

## ABSTRACT

### Economic Attitudes and Religion: Are Muslims Really Anti-Growth?

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The economic attitudes of each religion's adherents provide a glimpse into the reasons behind economic development and persistent poverty. This research demonstrates that individual Muslims' views are more conducive to growth than previous studies have shown. Muslims around the world trust those around them and are more tolerant of other races and immigrants. As well, they have a strong confidence in their governments, armies and police. While they may not have Max Weber's thrift, Muslims do believe that hard work pays off and competition is good. This research involves a panel of 85 countries and over 250,000 respondents of the World Values Survey (WVS) describing the views of adherents to seven major religions on economic attitudes like trust, government and competition. The WVS recent addition of fourteen majority Muslim countries allows this research's findings to disentangle the minority effect from the overall Islamic effect.

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ECONOMIC ATTITUDES AND RELIGION: ARE MUSLIMS REALLY  
ANTI-GROWTH?

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## CHAPTER 1

### Introduction

Economists have long researched and hypothesized about what separates countries of economic strength with those caught in poverty that can often appear endemic. Religion's role in peoples' wealth and prosperity has long been debated, though in recent decades it has transformed from a debate of stereotype and generality to one grounded in data. Max Weber's "The Protestant Ethic and the Spirit of Capitalism" (1905) was the first to posit the direct effect of religion on an individual's and society's economic strength or weakness. He suggested that doing good works in faith included being diligent in all worldly affairs. As a result, a certain ethic for hard work and thrift were present within Protestant dominated societies that were not present elsewhere. While Weber argued with limited evidence for complete, one directional causality, R.H. Tawney (1926) argued not long after, in "Religion and the Rise of Capitalism", for a mutual relationship of religious and economic systems. He wrote that, "It seems a little artificial to talk as though capitalist enterprise could not appear till religious changes had produced a capitalist spirit. It would equally be true, and equally one-sided, to say that the religious changes were purely the result of economic movements." Scholars have continued to argue about the correlations and loose causation religions have on their society's economies since then.

Shmuel Eisenstadt's research broadened what was considered the effect of a religion, focusing on the religion's "transformative potential". He defined this potential

as the “capacity to legitimize, in religious or ideological terms, the development of new motivations, activities, and institutions” (1968). While his focus was on the social and political institutions that were transformed within Protestant societies, these concepts have been applied to other religions and their flexibility to societal change. In the case of Islam, its transformative potential is seen by some economists as “inflexible political and legal institutions in the Islamic world...[created] somewhere between the ninth and 11<sup>th</sup> century” (Guiso et al., 2002), but seen by other historians as incredibly flexible institutions (Agoston, 2003). The Ottoman Empire stretched over three continents and seven centuries and its flexibility atrophied gradually; whether this decay can be attributed to Islam’s limited transformative potential is unclear.

Recently, economic research has expanded from the effects of Protestantism to the effects of Catholicism on growth and development. Putnam (1993) suggests Italy's development was negatively impacted by the lack of trust in society resulting from Catholicism's emphasis on the vertical bond with the Church above the horizontal bond between people. Several cross-country studies conducted (La Porta et al., 1997 and Inglehart, 1999) give credence to these links of trust, religion and development. Spain's arrested development in the 16<sup>th</sup> and 17<sup>th</sup> centuries is attributed to intolerance (Landes 1998), both directly enacted by the Catholic Church and indirectly diffused by its adherents.

However, these studies of Catholicism use Western Europe's Protestantism as their main comparison point and few studies look in depth at the effects of other major world religions: Islam, Hinduism, Buddhism, Orthodox Christianity or Judaism. Guiso, Sapienza and Zingales (2002), used the first three waves of the World Values Survey to

posit the effects different religions have on cooperation, government, women, law, thrift, and market economies. They drew the majority of their conclusions on the effect of the strength of faith and the effect of Catholicism on a number of attitudes. However, they made several conclusions about Muslims as well. Their data suggested that an Islamic upbringing had a negative effect on trust of others compared to forms of Christianity. All religions except Buddhism were found to be less tolerant of minorities and immigrants as compared to the non-religious. Guiso et al. also found that thrift, curiously, is limited to a Catholic upbringing and does not extend even to Weber's Protestantism. These conclusions stimulate a great number of questions about how one's religion correlates to attitudes that are conducive to growth.

While Guiso et al. concluded that Muslim's trust less than many Christians, such findings could easily reflect the effect of being a religious and ethnic minority in majority Christian and Western nations. Their study was based off the first three waves of the World Values Survey, waves in which the only Muslim majority countries included were Azerbaijan, Bangladesh, and Turkey. The rest of the Muslims in their survey were minorities in mostly Western countries. The recent expansion of the World Values Survey to 15 additional Muslim majority countries provides an ideal opportunity to garner a greater understanding of a more representative sample of the Muslim world's views on economic attitudes. My research finds that on an intra-country level Muslims have more favorable economic attitudes than previous studies have shown. Muslims are trusting of others and more tolerant of their neighbors than many Catholics and Protestants. Furthermore, Muslims have more confidence in their governments than other groups in the same countries. While they believe less strongly in competition than



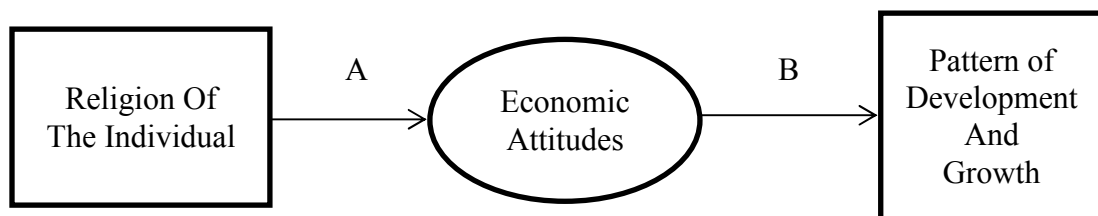
Protestants, they are not as anti-competition as many have thought. In fact, many Muslims in struggling economies may idealize competition as a solution to their current economic malaise.

The question of why some nations are prosperous and others are poor is one of the central questions of development economics. This research is significant because it provides data that challenges the religious stereotypes of individuals' ideas about economic attitudes. It looks at a large set of individuals and evaluates whether religion is a distinguishing feature between different beliefs about factors that affect economic growth. This research demonstrates potential mechanisms by which religion effects economic growth and development.

## CHAPTER 2

### Empirical Strategy

Figure 1: Empirical Model



Religion affects a great number of beliefs and actions within the life of its adherent. In turn these attitudes can be conducive to economic growth, stability and malaise (as seen in Figure 1). Here, we will address why we choose the economic attitudes we did and the previous studies that have shown the “B” link.<sup>1</sup> Our research explores “A”: how the religion of the individual affects their economic attitudes. Whether these results are causative (the direction of the arrows) cannot be fully substantiated. Therefore, religion's “affect” or “impact” on the dependent variables must be seen as suggestive correlation with theorized causation but without the proper evidence to conclude causation. The independent variables are therefore each individual’s religious affiliation and the dependent variables are their economic attitudes.

We grouped the dependent variables of economic attitudes into three categories (i) trust and tolerance of people (ii) confidence in government & law (iii) and beliefs about market competition & thrift. First, we choose trust as an indicator because it has

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<sup>1</sup> Many of these variables come from Guiso, Sapienza, and Zingales “People’s Opium?” (2002).

been shown to play an important role in economic growth (Knack e.g., 2001). When people lack trust in one another, they become less flexible in their dealings, often adding transaction costs to economic exchanges. Intolerance is also thought to have negative effects on growth (Landes, 1998). Second, the attitudes of citizens toward their governments and legal institutions are central in economic growth. Distrust has been linked to weak economic growth (Barro, 1991) and financial development (La Porta, 1997). Finally, our study focuses on how each religions' adherents view competition, hard work and thrift. Most Western economists believe competition promotes growth, although this view is not held uniformly across the world. We test Max Weber's thrift and hard work empirically to see if there remains a Protestant work ethic or whether we can support Guiso's finding of Catholic thrift.

There are innumerable institutional differences between countries. In many previous empirical studies of religion it is difficult to separate a country's majority religion and culture from the different values and beliefs their citizens of minority religions held. As a result, we controlled for country fixed effects. Employing fixed effects may have led to an underestimation of each religion's effect since most dominant religions do affect the mindset and institutions of the entire country. In the case of Islam, a significant number of majority Muslim countries are considered to have more corrupt governments than Protestant dominated countries. As a result, the citizens of Muslim countries may have greater reason not to trust their government or police. However, if people of all faiths trust the government less in Indonesia than Switzerland, this difference will be captured in the country fixed effect, not religion, even if some of that distrust may come as a result of their religion.

## CHAPTER 3

### Data

This research uses data from the World Values Survey (WVS) covering 85 countries and is therefore a representative sample of 90% of the world's population. The questionnaire asks a broad range of questions about the beliefs and values of each individual as well as their demographics. The sample includes five waves of surveys (1981-1984, 1990-1994, 1995-1998, 2000-2004 and 2005-2009) totaling over 250,000 observations. The first three waves, in total, generated 8,500 Muslim respondents out of nearly 150,000 total respondents. In addition to this paltry percentage, most of these Muslims were religious minorities within countries of another dominant faith. The most recent two waves of WVS data surveyed an additional 40,000 Muslims creating a larger and more diverse sample of the Muslim community. The last two waves of the WVS also include an additional thirty countries, bringing the number of majority Muslim countries to seventeen, a significant increase from the 3 countries included in the first three waves of the survey<sup>2</sup>. Therefore, this research has a new realm of data from which to posit theories and draw conclusions about the impact of Islamic faith on other attitudes.

Slightly over 200,000 respondents answered the demographic question of their religious affiliation and our study is restricted to them. The survey first asks if the respondent has an affiliation, thus providing the sample of who has No Affiliation. WVS

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<sup>2</sup> Muslim Majority countries include: Albania, Azerbaijan, Bangladesh, Burkina Faso, Egypt, Indonesia, Iran, Iraq, Jordan, Kyrgyzstan, Malaysia, Mali, Morocco, Nigeria, Pakistan, Saudi Arabia, and Turkey

then allows 90 different responses for affiliation. This study groups them into seven categories: Muslim<sup>3</sup>, Protestant<sup>4</sup>, Catholic<sup>5</sup>, Orthodox<sup>6</sup>, Jewish<sup>7</sup>, Buddhist, Hindu, and other Religions.

To isolate religion's effect from other effects common across societies several control variables are used. First, healthier people are more likely to have a more positive view of the people, governments and world around them. While any impact that religion has on health will therefore be underestimated, it is important to find if religion had an additional direct effect on these economic attitudes. "Male" indicates the gender of the respondent: one if male and zero otherwise. "Age" is the respondent's age in years. Finally, the effects of education are not linear based on whether a level of schooling is complete or incomplete. Therefore, the study broke apart education into eight dummy variables: Incomplete Elementary Education (omitted in regressions), Elementary Education, Incomplete Secondary (technical), Complete Secondary (technical), Incomplete Secondary, Complete Secondary, Some University, and University with Degree. Other studies control for income and social class however, education is highly correlated with both. As a result, this research will demonstrate to a greater extent the effect of each educational milestone.

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<sup>3</sup> Muslim also includes those who identify as Al-hadis, Qadiani, Shia, and Sunni.

<sup>4</sup> Protestant also includes: Alliance, Anglican, Assembly of God, Baptist, Born Again, C & S Celestial, Charismatic, Christian Fellowship, Christian Reform, Church of Christ, Evangelical, Free Church/Non-Denominational Church, Iglesia Ni Cristo, Jesus is Lord (jil), Lutheran, Mennonite, Methodists, Pentecostal, Presbyterian, Seven Day Adventist, and The Church of Sweden.

<sup>5</sup> Additionally includes: Aglipayan, Catholic: Doesn't Follow Rules, Greek Catholic

<sup>6</sup> Including the Armenian Apostolic Church

<sup>7</sup> Including those who identify as Religious Zionists

Table 1: Summary Statistics of Control Variables

<b>Variable</b>	<b># Of Countries</b>	<b># Of Obs.</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>
Health Status	85	195383	3.61	1.17	0	5
Male	85	195383	0.48	0.50	0	1
Age	85	195383	40.31	15.91	14	99
Elementary Education	85	195383	0.15	0.35	0	1
Incomplete Sec. (technical)	85	195383	0.07	0.26	0	1
Complete Sec. (technical)	85	195383	0.17	0.38	0	1
Incomplete Secondary	85	195383	0.09	0.28	0	1
Complete Secondary	85	195383	0.16	0.37	0	1
Some University	85	195383	0.07	0.26	0	1
University with Degree	85	195383	0.14	0.35	0	1

## CHAPTER 4

### Results

#### *Trust and Tolerance of People*

We measured trust and tolerance through several questions that respondents were asked. Overall trust is gathered from the question: “Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?” If respondents reported that people can be trusted, the variable equals one and zero otherwise. We measured tolerance based on the question: “On this list are various groups of people. Could you please sort out any that you would not like to have as neighbors?” If a respondent identified people of a different race, then intolerance was denoted by a one within the “Racial Intolerance” category; if the group is unmentioned, it equaled zero. We employed a similar methodology if “Immigrants” was a selected category. The final measure of intolerance we created by combining the previous two groups; if a respondent identified those of other races *or* immigrants they were deemed to have an intolerance of 1, while those who did not choose either of those groups were assigned a zero. Therefore, positive coefficients signify greater intolerance.

Table 2: Summary Statistics of Trust and Tolerance of People

<b>Variable</b>	<b># of Countries</b>	<b># of Obs.</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>
Trust People	85	187424	0.27	0.44	0	1
Racial Intolerance	62	95229	0.20	0.40	0	1
Intolerance of Immigrants	81	171656	0.20	0.40	0	1
Average Intolerance	84	180071	0.25	0.43	0	1

In Table 3, we used a linear probability model to find the effect each religion of had on the trust and tolerance variables. These regressions omitted non-affiliated as a result of collinearity with another religious group. The Orthodox Faith was the included group within these regressions. We used country fixed effects and each of the control variables. Therefore, the first result signifies that Muslims are 3.5% more likely to describe themselves as trusting of others than Orthodox Christians. The impact of religion on trust found a large number of significant results nearly every religion and control variable is statistically significant. However, the t-statistics only tell us how each religion compares to the Orthodox faith, the excluded group. Therefore, Table 4 presents pairwise f-tests for all religions, testing each religion's differences against the others to determine whether these differences are significant. The results show that those who identify as part of the Jewish faith have the highest level of trust; they are 8.6% more trusting than Orthodox Christians and significantly different from all other religious groups. The two religious groups that are significantly different are Jews and Orthodox Christians. Jews, are more trusting, a surprising finding since they are a minority in all but one (Israel) of the countries surveyed, and minorities are thought of as less trusting. Orthodox Christians are by far the least trusting religious group, which cannot be tied to their country of citizenship.



Table 3: Attitudes of Trust and Tolerance of People<sup>7</sup>

	Overall Trust	Racial Intolerance <sup>8</sup>	Intolerance of Immigrants	Overall Intolerance
Muslim	0.035 (0.000)***	-0.048 (0.000)***	-0.015 (0.010)*	-0.033 (0.000)***
Protestant	0.040 (0.000)***	-0.031 (0.323)	-0.011 (0.085)*	-0.018 (0.006)***
Catholic	0.027 (0.000)***	-0.041 (0.000)***	-0.020 (0.001)***	-0.032 (0.000)***
Jewish	0.086 (0.000)***	-0.121 (0.000)***	-0.013 (0.379)	-0.038 (0.019)**
Hindu	0.027 (0.008)***	-0.073 (0.000)***	-0.014 (0.137)	-0.039 (0.000)***
Buddhist	0.016 (0.107)	-0.107 (0.000)***	-0.050 (0.000)***	-0.070 (0.000)***
Other Religion	0.026 (0.001)***	-0.041 (0.000)***	-0.015 (0.052)*	-0.025 (0.001)***
Health	0.025 (0.000)***	0.001 (0.696)	-0.010 (0.000)***	-0.011 (0.000)***
Male	0.005 (0.018)**	-0.003 (0.201)	0.005 (0.007)***	0.003 (0.101)
Age	0.001 (0.000)***	-0.001 (0.045)**	-0.000 (0.601)	0.000 (0.118)
Elem Edu	-0.042 (0.000)***	-0.008 (0.074)*	-0.007 (0.070)*	-0.010 (0.011)**
Incomplete	-0.048 (0.000)***	-0.032 (0.000)***	-0.032 (0.000)***	-0.036 (0.000)***
Secondary (V)	-0.044 (0.000)***	-0.037 (0.000)***	-0.034 (0.000)***	-0.045 (0.000)***
Comp. Sec(V)	-0.037 (0.000)***	-0.050 (0.000)***	-0.039 (0.000)***	-0.046 (0.000)***
Incomplete	-0.027 (0.000)***	-0.063 (0.000)***	-0.045 (0.000)***	-0.060 (0.000)***
Secondary	0.007 (0.137)	-0.077 (0.000)***	-0.066 (0.000)***	-0.080 (0.000)***
Comp Sec	0.021 (0.000)***	-0.082 (0.000)***	-0.069 (0.000)***	-0.091 (0.000)***
College Degree	-0.067 (0.000)***		-0.010 (0.001)***	0.030 (0.000)***
Wave 2	-0.013 (0.000)***	0.064 (0.000)***	-0.025 (0.000)***	0.033 (0.000)***
Wave 3	-0.095 (0.000)***	0.064	0.014 (0.019)**	0.093 (0.000)***
Wave 4	0.185 (0.000)***	0.253 (0.000)***	0.316 (0.000)***	0.339 (0.000)***
Wave 5	177862	93424	160285	164076
Constant	0.014	0.002	0.003	0.007
N	0.0000***	0.0000***	0.0000***	0.0000***
R <sup>2</sup>				
F-test				

Table 4: F-Tests for Trust

Religion	Jewish	Protestant	Muslim	Catholic	Hindu	Other Religion	Buddhist
<b>Protestant</b>	10.03 ***						
<b>Muslim</b>	11.85 ***	0.84					
<b>Catholic</b>	16.30 ***	11.21 ***	1.90				
<b>Hindu</b>	12.57 ***	1.96	0.72	0.00			
<b>Other Religion</b>	15.89 ***	6.08 **	1.82	0.08	15.89 ***		
<b>Buddhist</b>	17.60 ***	7.18 ***	3.84 **	1.52	17.60 ***	1.02	
<b>Orthodox</b>	31.79 ***	38.26 ***	28.87 ***	19.53 ***	31.79 ***	10.87 ***	2.60

Table 5: F-Tests for Overall Intolerance

	Orthodox	Protestant	Other Religion	Catholic	Muslim	Jewish	Hindu
<b>Protestant</b>	7.60 ***						
<b>Other Religion</b>	46.27 ***	1.73					
<b>Catholic</b>	27.01 ***	13.30 ***	1.13				
<b>Muslim</b>	26.95 ***	7.45 ***	1.17	0.06			
<b>Jewish</b>	5.52 **	1.72	0.61	0.17	0.10		
<b>Hindu</b>	14.59 ***	5.36 **	1.88	0.62	0.43	0.00	
<b>Buddhist</b>	46.27 ***	33.91 ***	22.45 ***	17.91 ***	14.55 ***	3.18 *	6.63 ***

<sup>7</sup> Table 3 Notes: Uses Country Fixed Effects. Coefficients (p-value). \* = significant at the 10% level, \*\*=5% level, \*\*\*=1% level.

<sup>8</sup> Table 3 Intolerance Notes: Higher numbers equal higher intolerance. Negatives mean a positive effect on tolerance. Respondents replied with 0 or 1

According to Table 4, Islam is not statistically significant from Protestantism or Catholicism in the level of its adherents trust. Protestants, Muslims, Catholics, and Hindus are all insignificantly different from one another in their trust of others. Guiso et. al. found Muslims less trusting, but our results suggest otherwise. The main difference is the increased number of Muslim majority countries, suggesting their results were driven by a minority effect. That lack of trust was likely the result of minority groups being less trusting than of Muslims, as a whole, lacking trust. Muslims may also have high intragroup trust without trusting those outside the group. If this is the case, adding majority Muslim countries to the World Values Survey would provide a large sample of those who do trust the majority of people around them. However, if Muslims exercised only intragroup trust, their tolerance of immigrants (who are more likely to be a different religion) would be low.

The two religious groups that have significantly different levels of trust are opposite extremes: Jews are more trusting and Orthodox Christians greatly lack trust in others. The result for Jews is surprising as they are a minority in all but one (Israel) of the countries surveyed, therefore shedding doubt on the theory that minorities are less trusting. Orthodox Christians are by far the least trusting religious group.

Guiso et. al. found Muslims to be less trusting than Christian groups, faulting some of their lack of development to a lack of interpersonal trust. The lack of trust was likely the result of minority groups being less trusting than of Muslims, as a whole, lacking trust. Islam is not statistically significant from Protestantism or Catholicism in the level of its adherents trust. However, those studies lacked data from many majority Muslim countries. Muslims may also have high intragroup trust without trusting those

outside the group. If this is the case, adding majority Muslim countries to the World Values Survey would provide a large sample of those who do trust the majority of people around them.

However, simply finding different results with new data does not answer whether the trust deficit was caused by a minority effect in Guiso et.al. Therefore, we tested the seventeen Muslim majority countries against the rest of the countries within the sample to see whether their trust levels differed. In Muslim majority countries, Muslims are 7.6% more likely to trust others than Orthodox Christians, displacing a high level of trust. However, in Muslim minority countries Muslims are only 0.9% more likely to trust than Orthodox Christians. The differences in trust between Muslim majority and Muslim minority countries is highly significant. However, if this is a case where Muslims only exercise intragroup trust, their tolerance of immigrants (who are more likely to be of a different religion) would be low.

Instead, measures of intolerance find that Muslims are 1.5% less likely to be intolerant of immigrants and other races as compared to than Protestants. A person is unable to trust a person they would not want to have as a neighbor. Such tolerance shows itself among Muslims, Jews and Buddhists especially strongly when looking at racial intolerance even in a cross country, fixed effect study. Protestants and Orthodox Christians are the least tolerant overall, demonstrating a fear of “the other”. Some may argue that if Protestants are more prosperous within a society they are more likely to object to having immigrant neighbors. However, since education level is controlled for, income level should not create this disparity. On the other hand, some Muslims would argue that Mohammad brought together disparate tribes and taught care of the traveler

and equality of all believers. Such doctrine may have had a greater effect on its adherents than previously thought.

### *Confidence in Government*

Attitudes toward government and confidence in the law are based on the question: “I am going to name a number of organizations. For each one could you tell me how much confidence you have in them: a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?” These responses vary between one and four where higher numbers indicate greater levels of confidence in the government, the police and the armed forces.

Table 6: Summary Statistics of Confidence in Government

<b>Variable</b>	<b># of Countries</b>	<b># of Obs.</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>
Trust the Government	81	165966	2.42	0.94	1	4
Trust the Army	80	176511	2.77	0.93	1	4
Trust the Police	81	177536	2.54	0.94	1	4

Confidence in the government (Table 6) shows a sharp contrast between Muslims and Protestants (.0043 compared to -.0038). The f-statistic between the two is a staggering 39.19, demonstrating that Muslims have a strong confidence in their governments and Protestants have an extreme lack of trust in theirs. Although some may posit that in a post-9/11 world<sup>9</sup> Muslims feel suspected by governments the world over,

<sup>9</sup> Wave 4 data was gathered 2000-2004. Wave 5 data was gathered 2005-2009.

Table 7: Confidence in Government and Law

	Confidence in the Government <sup>10</sup>	Confidence in The Army	Confidence in The Police
Muslim	0.043 (0.002)***	-0.09 (0.000)***	-0.015 (0.010)**
Protestant	-0.038 (0.008)***	-0.147 (0.000)***	-0.011 (0.085)*
Catholic	0.003 (0.800)	-0.135 (0.000)***	-0.020 (0.001)***
Jewish	0.131 (0.000)***	-0.251 (0.000)***	-0.013 (0.379)
Hindu	0.034 (0.141)	-0.093 (0.000)***	-0.014 (0.137)
Buddhist	0.020 (0.380)	-0.141 (0.000)***	-0.050 (0.000)***
Other Religion	0.020 (0.236)	-0.170 (0.000)***	-0.015 (0.052)*
Health	0.040 (0.000)***	0.002 (0.000)***	-0.010 (0.000)***
Male	-0.010 (0.016)**	0.050 (0.000)***	0.005 (0.007)***
Age	0.002 (0.000)***	0.005 (0.000)***	-0.000 (0.601)
Elem Edu	-0.046 (0.000)***	0.011 (0.074)*	-0.007 (0.156)
Incomplete	-0.128 (0.000)***	-0.013 (0.000)***	-0.032 (0.179)
Secondary (V)	-0.152 (0.000)***	-0.047 (0.000)***	-0.034 (0.000)***
Comp. Sec (V)	-0.132 (0.000)***	-0.047 (0.000)***	-0.039 (0.000)***
Incomplete	-0.152 (0.000)***	-0.064 (0.000)***	-0.045 (0.000)***
Secondary	-0.167 (0.000)***	-0.103 (0.000)***	-0.066 (0.000)***
Some College	-0.191 (0.000)***	-0.139 (0.000)***	-0.069 (0.000)***
College Degree	-0.167 (0.000)***	0.064 (0.000)***	0.325 (0.000)***
Wave 2	-0.045 (0.000)***	0.064 (0.000)***	0.043 (0.001)***
Wave 3	-0.070 (0.000)***	0.064 (0.000)***	0.036 (0.000)***
Wave 4	2.360 (0.000)***	2.360 (0.000)***	2.615 (0.000)***
Wave 5	159072	166651	160285
Constant	0.015	0.002	0.003
N	0.0000	0.0000	0.0000
R <sup>2</sup>			
F-test			

<sup>10</sup> Respondents replied on a 1- 4 scale, 4 = highest level of trust. Regressions use country fixed effects.

Table 8: F-Tables for Confidence in Government

	Jewish	Muslim	Hindu	Buddhist	Other Religion	Catholic	Orthodox
<b>Muslim</b>	6.03 **						
<b>Hindu</b>	5.96 **	0.17					
<b>Buddhist</b>	7.79 ***	1.02	0.25				
<b>Other Religion</b>	9.36 ***	1.99	0.38	0.00			
<b>Catholic</b>	13.39 ***	9.65 ***	2.11	0.69	1.73		
<b>Orthodox</b>	13.10 ***	9.17 ***	2.17	0.77	1.41	0.06	
<b>Protestant</b>	23.38 ***	39.19 ***	11.49 ***	8.04 ***	19.97 ***	23.31 ***	7.06 ***

the data demonstrates the opposite. Instead Muslims have confidence in their governments. Any explanation must include the fact that country effects are controlled for and therefore, Muslims simply trust their governments more than their Christian neighbors, whether that comparison is occurring in the United States or Turkey.

One explanation for this contrast maybe that Protestants hold a “healthy” suspicion of government – even one of political conservatism. In this skepticism, they seek to limit the size and reach of their governments leading to more control being retained by the individual: an attitude that would be conducive to economic growth. Another factor may be that Muslim majority regimes inspire little confidence from their minorities. Minority Protestants have long felt persecuted by the governments under whom they live.

Whatever the explanation, the difference of opinion between Muslims and Protestants is strongest on how much confidence they have in the government. Our

results show that in comparison to those of the Orthodox faith, all other religious groups have greatly inferior opinions of their armies and police.

As a measure of economic development and growth, views of the government, army and police seem to have a limited usefulness in a study that controls for fixed effects. The level of distrust that causes unrest or revolution must be achieved at a country-wide level. Which religious groups are more distrustful than the others has more to do with which group has the most influence in each government, police force or army, rather than any intrinsic element. However, these measures are useful in showing a steady state for confidence in each institution, where confidence may or may not lead to economic growth. Our results show Jews as 25.1% and Buddhists at 14.1% less likely to have confidence in their armies than Orthodox Christians. A fear of the army may be rooted in the Holocaust and the Dalai Lama's exile, respectively. Buddhists are also 5% less likely than Orthodox Christians to have confidence in the police. However, as seen in Table 8, the highly significant difference is Protestants lack of trust of government as compared to Muslims professed confidence.

### *Competition and Thrift*

People's views on competition come from their rating on a 1 to 10 scale of the statement "Competition is good. It stimulates working hard and developing new ideas" in which 10 is affirmative.

This study also looks at what Max Weber credited Protestant growth with: thrift and work ethic. On a 1 to 10 scale (10 as affirmative) respondents rated the agreement with the statement: "In the long run hard work usually brings a better life." The thrift



variable is based on “Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?” One is coded if respondents included “Thrift, saving money and things” among what was important, and zero otherwise.

Table 9: Summary Statistics of Competition, Hard Work and Thrift

Variable	# of Countries	# of Obs.	Mean	Std Dev	Min	Max
Competition is Good <sup>11</sup>	82	157293	7.43	2.53	1	10
Hard Work Brings Success	82	157293	6.69	2.90	1	10
Thrift is Important <sup>12</sup>	85	195383	0.36	0.48	0	1

In indicators of thrift, instilling thrift is great priority amongst Catholics, though still important to Protestants as well. Both groups along with Buddhists believe that instilling thrift in their children is significantly more important than Muslim and Jews do.

Furthermore, it is in attitudes toward competition that the difference between Protestants and other religious groups are most highlighted. Protestant’s affirmation of the merits of competition demonstrates a capitalistic spirit that crosses borders. This fervor is only out-shown by Buddhists’ dislike of competition. On the whole, Protestants do not lead the other religious groups in believing that hard work brings success; Hindus are 0.275 more likely to believe that hard work brings success when compared to the Orthodox while Protestants and Muslims are 0.227 and 0.173, respectively. However, Protestants are significantly higher than the other religious groups, other than Hindus. The belief by Protestants that hard work brings success belief may stem from Weber’s Protestant ethic: that one ought to be diligent (work hard and compete hard) in

<sup>11</sup> On a 1 to 10 scale: 10 means strongly agree that competition stimulates hard work or that hard work brings success.

<sup>12</sup> 0 or 1 for whether instilling thrift in children is important (1 = important).

Table 10: Competition and Thrift

	Competition Is Good	Hard Work Brings Success	Thrift
Muslim	0.003 (0.941)	0.173 (0.001)***	-0.007 (0.308)
Protestant	0.093 (0.018)**	0.227 (0.000)***	0.011 (0.124)
Catholic	0.044 (0.243)	0.117 (0.011)**	0.018 (0.009)***
Jewish	-0.106 (0.290)	0.199 (0.123)	-0.033 (0.044)**
Hindu	-0.041 (0.506)	0.275 (0.001)***	-0.002 (0.801)
Buddhist	-0.127 (0.039)**	0.214 (0.007)***	0.059 (0.000)***
Other Religion	-0.103 (0.032)**	0.137 (0.024)**	0.026 (0.002)***
Health	0.040 (0.000)***	0.087 (0.000)***	-0.000 (0.817)
Male	-0.010 (0.016)**	0.130 (0.000)***	-0.003 (0.174)
Age	0.002 (0.000)***	0.009 (0.000)***	0.002 (0.000)***
Elem Edu	0.131 (0.000)***	0.026 (0.414)*	0.007 (0.067)*
Incomplete	0.132 (0.000)***	-0.094 (0.013)**	0.000 (0.978)
Secondary (V)	0.443 (0.000)***	-0.092 (0.004)***	-0.033 (0.000)***
Comp. Sec (V)	0.323 (0.000)***	-0.074 (0.051)*	-0.031 (0.000)***
Incomplete	0.457 (0.000)***	0.000 (0.997)	-0.047 (0.997)
Secondary	0.671 (0.000)***	0.103 (0.011)**	-0.084 (0.011)**
Some College	0.685 (0.000)***	0.037 (0.261)	-0.112 (0.000)***
College Degree	0.332 (0.000)***	0.045 (0.278)	-0.106 (0.000)***
Wave 2	0.184 (0.000)***	0.058 (0.011)**	-0.011 (0.001)***
Wave 3			
Wave 4			
Wave 5	-0.105 (0.000)***		0.034 (0.000)***
Constant	6.461 (0.000)***	2.360 (0.000)***	2.615 (0.000)***
N	149186	166651	185250
R <sup>2</sup>	0.012	0.002	0.014
F-test	0.0000	0.0000	0.0000

Table 11: F-tests for Competition

	Protestant	Catholic	Muslim	Orthodox	Hindu	Jewish	Other Religion
<b>Catholic</b>	4.45 **						
<b>Muslim</b>	6.41 **	1.37					
<b>Orthodox</b>	5.56 **	1.36	0.01				
<b>Hindu</b>	5.84 **	2.33	0.64	0.44			
<b>Jewish</b>	4.28 **	2.42	1.20	1.12	0.35		
<b>Other Religion</b>	29.61 ***	16.67 ***	5.79 **	4.60 **	1.03	0.00	
<b>Buddhist</b>	17.25 ***	10.37 ***	5.08 **	4.25 **	1.43	0.04	0.19

Table 12: F-tests for Thrift

	Buddhist	Other Religion	Catholic	Protestant	Orthodox	Hindu	Muslim
<b>Other Religion</b>	10.27 ***						
<b>Catholic</b>	17.94 ***	1.93					
<b>Protestant</b>	24.48 ***	6.02 **	2.71 *				
<b>Orthodox</b>	27.63 ***	9.73 ***	6.09 ***	2.36			
<b>Hindu</b>	23.05 ***	7.52 ***	4.21 **	1.89	0.06		
<b>Muslim</b>	40.47 ***	20.07 ***	16.99 ***	8.75 ***	1.04	0.20	
<b>Jewish</b>	25.72 ***	13.09 ***	10.34 ***	7.75 ***	4.05 **	2.87 *	2.63

all things and the prize may not be awarded until after death. Such a mindset would support a view of work in which short-term gains are secondary to long term investments. Surprisingly, Muslims occupy the middle ground of beliefs about competition. They support competition less than Catholics and Protestants, but more than other religious groups. Islamic economics is known for its stance squarely between Capitalism and Marxism, a view that seeks to curb free market enterprise and involve the government without fully instituting a centrally planned economy. Islamic economics often touts itself as the “third way” (Kuran, 1995), a solution to the greed of both capitalists and communists. Therefore, a lack of dislike for competition is a significant result. One theory is that such anti-market views are found in Muslim-dominant countries but are not unique to Muslims adherents that effect would be caught by the country fixed effects. In order to determine the veracity of this theory, we examined the estimated coefficients on the country fixed-effects. The resulting Table 11 includes surprising results.<sup>13</sup> The five nations whose citizens agree most strongly on average with the statement: “Competition is good. It stimulates working hard and developing new ideas” are: Zimbabwe, Jordan, Bangladesh, Uganda and Egypt. Two trends are readily apparent: three of these countries have strong Muslim majorities and three of them are in Africa – Egypt is both. One possible explanation is that these citizens are eager to be allowed economic competition but are currently held back by their governments. This question may elicit responses on the margin instead of on the whole. An Egyptian may want more competition than he feels the bureaucracy currently allows him, but he may not want as much competition as an American, even though he rates the merits of competition higher.

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<sup>13</sup> Dropped Wave 2, Croatia, Iraq, Israel, Saudi Arabia

Table 13: Competition With Fixed Effects Shown

	Competition	P-Value		Competition	P-Value
Muslim	0.003	(0.941)	Hong Kong	0.132	(0.388)
Protestant	0.093	(0.018)**	Hungary	0.143	(0.270)
Catholic	0.044	(0.243)	India	0.800	(0.000)***
Jewish	-0.106	(0.290)	Indonesia	0.283	(0.002)***
Hindu	-0.042	(0.506)	Iran	0.932	(0.000)***
Buddhist	-0.127	(0.039)**	Italy	-0.680	(0.000)***
Other Religion	-0.103	(0.032)**	Japan	-0.496	(0.000)***
Health	0.072	(0.000)***	Jordan	1.367	(0.000)***
Male	0.224	(0.000)***	South Korea	-0.161	(0.039)**
Age	0.005	(0.000)***	Kyrgyzstan	0.062	(0.573)
Elem. Edu	0.143	(0.000)***	Latvia	0.192	(0.093)*
Inc. Sec. (V)	0.131	(0.000)***	Lithuania	-0.113	(0.299)
Comp. Sec. (V)	0.443	(0.000)***	Macedonia	0.711	(0.000)***
Inc. Sec.	0.323	(0.000)***	Malaysia	-0.330	(0.001)***
Compl. Sec.	0.457	(0.000)***	Mali	0.479	(0.000)***
Some College	0.671	(0.000)***	Mexico	-0.126	(0.091)
College Degree	0.685	(0.000)***	Moldova	-0.332	(0.000)***
Wave3	-0.148	(0.000)***	Morocco	0.008	(0.937)
Wave4	-0.332	(0.000)***	Netherlands	-0.772	(0.000)***
Wave5	-0.436	(0.000)***	New Zealand	0.065	(0.457)
Albania	0.558	(0.000)***	Nigeria	0.494	(0.000)***
Andorra	-0.643	(0.000)***	Pakistan	-0.430	(0.000)***
Azerbaijan	-0.135	(0.141)	Peru	0.268	(0.000)***
Argentina	-0.434	(0.000)***	Philippines	-0.395	(0.000)***
Australia	0.121	(0.124)	Poland	-0.947	(0.000)***
Armenia	-0.584	(0.000)***	Puerto Rico	0.056	(0.533)
Bangladesh	1.313	(0.000)***	Romania	0.709	(0.000)***
Bosnia	0.580	(0.000)***	Russia	-0.361	(0.000)***
Brazil	-0.097	(0.206)	Rwanda	0.110	(0.230)
Bulgaria	0.075	(0.430)	Serbia & Mont.	0.407	(0.000)***
Belarus	-0.139	(0.169)	Serbia	-0.628	(0.000)***
Burkina Faso	0.671	(0.000)***	Singapore	0.723	(0.000)***
Canada	-0.115	(0.139)	Slovakia	-0.071	(0.497)
Chile	-1.027	(0.000)***	Slovenia	0.141	(0.123)
China	0.280	(0.132)	South Africa	0.362	(0.000)***
Taiwan	-0.202	(0.029)**	Spain	-0.587	(0.000)***
Colombia	0.091	(0.261)	Sweden	0.253	(0.001)***
Cyprus	-0.082	(0.429)	Switzerland	0.001	(0.991)
Czech Republic	0.148	(0.269)	Tanzania	0.775	(0.000)***
Dominican Rep.	0.004	(0.981)	Thailand	-0.726	(0.000)***
Egypt	1.256	(0.000)***	Trinidad	0.444	(0.000)***
El Salvador	-0.148	(0.140)	Turkey	0.049	(0.559)
Ethiopia	0.071	(0.449)	Uganda	1.257	(0.000)***
Estonia	0.089	(0.588)	Ukraine	-0.398	(0.000)***
Finland	-0.320	(0.000)***	Vietnam	0.252	(0.006)***
France	-0.974	(0.000)***	United States	0.256	(0.001)***
Georgia	0.378	(0.000)***	Uruguay	-0.945	(0.000)***
Germany	-0.198	(0.015)**	Venezuela	-0.017	(0.846)
Ghana	1.253	(0.000)***	Zambia	-0.169	(0.067)*
Great Britain	-0.436	(0.001)***	Zimbabwe	1.406	(0.000)***
Guatemala	-0.091	(0.383)	_Cons	6.651	(0.000)***

However, there is an undeniable thirst for competition amongst Egyptians, Jordanians and Bangladeshis that flies in the face of Islam's anti-competitive bent. It is arguably that when such strong desires to compete are met by an immovable bureaucracy an aspiration gap develops, between what people believe they should be able to achieve and government regulations. Such an aspiration gap in Egypt may have led to the Arab Spring and Mubarak's ousting. While protests and violence in Jordan have been limited, this data ought to encourage substantial and quick reforms from the Jordanian king if he wants to remain in power. Providing the people with a democratic outlet to reform their aspiration gap is central to stability. Additionally, the competition comparison might also be affected as citizens of more developed nations have moderated their views of competition as the pre-eminent solution to growth. Some populations of developed nations have swung to the opposite extreme, like France and the Netherlands, and may value socialism and collaboration, especially on the margin.

## CHAPTER 5

### Conclusion

Although Islam has long been thought of as an anathema to economic growth, the data does not wholly support this position. Instead, on an intra-country level, Muslims are as trusting as Protestants and Catholics and more tolerant than adherents of most other religions. They also have strong confidence in their governments, police and armies. Catholics and Protestants believe more strongly in the importance of thrift than Muslims, but do not hold strongly significantly beliefs about the merits of hard work and competition. The country effects of competition demonstrate interesting results that should be researched further. The lack of development within Muslim majority countries is related more to entrenched institutions than to the economic attitudes of their people.

Each of these regressions uses linear regression to model the values between survey answers, including questions that allow only a binary response. In the future, panel logit or probit estimations will be performed which may adjust the coefficients of each variable.

Future research with this World Values Survey data is nearly unlimited and the country effects of each of this research's regressions could involve a variety of disciplines. Not only are there over 250 questions asked of each 250,000 people, but a sixth wave of data is currently being collected. Particularly, we would like to use this data to focus on Muslims and the correlations of intra-faith differences of moral and

theological belief with economic attitudes. I'm interested in whether there is a subset of Muslims who need only slight institutional change in order to prosper. Until then, these results are significantly different in what they claim about Islam and growth. They indicate that there is such a thing as Islamic competition.



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