	3.53%	0.20%	0.20%	0.00%	0.00%	3.53%	21.47%
Luxembourg	1.90%	90.50%	0.17%	0.20%	0.70%	0.00%	0.00%	3.50%	4.70%
Macedonia, FYR	0.33%	3.10%	68.10%	0.03%	20.70%	0.00%	0.00%	0.40%	7.90%
Madagascar	26.40%	22.77%	0.03%	0.00%	1.83%	0.00%	0.07%	54.23%	0.30%
Malawi	24.13%	23.10%	0.00%	0.00%	15.80%	0.00%	0.17%	37.80%	0.17%
Malaysia	3.13%	3.53%	0.00%	0.00%	47.73%	6.60%	7.37%	31.27%	0.47%
Mali	0.63%	1.33%	0.00%	0.00%	79.80%	0.00%	0.00%	18.20%	0.07%
Malta	0.77%	95.30%	0.00%	0.00%	0.13%	0.00%	0.00%	2.97%	0.87%

Table 1 (b), Contd.: Summary Statistics II: Distribution Religious Preferences Across Countries

Country	Protest- ants	Roman Catholics	Orthodox	Jews	Muslims	Buddhists	Hindus	Other Religions	No- religion
Mauritania	0.00%	0.30%	0.00%	0.00%	99.17%	0.00%	0.00%	0.43%	0.07%
Mauritius	6.60%	28.53%	0.00%	0.00%	16.47%	0.40%	44.97%	3.80%	1.80%
Mexico	2.87%	93.33%	0.10%	0.10%	0.17%	0.00%	0.00%	6.93%	2.40%
Moldova	1.70%	1.77%	44.23%	1.30%	3.60%	0.00%	0.00%	12.87%	36.03%
Mongolia	0.27%	0.03%	0.13%	0.00%	3.63%	15.33%	0.00%	33.27%	47.23%
Morocco	0.00%	0.30%	0.00%	0.10%	98.57%	0.00%	0.00%	0.40%	0.60%
Mozambique	8.57%	18.13%	0.00%	0.00%	11.13%	0.00%	0.17%	65.90%	0.40%
Myanmar	4.77%	1.20%	0.00%	0.00%	2.93%	73.67%	1.50%	15.83%	0.53%
Namibia	52.17%	15.60%	0.00%	0.10%	0.13%	0.00%	0.00%	31.90%	0.77%
Nepal	0.20%	0.00%	0.00%	0.00%	3.53%	8.27%	74.87%	13.47%	0.37%
Netherlands	28.83%	36.70%	0.03%	0.20%	3.00%	0.47%	0.37%	15.97%	14.77%
New Zealand	48.83%	13.73%	0.17%	0.10%	0.17%	0.70%	0.40%	23.60%	12.47%
Nicaragua	9.83%	85.00%	0.00%	0.00%	0.00%	0.07%	0.00%	9.10%	0.90%
Niger	0.10%	0.23%	0.00%	0.00%	88.80%	0.00%	0.00%	10.80%	0.07%
Nigeria	23.50%	11.07%	0.00%	0.00%	42.73%	0.00%	0.00%	32.03%	0.23%
Norway	95.67%	0.80%	0.03%	0.00%	1.13%	0.33%	0.00%	3.17%	1.93%
Oman	0.23%	1.03%	0.37%	0.00%	92.43%	0.50%	3.73%	1.53%	0.20%
Pakistan	1.13%	0.77%	0.00%	0.00%	96.10%	0.07%	1.33%	0.67%	0.07%
Panama	11.20%	80.03%	0.07%	0.10%	4.37%	0.57%	0.30%	8.03%	2.20%
Papua New Guinea	53.63%	26.83%	0.00%	0.00%	0.00%	0.13%	0.00%	28.37%	0.23%
Paraguay	3.00%	91.87%	0.00%	0.07%	0.00%	0.13%	0.00%	7.13%	1.07%
Peru	4.87%	96.10%	0.00%	0.00%	0.00%	0.20%	0.00%	5.33%	0.90%
Philippines	5.13%	83.30%	0.00%	0.00%	5.57%	0.10%	0.00%	26.23%	0.63%
Poland	0.47%	90.43%	2.13%	0.00%	0.00%	0.00%	0.00%	1.53%	5.67%
Portugal	1.03%	91.27%	0.00%	0.00%	0.13%	0.37%	0.00%	4.23%	5.37%
Puerto Rico	12.10%	81.17%	0.00%	0.10%	0.00%	0.00%	0.07%	9.33%	1.73%
Qatar	1.90%	4.57%	0.73%	0.00%	86.80%	1.27%	1.67%	1.53%	1.53%
Romania	8.10%	12.43%	82.77%	0.20%	1.03%	0.00%	0.00%	1.47%	10.37%
Russian Federation	0.83%	0.50%	43.13%	0.87%	7.63%	0.40%	0.33%	7.23%	39.70%
Rwanda	25.97%	47.87%	0.00%	0.00%	9.77%	0.00%	0.07%	21.07%	0.00%
Sao Tome and Princ.	2.33%	81.93%	0.00%	0.00%	0.00%	0.00%	0.00%	16.57%	0.60%
Saudi Arabia	0.13%	2.40%	0.13%	0.00%	95.17%	0.23%	0.70%	0.77%	0.47%
Senegal	0.10%	4.67%	0.00%	0.00%	87.23%	0.00%	0.00%	7.73%	0.27%
Seychelles	8.93%	88.47%	0.00%	0.00%	0.23%	0.00%	0.53%	4.03%	1.37%
Sierra Leone	5.13%	2.10%	0.00%	0.00%	43.03%	0.00%	0.10%	49.00%	1.27%
Singapore	3.90%	4.17%	0.00%	0.00%	18.23%	12.70%	5.23%	51.63%	4.00%
Slovak Republic	13.07%	71.60%	2.03%	0.07%	0.00%	0.00%	0.00%	3.97%	15.37%
Slovenia	1.97%	84.40%	1.23%	0.00%	0.50%	0.00%	0.00%	3.97%	7.93%
Somalia	0.00%	0.03%	1.07%	0.00%	98.50%	0.00%	0.00%	0.20%	0.07%
South Africa	31.17%	7.10%	0.20%	0.43%	1.93%	0.07%	2.17%	54.97%	2.17%
Spain	0.23%	96.67%	0.00%	0.00%	0.47%	0.00%	0.00%	1.13%	4.80%
Sri Lanka	0.97%	7.20%	0.00%	0.00%	8.37%	67.57%	13.43%	1.40%	1.67%
St. Kitts and Nevis	83.37%	10.70%	0.00%	0.00%	0.20%	0.00%	0.97%	8.40%	0.80%
St. Lucia	15.87%	83.40%	0.00%	0.00%	0.33%	0.00%	0.60%	6.40%	0.13%
St. Vincent & Grenad.	56.63%	11.23%	0.03%	0.00%	0.97%	0.00%	2.17%	40.10%	1.30%
Sudan	6.93%	8.30%	0.53%	0.00%	70.20%	0.00%	0.00%	15.97%	1.10%
Swaziland	15.03%	6.07%	0.00%	0.00%	0.47%	0.00%	0.10%	79.00%	0.70%
Sweden	98.53%	1.20%	1.00%	0.20%	1.20%	0.07%	0.07%	1.80%	27.83%
Switzerland	41.20%	45.37%	0.60%	0.27%	2.30%	0.10%	0.17%	5.63%	5.90%
Syrian Arab Republic	0.23%	2.30%	4.90%	0.03%	90.10%	0.00%	0.00%	0.30%	2.17%
Taiwan	1.87%	1.67%	0.00%	0.00%	0.40%	22.33%	0.00%	70.87%	2.93%

Table 1 (b), Contd.: Summary Statistics II: Distribution Religious Preferences Across Countries

Country	Protest- ants	Roman Catholics	Orthodox	Jews	Muslims	Buddhists	Hindus	Other Religions	No- religion
Tajikistan	0.40%	0.03%	1.77%	0.20%	75.57%	0.07%	0.00%	0.27%	21.63%
Tanzania	19.70%	23.80%	0.03%	0.00%	30.77%	0.07%	0.63%	27.80%	0.27%
Thailand	0.40%	0.40%	0.00%	0.00%	6.77%	86.67%	0.27%	4.20%	1.43%
Togo	8.40%	24.20%	0.00%	0.00%	16.87%	0.00%	0.00%	51.87%	0.13%
Trinidad and Tobago	27.10%	33.20%	0.53%	0.00%	6.70%	0.27%	23.10%	8.50%	1.33%
Tunisia	0.00%	0.30%	0.00%	0.07%	99.00%	0.00%	0.00%	0.23%	0.30%
Turkey	0.07%	0.07%	0.40%	0.03%	97.67%	0.07%	0.00%	0.23%	1.37%
Turkmenistan	0.07%	0.03%	2.93%	0.10%	76.80%	0.00%	0.00%	0.43%	19.63%
Uganda	31.90%	39.40%	0.10%	0.00%	5.63%	0.00%	0.77%	22.37%	0.33%
Ukraine	1.97%	7.57%	52.43%	0.73%	1.27%	0.00%	0.00%	13.10%	25.20%
United Arab Emirates	1.27%	3.73%	2.30%	0.00%	82.63%	1.27%	4.70%	3.10%	0.97%
United Kingdom	57.70%	9.87%	0.60%	0.60%	1.73%	0.20%	0.63%	17.63%	11.47%
United States	25.33%	22.40%	2.00%	2.47%	1.10%	0.57%	0.23%	44.30%	7.77%
Uruguay	2.60%	74.67%	0.77%	1.47%	0.00%	0.00%	0.00%	4.83%	32.10%
Uzbekistan	0.17%	0.07%	3.43%	0.37%	65.97%	0.10%	0.00%	0.67%	29.17%
Venezuela, RB	2.47%	93.03%	0.10%	0.17%	0.20%	0.07%	0.00%	6.73%	1.67%
Vietnam	0.67%	6.67%	0.00%	0.00%	0.80%	53.70%	0.00%	21.10%	17.27%
Yemen, Rep.	0.00%	0.00%	0.03%	0.00%	99.20%	0.00%	0.50%	0.00%	0.10%
Zambia	22.70%	26.47%	0.10%	0.00%	0.80%	0.00%	0.13%	50.57%	0.30%
Zimbabwe	16.57%	9.60%	0.10%	0.10%	0.83%	0.00%	0.10%	77.70%	0.77%

Table 1 (c): Summary Statistics III: Index of Religiosity

Countries (Highest to Lowest Index Value)	Index of Attendance	Fraction of Religious population	Index of Religious Attitude	Index of Religious Belief	Religiosity Index
Bangladesh	0.760	1.000	0.970	0.956	3.685
Philippines	0.774	1.000	0.935	0.973	3.682
Pakistan	0.760	1.000	0.955	0.956	3.671
Nigeria	0.836	1.000	0.973	0.841	3.651
Ghana	0.751	1.000	0.959	0.881	3.591
Puerto Rico	0.636	1.000	0.896	0.923	3.455
Ireland	0.781	0.984	0.807	0.826	3.397
Peru	0.619	1.000	0.880	0.873	3.372
Poland	0.711	0.946	0.843	0.808	3.307
Colombia	0.616	1.000	0.873	0.788	3.277
Venezuela, RB	0.543	1.000	0.869	0.859	3.272
South Africa	0.592	0.980	0.893	0.800	3.265
Dominican Republic	0.585	1.000	0.821	0.844	3.250
United States	0.566	0.984	0.818	0.877	3.244
Turkey	0.487	0.985	0.883	0.886	3.241
India	0.691	1.000	0.853	0.691	3.236
Brazil	0.535	1.000	0.868	0.794	3.197
Mexico	0.630	1.000	0.803	0.756	3.189
Chile	0.465	1.000	0.803	0.797	3.064
Romania	0.520	1.000	0.766	0.692	2.978
Argentina	0.534	1.000	0.693	0.702	2.929
Italy	0.544	0.995	0.696	0.645	2.880
Canada	0.466	0.949	0.672	0.739	2.827
Azerbaijan	0.387	0.808	0.825	0.702	2.722
Spain	0.460	0.985	0.632	0.640	2.717
Lithuania	0.472	0.801	0.649	0.781	2.703
Georgia	0.442	0.692	0.810	0.740	2.684
Portugal	0.438	0.970	0.656	0.607	2.672
Macedonia, FYR	0.422	0.927	0.648	0.660	2.657
Korea, Rep.	0.422	1.000	0.654	0.582	2.657
Austria	0.478	0.926	0.641	0.591	2.636
Iceland	0.287	0.990	0.709	0.632	2.619
Moldova	0.429	0.655	0.821	0.690	2.595
Australia	0.433	0.916	0.560	0.682	2.592
Taiwan	0.301	0.971	0.654	0.648	2.574
Switzerland	0.400	0.956	0.583	0.605	2.545
Finland	0.336	0.974	0.552	0.643	2.505
Ukraine	0.325	0.771	0.761	0.617	2.474
Slovak Republic	0.454	0.907	0.578	0.455	2.394
Slovenia	0.424	0.921	0.568	0.460	2.373
Armenia	0.422	0.653	0.702	0.595	2.372
United Kingdom	0.293	0.890	0.541	0.637	2.361
Germany	0.388	0.853	0.539	0.554	2.333
Belgium	0.361	0.926	0.545	0.489	2.320
Norway	0.275	1.000	0.494	0.501	2.271
Uruguay	0.246	0.843	0.591	0.556	2.237
Netherlands	0.369	0.856	0.520	0.490	2.234

Table 1 (c), Contd.: Summary Statistics III: Index of Religiosity

Countries (Highest to Lowest Index Value)	Index of Attendance	Fraction of Religious population	Index of Religious Attitude	Index of Religious Belief	Religiosity Index
Hungary	0.376	0.890	0.548	0.343	2.156
Japan	0.373	0.879	0.441	0.442	2.135
France	0.242	0.968	0.472	0.424	2.105
Sweden	0.228	1.000	0.410	0.388	2.026
Bulgaria	0.275	0.899	0.503	0.349	2.026
Latvia	0.309	0.630	0.577	0.496	2.011
Belarus	0.247	0.660	0.581	0.480	1.967
Estonia	0.257	0.576	0.662	0.437	1.932
Denmark	0.221	0.954	0.381	0.301	1.856
Czech Republic	0.207	0.685	0.442	0.455	1.789
Russian Federation	0.174	0.609	0.509	0.455	1.747
China	0.021	0.467	0.206	0.147	0.842

Table 1 (d): Summary Statistics IV: All Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent Variable					
GDP per capita in 2000 (in 1996 intern'l \$)	130	8454.19	8529.20	481.84	44008.48
Religion Variables ^a					
Religion Important (on a scale of 1-4)	59	2.79	0.58	1.51	3.87
% find Comfort and strength in Religion	56	68.20%	0.22	3.43%	98.78%
% Believe in God	55	83.12%	0.15	51.77%	99.75%
% Believe in Heaven	55	58.63%	0.23	16.01%	98.23%
% Believe in Soul	55	74.88%	0.14	29.91%	97.99%
% Believe in Devil	55	42.94%	0.21	9.89%	95.91%
% Believe in Sin	55	69.22%	0.18	24.27%	99.83%
% Attend at least Weekly	58	26.04%	0.22	0.35%	83.09%
% Attend at least Monthly	58	37.61%	0.24	0.88%	89.92%
% Attend at least Yearly	58	64.37%	0.18	2.85%	97.33%
% Protestants	173	13.53%	0.21	0.00%	98.53%
% Roman Catholic	173	29.90%	0.35	0.00%	96.67%
% Orthodox	173	5.51%	0.17	0.00%	93.33%
% Jews	173	0.58%	0.06	0.00%	78.30%
% Muslims	173	23.31%	0.35	0.00%	99.20%
% Buddhists	173	3.77%	0.15	0.00%	86.67%
% Hindus	173	2.24%	0.10	0.00%	75.70%
% other religions	173	16.92%	0.19	0.00%	83.57%
% Not religious	173	7.04%	0.12	0.00%	67.13%
Size of Religious Population	173	95.76%	0.13	32.90%	120.33% [†]
Religiosity Index (on a scale of 0-4)	59	2.69	0.59	0.84	3.69
Other Explanatory Variables					
Contract Intensive Money (CIM) ^a	107	76.34	13.95	32.99	94.52
Rule of Law (Average for the 1990s)	171	0.01	0.97	-1.83	2.21
Import Tarrifs ^a	145	9.40	14.08	0.03	160.65
Trade Share ^a	164	72.64	43.95	0.18	242.92
Malaria Ecology	160	3.71	6.52	0.00	31.55
Variables used as Instruments					
<i>Instruments for Institutions^b</i>					
Confidence in Government ^a	45	2.33	0.32	1.81	3.30
Confidence in Army ^a	59	2.65	0.39	1.95	3.76
Confidence in Parliament ^a	58	2.36	0.34	1.76	3.44
Confidence in Police ^a	59	2.50	0.37	1.85	3.20
<i>Instruments for Trade^c</i>					
Attitude Towards Competetion ^a	58	7.49	0.53	6.27	8.98
Attitude Towards Hard Work ^a	58	6.59	0.81	4.24	8.63
Attitude Towards Wealth Accumulation ^a	58	6.45	0.77	2.64	7.78
<i>Instruments for Religion^a</i>					
Presence of State Religion	59	0.36	0.48	0	1
Index of Government Regulation of Religion	57	2.55	2.72	0	9.2
Hirfendahl Index of Religious Preference	173	0.58	0.24	0.09	0.98

a: Variables are time varying. Cross section averages are reported in the table.

b: These variables are drawn from the WVS. Individual responses ranged from 1-4

c: These variables are drawn from the WVS. Individual responses ranged from 1-10

†: Of the 173 countries in our sample, 14% report a total of religious population greater than 104%.

Table 2: Impact of Religious Attitudes - Cross Section Results

	1	2	3	4	5	6	7
Ln CIM	3.070 (2.68)*	5.079 (2.80)***	4.152 (2.96)***	2.530 (0.98)	3.750 (1.56)	2.929 (1.97)**	1.267 (0.69)
Ln Import Tariff	-0.084 (1.66)	-0.340 (2.29)**	-0.283 (2.44)**	-0.303 (1.17)	-0.241 (1.23)	-0.014 (0.22)	-0.011 (0.15)
Malaria Ecology	-0.015 (0.74)	-0.016 (0.62)	-0.021 (1.02)	-0.041 (1.32)	0.012 (0.29)	-0.015 (0.71)	0.008 (0.30)
Religion Important	4.280 (2.43)*	4.734 (2.89)***	4.259 (2.26)**	4.027 (2.23)**	9.446 (2.01)**	4.047 (2.43)**	8.999 (1.68)*
Religion Important Sq	-0.887 (2.92)**	-0.926 (3.31)***	-0.863 (2.75)***	-0.820 (2.76)***	-1.776 (2.23)**	-0.874 (3.05)***	-1.775 (2.00)**
Observations	35	22	21	22	21	35	34
R-squared	0.86	0.91	0.94	0.91	0.88	0.85	0.83
Joint Test of Religion Var.	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0001</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0002</i>
H1 Endogeneity Test		<i>0.0087</i>		<i>0.7225</i>		<i>0.1438</i>	
H2 Endogeneity Test			<i>1.0000</i>		<i>0.0558</i>		<i>0.3097</i>
CD Underid. Test		<i>0.0000</i>	<i>0.2011</i>	<i>0.0906</i>	<i>0.4351</i>	<i>0.0000</i>	<i>0.5133</i>
AR Underid. Test		<i>0.0000</i>	<i>0.0000</i>	<i>0.3432</i>	<i>0.0000</i>	<i>0.0120</i>	<i>0.0001</i>
Shea's Partial R ² : Instn		0.79	0.78	0.40	0.56	0.53	0.41
Shea's Partial R ² : Trade		0.75	0.78	0.25	0.57	0.62	0.49
Shea's Partial R ² : Relgn			0.46		0.15		0.11
Shea's Partial R ² : Relgn ²			0.48		0.16		0.12
CD F stat		0.81	0.20	1.03	0.31	6.57	0.34
Sargan Overid. Test		<i>0.6101</i>	<i>0.1277</i>	<i>0.1421</i>	<i>0.8421</i>	<i>0.0180</i>	<i>0.2461</i>
PH Heteroscedasticity test		<i>0.9474</i>	<i>0.5286</i>	<i>0.9792</i>	<i>0.9944</i>	<i>0.8686</i>	<i>0.8057</i>
Reported Model ^a	OLS	IV (A)	IV-R (A)	IV (B)	IV-R (B)	IV (C)	IV-R (C)

a: IV(A): Uses attitudes towards hard work, competition and wealth accumulation and their square terms as instruments for trade and confidence in government, parliament, army and police and their square terms for institutions. IV(B): Uses first principal components of (i) levels and (ii) squares of the variables in IV(A) as instruments for institutions and trade. IV(C): Uses the second and third order centered moments of the endogenous variables as instruments. In IV-R, we use as intruments not only instrument for trade and institution variables but also for the religion variables. Specifically, we use the Hirfendahl index of religious preference, an index of government regulation of religion, and the presence of a state religion as instruments in sets A, B and C.

Notes: Dependent variable is Ln GDP per capita in 2000 (in 1996 international \$). All explanatory variables are defined in Section 3. Absolute value of z statistics in parentheses ; +/*/**: significant at 10% / 5% /1%, respectively; p values of test statistics in italics.

Explanation of the various diagnostic and specification tests reported:

Joint test of religion var.: The Wald test of the null that the two variables are not jointly significant.

H1 (Hausman, 1978) Endogeneity Test: Specification test of OLS null vs. IV alternative; H2 (Hausman, 1978) Endogeneity Test: Specification test of IV null vs. IV-R alternative.

CD (Cragg and Donald, 1993) Underid. Test: CD chi square test of the null that the matrix of reduced form coefficients has rank=K-1 where K=number of regressors.

AR (Anderson-Rubin) Underid. Test (Hall et al., 1996): Similar to CD Underid. Test but robust to the presence of weak instruments. We report the chi-square version of the test.

Shea's Partial R² : Shea's (1997) "partial R-squared" is a diagnostic statistic for determining the strengths of instruments when there are multiple endogenous variables.

CD (Cragg and Donald, 1993) F stat: Test for weak instruments (Stock and Yogo, 2002). For example, the null of a 30% bias in the IV estimator is rejected if the CD F stat. is larger than 4.73 for the case of 2 endogenous variables and 4 instruments.

Sargan Overidentification Test: Tests the validity of the null of the exclusion restrictions in the second stage regression;

PH (Pagan and Hall, 1983) Heteroscedasticity test: Under the null the errors are homoskedastic.

Table 2 (contd.): Impact of Religious Attitudes - Cross Section Results

	8	9	10	11	12	13	14
Ln CIM	2.864 (2.47)*	3.439 (2.04)**	1.432 (0.86)	1.792 (0.71)	1.629 (0.90)	2.450 (1.65)*	1.062 (0.63)
Ln Import Tariff	-0.059 (1.07)	-0.417 (2.61)***	-0.509 (2.67)***	-0.329 (1.10)	-0.377 (1.57)	0.013 (0.20)	-0.003 (0.040)
Malaria Ecology	-0.028 (1.46)	-0.038 (1.79)*	-0.038 (1.88)*	-0.053 (1.99)**	-0.039 (1.84)*	-0.030 (1.49)	-0.025 (1.28)
Comfort in Religion	7.280 (2.95)**	9.775 (3.39)***	15.345 (2.70)***	9.027 (2.65)***	13.901 (1.96)*	7.240 (3.12)***	12.332 (1.55)
Comfort in Religion Sq	-7.427 (3.83)**	-8.537 (4.05)***	-12.668 (3.21)***	-8.272 (3.62)***	-11.847 (2.46)**	-7.769 (4.21)***	-11.891 (2.15)**
Observations	34	21	20	21	20	34	33
R-squared	0.87	0.92	0.93	0.92	0.94	0.86	0.86
Joint test of Religion	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0001</i>
H1 Endogeneity Test		<i>0.0141</i>		<i>0.6840</i>		<i>0.1648</i>	
H2 Endogeneity Test			<i>0.0000</i>		<i>0.0845</i>		<i>0.8102</i>
CD Underid. Test		<i>0.0001</i>	<i>0.8923</i>	<i>0.1796</i>	<i>0.6172</i>	<i>0.0000</i>	<i>0.7467</i>
AR Underid. Test		<i>0.0000</i>	<i>0.0000</i>	<i>0.3835</i>	<i>0.0000</i>	<i>0.0407</i>	<i>0.0002</i>
Shea's Partial R ² : Instn		0.79	0.74	0.38	0.56	0.53	0.41
Shea's Partial R ² : Trade		0.66	0.46	0.20	0.26	0.63	0.42
Shea's Partial R ² : Relgn			0.24		0.14		0.08
Shea's Partial R ² : Relgn ²			0.26		0.16		0.11
CD F stat		0.41	0.08	0.76	0.21	6.66	0.20
Sargan Overid. Test		<i>0.4475</i>	<i>0.6459</i>	<i>0.1425</i>	<i>0.6839</i>	<i>0.0445</i>	<i>0.1540</i>
PH Heteroscedasticity test		<i>0.9540</i>	<i>0.9415</i>	<i>0.9005</i>	<i>0.8655</i>	<i>0.9623</i>	<i>0.9542</i>
Reported Model ^a	OLS	IV (A)	IV-R (A)	IV (B)	IV-R (B)	IV (C)	IV-R (C)

a: Same as Table 2

Notes: Same as Table 2

Table 3: Impact of Religious Beliefs - Cross Section Results

	1	2	3	4	5	6	7	8	9	10	11
Ln CIM	3.224 (1.96)+	4.426 (1.96)*	3.883 (2.26)*	8.131 (3.94)**	-1.216 (0.44)	4.101 (2.41)*	4.366 (1.98)*	5.522 (2.99)**	10.536 (4.57)**	9.126 (2.08)*	-0.955 (0.30)
Ln Import Tariff	-0.088 (1.38)	-0.383 (2.16)*					-0.138 (2.03)+	-0.548 (3.42)**			
Ln Trade Share			0.058 (0.30)	0.168 (0.76)	-0.213 (0.80)			0.231 (1.14)	0.438 (1.80)+	0.799 (1.79)+	0.001 0.00
Malaria Ecology	-0.056 (2.18)*	-0.066 (2.53)*	-0.049 (1.84)+	-0.044 (1.52)	-0.099 (2.80)**	-0.037 (1.28)	-0.043 (1.52)	-0.027 (0.85)	-0.002 (0.07)	-0.023 (0.43)	-0.103 (2.27)*
Belief in God	19.892 (2.26)*	17.908 (2.24)*	22.119 (2.41)*	19.774 (2.05)*	25.699 (2.62)**						
Belief in God Sq	-13.933 (2.47)*	-12.319 (2.39)*	-15.774 (2.71)*	-14.266 (2.32)*	-18.355 (2.94)**						
Belief in Heaven						3.42 (1.29)	7.924 (2.27)*	1.53 (0.56)	6.018 (1.28)	6.769 (1.16)	-0.279 (0.09)
Belief in Heaven Sq						-3.763 (1.82)+	-6.625 (2.60)**	-2.716 (1.23)	-6.139 (1.74)+	-6.685 (1.53)	-1.356 (0.55)
	34	22	35	22	35	34	22	35	22	22	35
R-squared	0.79		0.76	0.80	0.69	0.77	0.87	0.72	0.76	0.68	0.60
Joint test of Religion	0.0098	0.0228	0.0003	0.0001	0.0000	0.0255	0.0058	0.0028	0.0004	0.0024	0.0015
H1 Endogeneity Test		0.0584		0.0363	0.0161		0.0250		0.0073	0.0351	0.0076
CD Underid. Test		0.0000		0.0000	0.0000		0.0000		0.0000	0.0836	0.0000
AR Underid. Test		0.0000		0.0000	0.6483		0.0000		0.0000	0.1051	0.8943
Shea's Partial R ² : Institution		0.00		0.86	0.43		0.82		0.86	0.31	0.39
Shea's Partial R ² : Trade		0.00		0.77	0.58		0.81		0.78	0.30	0.61
CD F stat		0.86		0.76	4.89		1.11		0.78	1.06	4.36
Sargan Overid. Test		0.2279		0.3701	0.5029		0.3615		0.6397	0.4798	0.6423
PH Heteroscedasticity test		0.7977		0.8627	0.4521		0.7630		0.9175	0.8166	0.6067
Reported Model ^b	OLS	IV (A)	OLS	IV (A)	IV (C)	OLS	IV (A)	OLS	IV (A)	IV (B)	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 3 (contd.): Impact of Religious Beliefs - Cross Section Results

	12	13	14	15	16	17	18	19	20	21
Ln CIM	4.217 (2.29)*	2.424 (0.98)	5.904 (3.01)**	10.877 (4.16)**	9.604 (2.01)*	-2.046 (0.55)	3.539 (2.09)*	3.363 (1.51)	3.497 (1.93)+	3.692 (1.56)
Ln Import Tariff	-0.153 (2.20)*	-0.709 (3.97)**					-0.144 (2.27)*	-0.553 (3.36)**	-0.144 (2.15)*	-0.528 (2.99)**
Ln Trade Share			0.266 (1.24)	0.511 (1.77)+	0.989 (1.96)*	-0.019 (0.06)				
Malaria Ecology	-0.055 (1.85)+	-0.085 (3.10)**	-0.042 (1.33)	-0.036 (0.96)	-0.059 (1.09)	-0.134 (2.68)**	-0.056 (2.10)*	-0.082 (3.18)**	-0.071 (2.51)*	-0.090 (3.47)**
Belief in Soul	9.254 (1.28)	24.572 (2.62)**	8.81 (1.13)	21.741 (1.51)	28.873 (1.58)	3.139 (0.34)				
Belief in Soul Sq	-7.219 (1.46)	-15.941 (2.69)**	-7.67 (1.44)	-15.796 (1.70)+	-20.273 (1.72)+	-3.875 (0.62)				
Belief in Devil							0.836 (0.45)	2.521 (1.32)		
Belief in Devil Sq							-2.096 (1.23)	2.933 (-1.86)*		
Belief in Sin									2.214 (0.72)	3.668 (1.24)
Belief in Sin Sq									-2.576 (1.08)	-3.316 (1.50)
Observations	34	22	35	22	22	35	34	22	34	22
R-squared	0.73	0.86	0.69	0.68	0.57	0.51	0.77	0.86	0.74	0.84
Joint Test of Religion Var.	0.1862	0.0245	0.0166	0.0156	0.0382	0.0336	0.0240	0.0319	0.1739	0.1780
H1 Endogeneity Test		0.0297		0.0076	0.0125	0.0030		0.0371		0.0646
CD Underid. Test		0.0000		0.0000	0.0437	0.0002		0.0000		0.0000
AR Underid. Test		0.0000		0.0000	0.0000	0.7712		0.0000		0.0000
Shea's Partial R2: Institution		0.72		0.84	0.35	0.37		0.79		0.82
Shea's Partial R2: Trade		0.68		0.76	0.34	0.60		0.77		0.77
CD F stat		0.57		0.69	1.29	3.88		0.86		0.94
Sargan Overid. Test		0.3507		0.6665	0.5339	0.5687		0.3132		0.2369
PH Heteroscedasticity test		0.4300		0.9642	0.7870	0.6970		0.4149		0.5755
Reported Model ^a	OLS	IV (A)	OLS	IV (A)	IV (B)	IV (C)	OLS	IV (A)	OLS	IV (A)

a: Same as Table 2

Notes: Same as Table 2

Table 4: Impact of Religious Participation - Cross Section Results

	1	2	3	4	5	6	7	8	9	10
Ln CIM	1.885 (0.99)	3.193 (1.42)	-6.022 (1.40)	2.177 (1.14)	2.429 (1.33)	1.586 (0.56)	3.006 (1.52)	5.935 (2.43)*	8.437 (1.43)	-4.531 (1.26)
Ln Import Tariff	-0.168 (2.89)**			-0.157 (2.60)*	-0.155 (2.45)*	-0.055 (0.71)				
Ln Trade Share		0.168 (0.71)	-0.119 (0.34)				0.212 (1.01)	0.169 (0.72)	0.767 (1.32)	-0.099 (0.32)
Malaria Ecology	-0.089 (2.68)*	-0.075 (1.90)+	-0.171 (2.96)**	-0.069 (2.32)*	-0.069 (2.53)*	-0.08 (2.25)*	-0.068 (2.36)*	-0.058 (1.90)+	-0.057 (1.23)	-0.14 (3.31)**
Attend Weekly	-3.264 (2.19)*	-3.189 (1.70)	-5.818 (2.40)**							
Attend Weekly Sq	3.013 (1.54)	2.416 (0.98)	4.712 (1.56)							
Attend Monthly				-1.573 (0.94)						
Attend Monthly Sq				0.449 (0.25)						
Attend Yearly					6.325 (1.56)	6.12 (1.56)	6.466 (1.46)	8.805 (1.99)*	10.635 (1.85)*	7.724 (1.54)
Attend Yearly Sq					-5.83 (1.87)+	-6.169 (2.02)*	-6.581 (1.95)+	-8.307 (2.46)*	-9.094 (2.07)**	-8.251 (2.13)*
Observations	34	35	35	34	34	34	35	22	22	35
R-squared	0.75	0.66	0.46	0.74	0.75	0.73	0.71		0.63	0.57
Joint Test of Religion Var.	0.0622	0.0636	0.0064	0.1093	0.0639	0.0135	0.0045	0.0029	0.0958	0.0003
H1 Endogeneity Test			0.0036			0.0975		0.0868	0.0911	0.0042
CD Underid. Test			0.0002			0.0003		0.0000	0.2517	0.0001
AR Underid. Test			0.5060			0.0808		0.0000	0.0064	0.6215
Shea's Partial R ² : Institution			0.36			0.37		0.85	0.23	0.38
Shea's Partial R ² : Trade			0.60			0.60		0.86	0.22	0.58
CD F stat			3.70			3.61		1.09	0.65	4.09
Sargan Overid. Test			0.9727			0.0292		0.2058	0.1646	0.9253
PH Heteroscedasticity test			0.7381			0.1494		0.8202	0.9589	0.6266
Reported Model ^a	OLS	OLS	IV (C)	OLS	OLS	IV (C)	OLS	IV (A)	IV (B)	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 5: Impact of Religious Population Size - Cross Section Results

	1	2	3	4
Ln CIM	2.601 (5.51)**	0.926 (1.21)	3.049 (5.94)**	0.861 (1.01)
Ln Import Tariff	-0.223 (3.81)**	-0.123 (1.66)*		
Ln Trade Share			-0.058 (0.38)	-0.033 (0.16)
Malaria Ecology	-0.036 (2.86)**	-0.065 (4.01)***	-0.039 (2.82)**	-0.072 (4.04)***
Ln (% Religious Population)	36.567 (0.33)	-83.118 (0.66)	-23.380 (0.18)	-134.195 (0.95)
Ln (% Religious Population) Sq	-4.421 (0.36)	8.373 (0.61)	1.815 (0.13)	13.744 (0.90)
Observations	83	83	85	85
R-squared	0.69	0.62	0.63	0.55
Joint Test of Religion Var.	<i>0.0227</i>	<i>0.0027</i>	<i>0.0003</i>	<i>0.0000</i>
H1 Endogeneity Test		<i>0.0005</i>		<i>0.0009</i>
CD Underid. Test		<i>0.0000</i>		<i>0.0000</i>
AR Underid. Test		<i>0.4494</i>		<i>0.7568</i>
Shea's Partial R ² : Institution		0.44		0.42
Shea's Partial R ² : Trade		0.72		0.63
CD F stat		12.46		13.74
Sargan Overid. Test		<i>0.8899</i>		<i>0.8786</i>
PH Heteroscedasticity test		<i>0.7411</i>		<i>0.5649</i>
Reported Model ^a	OLS	IV (C)	OLS	IV(C)

a: Same as Table 2

Notes: Same as Table 2

Table 6: Impact of Religiosity Index - Cross Section Results

	1	2	3	4	5	6
Ln CIM	3.355 (3.38)**	2.988 (2.40)**	3.656 (3.54)**	5.582 (4.70)***	10.671 (1.30)	0.369 (0.21)
Ln Import Tariff	-0.096 (1.85)+	-0.379 (2.52)**				
Ln Trade Share			0.191 (1.31)	0.308 (1.84)*	0.953 (1.23)	0.045 (0.22)
Malaria Ecology	-0.029 (1.51)	-0.048 (2.50)**	-0.033 (1.60)	-0.042 (1.72)*	-0.032 (0.59)	-0.056 (2.37)**
Religiosity Index	3.860 (2.06)*	5.774 (3.26)***	3.119 (1.66)	4.866 (2.14)**	4.914 (1.16)	3.840 (1.91)*
Religiosity Index Sq	-0.800 (2.42)*	-1.104 (3.56)***	-0.702 (2.08)*	-0.986 (2.45)**	-0.910 (1.21)	-0.884 (2.42)**
Observations	36	22	36	22	22	36
R-squared	0.83	0.92	0.83	0.86	0.51	0.77
Joint Test of Religion Var.	0.0037	0.0001	0.0003	0.0002	0.4775	0.0000
H1 Endogeneity Test		0.0155		0.0020	0.0131	0.0150
CD Underid. Test		0.0000		0.0000	0.7506	0.0002
AR Underid. Test		0.0000		0.0000	0.3207	0.9279
Shea's Partial R ² : Institution		0.79		0.92	0.07	0.38
Shea's Partial R ² : Trade		0.68		0.82	0.13	0.58
CD F stat		0.60		1.03	0.19	3.81
Sargan Overid. Test		0.5294		0.8676	0.9951	0.6543
PH Heteroscedasticity test		0.6278		0.8829	0.9978	0.7325
Reported Model ^a	OLS	IV (A)	OLS	IV (A)	IV (B)	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 7 (a): Impact of Religious Preference (Linear Model, Non-Aggregated) - Cross Section Results

	1	2	3	4	5	6	7
Ln CIM	2.464 (4.74)**	0.553 (0.74)	2.894 (5.01)**	0.395 (0.45)			
Rule of Law					0.782 (10.66)**	0.788 (9.41)**	0.838 (12.35)**
Ln Import Tariff	-0.234 (4.16)**	-0.204 (3.21)**			-0.084 (2.13)*	-0.048 (1.11)	
Ln Trade Share			-0.023 (0.15)	0.048 (0.24)			0 0.00
Malaria Ecology	-0.009 (0.55)	-0.029 (1.71)+	-0.003 (0.16)	-0.03 (1.50)	-0.017 (1.62)	-0.018 (1.74)+	-0.015 (1.39)
Ln (% Protestant)	0.063 (0.79)	0.12 (1.44)	0.111 (1.25)	0.167 (1.79)+	-0.095 (1.73)+	-0.092 (1.71)+	-0.101 (1.77)+
Ln (% Roman Catholic)	-0.024 (0.36)	-0.037 (0.55)	-0.027 (0.36)	-0.049 (0.64)	0.028 (0.64)	0.026 (0.63)	0.017 (0.37)
Ln (% Orthodox)	0.006 (0.06)	-0.019 (0.21)	0.027 (0.27)	-0.002 (0.02)	0.059 (1.23)	0.065 (1.40)	0.066 (1.39)
Ln (% Jews)	0.199 (1.31)	0.348 (2.17)*	0.254 (1.49)	0.439 (2.38)*	0.119 (1.08)	0.128 (1.21)	0.139 (1.19)
Ln (% Muslim)	-0.1 (1.22)	-0.181 (2.11)*	-0.156 (1.71)+	-0.262 (2.65)**	-0.126 (2.35)*	-0.134 (2.61)**	-0.149 (2.74)**
Ln (% Buddhist)	0.164 (1.55)	0.196 (1.81)+	0.197 (1.66)	0.234 (1.89)+	0.042 (0.54)	0.044 (0.58)	0.039 (0.47)
Ln (% Hindus)	-0.055 (0.62)	-0.053 (0.58)	-0.097 (0.98)	-0.084 (0.82)	-0.013 (0.19)	-0.02 (0.32)	-0.03 (0.44)
Ln (% Other Religion)	-0.284 (2.94)**	-0.317 (3.19)**	-0.394 (3.76)**	-0.416 (3.81)**	-0.114 (1.80)+	-0.122 (2.00)*	-0.131 (2.00)*
Observations	83	83	85	85	114	114	122
R-squared	0.72	0.66	0.65	0.56	0.81	0.81	0.78
Joint Test of Religion Var.	<i>0.0956</i>	<i>0.0133</i>	<i>0.0104</i>	<i>0.0005</i>	<i>0.0108</i>	<i>0.0014</i>	<i>0.0014</i>
H Endogeneity Test		<i>0.0002</i>		<i>0.0001</i>		<i>0.0793</i>	
CD Underid. Test		<i>0.0000</i>		<i>0.0000</i>		<i>0.0000</i>	
AR Underid. Test		<i>0.0417</i>		<i>0.7442</i>		<i>0.0000</i>	
Shea's Partial R ² : Institution		0.50		0.47		0.69	
Shea's Partial R ² : Trade		0.81		0.64		0.73	
CD F stat		16.13		15.56		51.42	
Sargan Overid. Test		<i>0.6760</i>		<i>0.4158</i>		<i>0.3774</i>	
PH Heteroscedasticity test		<i>0.4260</i>		<i>0.3932</i>		<i>0.1342</i>	
Reported Model ^a	OLS	IV (C)	OLS	IV (C)	OLS	IV (C)	OLS

a: Same as Table 2

Notes: Same as Table 2

Table 7 (b): Impact of Religious Preference (Linear Model, Aggregated) - Cross Section Results

	1	2	3	4	5	6	7	8
Ln CIM	2.68 (5.38)**	0.607 (0.76)	3.218 (5.84)**	0.539 (0.57)				
Rule of Law					0.717 (10.84)**	0.697 (9.16)**	0.783 (12.72)**	0.73 (10.88)**
Ln Import Tariff	-0.243 (4.30)**	-0.219 (3.29)**			-0.099 (2.52)*	-0.055 (1.20)		
Ln Trade Share			-0.035 (0.23)	-0.003 (0.01)			-0.027 (0.42)	-0.081 (0.94)
Malaria Ecology	-0.011 (0.69)	-0.035 (1.98)*	-0.006 (0.36)	-0.038 (1.83)+	-0.021 (1.97)+	-0.022 (2.20)*	-0.019 (1.81)+	-0.02 (1.94)+
Ln (% Judeo Christian)	0.029 (0.30)	0.053 (0.53)	0.097 (0.94)	0.112 (1.00)	0.034 (0.55)	0.051 (0.84)	0.036 (0.57)	0.048 (0.77)
Ln (% Muslim)	-0.069 (0.81)	-0.149 (1.58)	-0.086 (0.89)	-0.19 (1.74)+	-0.101 (1.81)+	-0.104 (1.92)+	-0.115 (2.04)*	-0.117 (2.14)*
Ln (% Buddhist)	0.163 (1.50)	0.196 (1.69)+	0.219 (1.80)+	0.253 (1.91)+	0.085 (1.05)	0.101 (1.28)	0.086 (1.00)	0.095 (1.14)
Ln (% Hindu)	-0.056 (0.64)	-0.048 (0.52)	-0.096 (0.98)	-0.081 (0.76)	-0.037 (0.57)	-0.047 (0.73)	-0.064 (0.92)	-0.062 (0.93)
Ln (% Other Religion)	-0.254 (3.08)**	-0.255 (2.91)**	-0.344 (3.81)**	-0.335 (3.43)**	-0.176 (3.13)**	-0.188 (3.44)**	-0.204 (3.61)**	-0.212 (3.85)**
Observations	83	83	85	85	114	114	122	122
R-squared	0.71	0.63	0.63	0.52	0.80	0.79	0.77	0.77
Joint Test of Religion Var.	0.0474	0.0247	0.0047	0.0016	0.0236	0.0039	0.0033	0.0006
H Endogeneity Test		0.0004		0.0001		0.0105		0.1629
CD Underid. Test		0.0000		0.0000		0.0000		0.0000
AR Underid. Test		0.0164		0.2503		0.0000		0.0000
Shea's Partial R ² : Institution		0.43		0.40		0.73		0.70
Shea's Partial R ² : Trade		0.81		0.63		0.74		0.68
CD F stat		12.79		12.35		47.55		29.97
Sargan Overid. Test		0.2177		0.0718		0.4323		0.1155
PH Heteroscedasticity test		0.3620		0.3532		0.0812		0.0500
Reported Model ^a	OLS	IV (C)	OLS	IV (C)	OLS	IV (C)	OLS	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 7 (c): Impact of Religious Preference (Non-Linear Model, Aggregated)- Cross Section Results

	1	2	3	4	5	6	7	8
Ln CIM	2.871 (5.99)**	0.716 (0.91)	3.041 (6.09)**	0.598 (0.71)				
Rule of Law					0.705 (10.66)**	0.651 (9.00)**	0.745 (12.22)**	0.681 (10.42)**
Ln Import Tariff	-0.149 (2.26)*	-0.09 (1.12)			-0.064 (1.46)	-0.05 (1.04)		
Ln Trade Share			-0.02 (0.14)	-0.062 (0.33)			-0.03 (0.47)	-0.055 (0.68)
Malaria Ecology	0.002 (0.14)	-0.012 (0.71)	0.008 (0.54)	-0.009 (0.52)	-0.011 (0.95)	-0.011 (0.98)	-0.007 (0.58)	-0.007 (0.64)
Ln (% Judeo Christian)	1.028 (2.88)**	0.931 (2.46)*	1.27 (3.36)**	1.115 (2.68)**	0.465 (2.18)*	0.485 (2.41)*	0.492 (2.28)*	0.513 (2.47)*
Ln (% Judeo Christian) Sq	-0.257 (2.78)**	-0.266 (2.70)**	-0.345 (3.69)**	-0.332 (3.26)**	-0.11 (2.19)*	-0.115 (2.39)*	-0.127 (2.61)*	-0.13 (2.77)**
Ln (% Muslim)	0.054 (0.20)	0.274 (0.93)	0.354 (1.51)	0.449 (1.80)+	-0.124 (0.81)	-0.102 (0.69)	-0.049 (0.35)	-0.055 (0.41)
Ln (% Muslim) Sq	-0.093 (1.10)	-0.196 (2.03)*	-0.206 (2.89)**	-0.271 (3.49)**	-0.025 (0.56)	-0.036 (0.80)	-0.056 (1.40)	-0.058 (1.52)
Ln (% Buddhist)	1.648 (3.75)**	2.056 (4.23)**	2.123 (5.08)**	2.353 (5.17)**	0.685 (2.34)*	0.78 (2.80)**	0.737 (2.45)*	0.805 (2.78)**
Ln (% Buddhist) Sq	-0.422 (3.55)**	-0.548 (4.10)**	-0.576 (5.43)**	-0.648 (5.62)**	-0.176 (2.43)*	-0.2 (2.89)**	-0.201 (2.77)**	-0.215 (3.10)**
Ln (% Hindus)	-0.282 (0.93)	0.123 (0.36)	-0.254 (0.80)	0.18 (0.51)	0.172 (0.73)	0.196 (0.88)	0.173 (0.71)	0.199 (0.86)
Ln (% Hindus) Sq	-0.039 (0.43)	-0.184 (1.77)+	-0.105 (1.18)	-0.237 (2.36)*	-0.092 (1.39)	-0.104 (1.65)+	-0.106 (1.57)	-0.114 (1.79)+
Ln (% Other Religion)	0.096 (0.29)	-0.052 (0.15)	0.161 (0.47)	-0.046 (0.13)	0.012 (0.05)	0.006 (0.03)	-0.003 (0.01)	-0.015 (0.07)
Ln (% Other Religion) Sq	-0.152 (1.91)+	-0.15 (1.77)+	-0.212 (2.71)**	-0.183 (2.19)*	-0.076 (1.59)	-0.081 (1.78)+	-0.085 (1.84)+	-0.086 (1.96)*
Observations	83	83	85	85	114	114	122	122
R-squared	0.78	0.70	0.76	0.68	0.82	0.81	0.80	0.79
Joint Test of Religion Var.	<i>0.0011</i>	<i>0.0002</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0105</i>	<i>0.0005</i>	<i>0.0005</i>	<i>0.0000</i>
H Endogeneity Test		<i>0.0002</i>		<i>0.0000</i>		<i>0.0462</i>		<i>0.0859</i>
CD Underid. Test		<i>0.0000</i>		<i>0.0000</i>		<i>0.0000</i>		<i>0.0000</i>
AR Underid. Test		<i>0.5937</i>		<i>0.7203</i>		<i>0.0000</i>		<i>0.0000</i>
Shea's Partial R ² : Institution		0.41		0.39		0.74		0.78
Shea's Partial R ² : Trade		0.74		0.62		0.73		0.56
CD F stat		10.70		11.19		59.44		33.34
Sargan Overid. Test		<i>0.5043</i>		<i>0.4164</i>		<i>0.5257</i>		<i>0.1796</i>
PH Heteroscedasticity test		<i>0.8923</i>		<i>0.8288</i>		<i>0.3038</i>		<i>0.2394</i>
Reported Model ^a	OLS	IV (C)	OLS	IV (C)	OLS	IV (C)	OLS	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 8: Impact of Religious Attitudes and Beliefs - Panel Data Results

	1	2	3	4	5	6	7
Ln CIM	3.576 (4.64)**	1.678 (2.29)*	1.265 (2.16)*	-0.164 (0.33)	4.544 (4.37)**	1.521 (2.07)*	1.917 (2.55)**
Ln Import Tariff	-0.039 (1.22)	-0.053 (2.18)*	-0.012 (0.57)	-0.008 (0.45)			
Ln Trade Share					0.089 (0.80)	-0.176 (2.06)*	-0.251 (2.83)**
Malaria Ecology	-0.022 (1.44)	-0.049 (2.93)**	-0.065 (5.01)**	-0.088 (5.10)**	-0.035 (1.70)+	-0.069 (4.21)**	-0.062 (3.94)**
Comfort in Religion	4.532 (2.84)**	0.796 (0.51)	0.625 (0.56)	-0.989 (1.03)			
Comfort in Religion Sq	-5.023 (3.87)**	-2.113 (1.69)+	-1.436 (1.50)	-0.060 (0.074)			
Belief in God					11.642 (2.33)*	7.347 (2.33)*	7.654 (2.74)**
Belief in God Sq					-8.662 (2.69)**	-5.569 (2.65)*	-5.759 (3.09)**
East Asia and Pacific			-0.206 (1.64)	-0.392 (2.00)*		-0.525 (3.86)**	-0.588 (4.65)**
East Europe and Central Asia			-0.614 (2.98)**	-0.767 (2.33)*		-0.813 (3.71)**	-0.801 (4.11)**
Latin America			-0.500 (3.92)**	-0.734 (4.28)**		-0.669 (4.53)**	-0.698 (5.15)**
North America			0.526 (4.07)**	0.508 (2.19)*		0.408 (2.51)*	0.337 (2.28)**
South Asia			-1.491 (7.35)**	-1.800 (7.21)**		-1.945 (8.64)**	-1.993 (9.50)**
Sub-Saharan Africa			-0.262 (1.42)	-0.334 (1.02)		-0.431 (2.15)*	-0.470 (2.63)**
Middle East and North Africa			-0.299 (1.20)	-0.339 (1.08)		-0.448 (1.59)	-0.457 (1.83)*
1980			0.070 (0.80)	0.153 (3.74)**		0.127 (1.35)	0.117 (1.38)
1990			0.224 (2.41)*	0.324 (6.55)**		0.333 (2.92)**	0.342 (3.22)**
Observations	61	61	61	61	63	63	63
Number of countries	34	34	34	34	35	35	35
R-squared	0.80	.	0.94	.	0.67	0.91	0.91
Joint Test of Religion Var.	0.0000	0.0000	0.0003	0.0013	0.0000	0.0011	0.0000
BP error components test		0.0000		0.0448			
H Test of Pooled (P) OLS vs. P IV							0.0589
CD Underid. Test							0.0000
AR Underid. Test							0.0000
Shea's Partial R ² : Institution							0.75
Shea's Partial R ² : Trade							0.73
CD F stat							30.15
Sargan Overid. Test							0.1867
PH Heteroscedasticity test							0.0630
Reported Model ^a	OLS	RE	OLS	RE	OLS	OLS	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 9: Impact of Religious Participation - Panel Data Results

	1	2	3	4	5	6	7	8	9
Ln CIM	3.762 (3.29)**	1.933 (2.60)**	0.681 (0.95)	0.887 (1.38)	3.291 (3.10)**	2.501 (2.78)**	3.655 (3.45)**	1.593 (2.10)*	-0.009 (0.01)
Ln Trade Share	0.177 (1.57)	0.372 (3.69)**	-0.151 (1.89)+	-0.087 (0.91)					
Ln Import Tariff					-0.107 (3.26)**	-0.065 (2.22)*	-0.104 (2.95)**	-0.029 (1.13)	0.023 (0.74)
Malaria Ecology	-0.042 (2.26)*	-0.059 (2.70)**	-0.069 (4.69)**	-0.064 (3.62)**	-0.048 (2.58)*	-0.056 (2.94)**	-0.051 (2.75)**	-0.06 (3.54)**	-0.082 (4.13)**
Attend Weekly	-1.298 (3.65)**	-1.334 (3.30)**	-0.874 (4.08)**	-0.97 (3.71)**					
Attend Monthly					-0.976 (3.22)**	-1.010 (3.11)**			
Attend Yearly							2.905 (1.15)	2.731 (1.59)	3.156 (1.91)+
Attend Yearly Sq							-3.017 (1.57)	-2.524 (1.91)+	-3.015 (2.37)*
East Asia and Pacific			-0.52 (4.45)**	-0.559 (3.37)**				-0.237 (1.81)+	-0.297 (2.35)*
East Europe and Central Asia			-1.106 (6.52)**	-1.122 (5.26)**				-1.096 (4.76)**	-1.234 (5.54)**
Latin America			-0.892 (7.21)**	-0.925 (6.08)**				-0.762 (5.42)**	-0.942 (6.38)**
North America			0.309 (2.07)*	0.338 (1.55)				0.31 (1.98)+	0.294 (1.95)+
South Asia			-2.07 (9.80)**	-1.966 (7.62)**				-1.74 (7.58)**	-1.976 (8.47)**
Sub-Saharan Africa			-0.582 (2.74)**	-0.58 (1.98)*				-0.718 (3.07)**	-0.699 (3.09)**
Middle East and North Africa			-0.413 (1.50)	-0.403 (1.35)				-0.491 (1.59)	-0.651 (2.19)*
1980			0.164 (1.84)+	0.179 (3.30)**				0.099 (0.98)	0.217 (2.04)*
1990			0.343 (3.26)**	0.369 (4.84)**				0.222 (2.04)*	0.315 (2.85)**
Observations	68	68	68	68	65	65	65	65	65
Number of countries	35	35	35	35	34	34	34	34	34
R-squared	0.66		0.92		0.68	.	0.67	0.89	0.87
Joint Test of Religion Var.							0.0163	0.0340	0.0096
BP error comp test		0.0000		0.0001		0.0000			
H Test of Pooled (P) OLS vs. P IV									0.0079
CD Underid. Test									0.0000
AR Underid. Test									0.0000
Shea's Partial R ² : Institution									0.38
Shea's Partial R ² : Trade									0.61
CD F stat									7.22
Sargan Overid. Test									0.2552
PH Heteroscedasticity test									0.0818
Reported Model ^a	OLS	RE	OLS	RE	OLS	RE	OLS	OLS	IV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 10: Impact of Religious Population Size - Panel Data Results

	1	2	3	4
Ln CIM	1.217 (5.75)**	0.152 (0.43)	1.112 (6.60)**	0.337 (1.42)
Ln Import Tariff	-0.06 (2.90)**	-0.066 (2.52)*		
Ln Trade Share			0.23 (4.53)**	0.246 (2.88)**
Ln (% Religious Population)	-9.952 (0.33)	-44.999 (1.34)	-26.134 (1.05)	-47.276 (1.72)+
Ln (% Religious Population) Sq	0.98 (0.31)	4.8 (1.32)	2.763 (1.03)	5.062 (1.70)+
Observations	246	232	295	287
Number of countries	98	84	104	96
R-squared	0.32	0.19	0.34	0.26
Joint Test of Religion Var.	0.2280	0.2595	0.2980	0.1870
BP error components test	0.0000		0.0000	
H Test of RE vs FE	0.0252		0.0000	
H Test of FE vs FEIV		0.0001		0.0000
CD Underid. Test		0.0000		0.0000
AR Underid. Test		0.0109		0.0023
Shea's Partial R ² : Institution		0.42		0.55
Shea's Partial R ² : Trade		0.73		0.39
CD F stat		23.59		25.87
Sargan Overid. Test		0.0349		0.0129
Reported Model ^a	FE	FEIV (C)	FE	FEIV (C)

a: Same as Table 2

Notes: Same as Table 2

Table 11: Impact of Religious Preference - Panel Data Results

	1	2	3	4	5	6	7	8
Ln CIM	0.972 (4.56)**	0.117 (0.34)	0.753 (3.47)**	-0.309 (0.81)	1.022 (5.16)**	0.328 (1.07)	0.884 (4.38)**	0.185 (0.58)
Ln Import Tariff	-0.021 (0.90)	0.011 (0.36)	-0.025 (1.12)	0.018 (0.61)	-0.026 (1.11)	0.008 (0.24)	-0.029 (1.25)	0.012 (0.40)
Ln (% Protestant)	-0.002 (0.026)	0.096 (1.42)	0.376 (2.31)*	0.536 (3.04)***				
Ln (% Protestant) Sq			-0.102 (2.60)*	-0.115 (2.78)***				
Ln (% Roman Catholic)	0.546 (4.70)**	0.525 (4.36)***	0.503 (4.24)**	0.467 (3.73)***				
Ln (% Orthodox)	-0.252 (1.34)	-0.460 (2.25)**	-0.011 (0.035)	0.127 (0.37)				
Ln (% Orthodox) Sq			-0.160 (1.17)	-0.364 (2.34)**				
Ln (% Jews)	-0.414 (1.16)	-0.621 (1.66)*	-0.531 (1.25)	-0.829 (1.82)*				
Ln (% Jews) Sq			0.135 (0.85)	0.181 (1.08)				
Ln (% Judeo Christian)					0.271 (2.46)*	0.294 (2.58)***	0.204 (1.81)+	0.182 (1.57)
Ln (% Muslim)	0.107 (1.27)	0.240 (2.39)**	-0.012 (0.13)	0.099 (0.98)	0.091 (1.10)	0.204 (2.12)**	-0.006 (0.065)	0.086 (0.91)
Ln (% Buddhist)	0.047 (0.30)	0.099 (0.61)	0.283 (1.24)	0.351 (1.46)	0.156 (0.97)	0.157 (0.95)	0.540 (2.41)*	0.532 (2.30)**
Ln (% Buddhist) Sq			-0.320 (2.38)*	-0.332 (2.35)**			-0.397 (2.90)**	-0.399 (2.83)***
Ln (% Hindus)	0.102 (0.51)	0.152 (0.73)	0.493 (1.79)+	0.704 (2.38)**	0.048 (0.23)	0.106 (0.50)	0.337 (1.21)	0.496 (1.70)*
Ln (% Hindus) Sq			-0.224 (2.35)*	-0.279 (2.75)***			-0.187 (1.88)+	-0.220 (2.13)**
Ln (% Other Religion)	0.183 (3.26)**	0.215 (3.63)***	0.437 (3.24)**	0.561 (3.85)***	0.199 (3.22)**	0.234 (3.60)***	0.368 (2.85)**	0.532 (3.73)***
Ln (% Other Religion) Sq			-0.085 (2.50)*	-0.109 (2.98)***			-0.051 (1.67)+	-0.085 (2.55)**
Observations	240	228	240	228	240	228	240	228
Number of countries	94	82	94	82	94	82	94	82
R-squared	0.46	0.38	0.53	0.42	0.39	0.32	0.45	0.37
BP error components test	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Joint Test of Religion Var.	0.0000	0.0000	0.0000	0.0000	0.0031	0.0001	0.0001	0.0000
H Test of RE vs FE	0.0000		0.0000		0.0000		0.0000	
H Test of FE vs FEIV		0.0033		0.0007		0.0040		0.0045
CD Underid. Test		0.0000		0.0000		0.0000		0.0000
AR Underid. Test		0.7222		0.7921		0.3157		0.5861
Shea's Partial R ² : Institution		0.41		0.36		0.45		0.42
Shea's Partial R ² : Trade		0.57		0.58		0.59		0.59
CD F stat		19.07		15.03		22.61		19.84
Sargan Overid. Test		0.4033		0.7510		0.1509		0.3064
Reported Model ^a	FE	FEIV (C)	FE	FEIV (C)	FE	FEIV (C)	FE	FEIV (C)

a: Same as Table 2

Notes: Same as Table 2

Figures 1(a) – (d)

Figure 1(a): Relationship Between % of Population Attending Religious Ceremonies At Least One a Week and Per Capita Income.

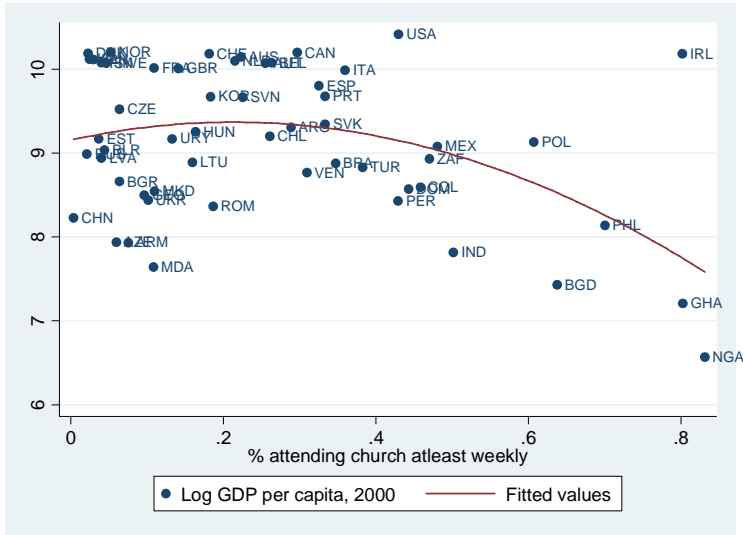


Figure 1(b): Relationship Between % of Population Attending Religious Ceremonies At Least One a Year and Per Capita Income.

