ON THE SOCIOECONOMIC CONSEQUENCES
OF
RELIGIOUS STRIFE AND COEXISTENCE[1]

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1. Introduction

The economics of religion, whose beginnings are traced to the mid-1970s, gathered momentum in the 1990s (Iannaccone, 1998) and is now recognized by social scientists as a legitimate approach to the study of religion. Thanks to a spate of research it has spawned, we now have a better understanding of the determinants of religious adherence within societies (Hungerman, 2005; Gruber and Hungerman, 2008); how religious sects sustain membership loyalty (Iannaccone, 1992, 1994); which countries are more likely to have state-sponsored religions (Barro and McCleary, 2005); and how religiosity might impinge upon on economic growth and development (Barro and McCleary, 2003).[3]

What has been conspicuous by its absence in all this until recently, however, is an attempt to evaluate the historical role of religion in conjunction with its commensurate effects on conflict and cooperation. The focus of this chapter is on recent empirical work which began to cover this niche and explore the long-term sociopolitical and economic

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[3] For an excellent review of the economics of religion literature, see Laurence Iannaccone (1998). And, for some related material from sociology, see Darren Sherkat and Chris Ellison (1999).

ramifications of religious strife, rivalries and cooperation.

2. Religion, Conflict and Socioeconomic Change

There is a long history of a functionalist perspective in the social sciences when it comes to matters of faith and religion. For example, progressive thinkers of the post-Enlightenment era, such as Emile Durkheim, Auguste Comte and David Hume, articulated in detail the social functions of religious beliefs and adherence. Hume (1911), for example, advocated that religious capital is important for the creation of social capital and that benevolence and moral considerations associated with religion are the pillars of social harmony and stability. Similarly, Durkheim (1912) saw in group and social cohesion the manifestations of religious practices, norms and rituals.[4]

In the 1930s, the structural-functionalist school, led by Talcott Parsons began to assert that the cohesion of societies depended on their members sharing a common purpose, conceptions of morality and an identity—elements of social capital, of which religion is but one aspect.[5] It is this functionalist perspective that lies at the heart of a long literature in sociology that highlights the socioeconomic, political, and theological ramifications of monotheism (Armstrong, 1993 and 2006; Stark, 2000). It is also what has inspired a canon of work in the economics of religion that delves into the institutional and sociopolitical legacies of the three major Abrahamic monotheisms of Islam, Judaism and Christianity.[6]

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[4] This group also included those who were mostly of the view that spiritual faith and religion would experience an inevitable decline in the face of scientific and technological advances. Their presumed tradeoff between faith and education was later dubbed the 'secularization hypothesis'.

[5] Talcott Parsons (1961).

[6] For the impact of Judaism on literacy and human capital accumulation, refer to Maristella Botticini and Zvi Eckstein (Chapter 5 of this Handbook) as well as (2005, 2007). For the role of the Reformation on Protestant literacy and human capital formation, see Becker and Woessmann (2009). For the historical

Utilizing datasets that were previously unavailable, some recent research such as Iyigun, 2007, 2008a, b, 2009 and Fletcher and Iyigun, 2009, examines the functionalist assumptions about cultural homogeneity. The rise of monotheism—especially of its two Abrahamic strands, Christianity and Islam—is quite remarkable. As shown in Table 1, only half of all civilizations on record could be classified as (predominantly) monotheist at the turn of the 11th century, or even as late as the 13th century.[7] But within another three centuries, close to two-thirds of civilizations were monotheist, and in another two centuries, close to 90 percent of societies could be identified as such. Today, more than three-fourths of the population of 161 countries subscribe predominantly to one or more of the three Abrahamic faiths, representing 86 percent of the 188 countries for which data exist and more than 3.5 billion people, or roughly 55 percent of the world population.

Moreover, as shown in Figure 1, monotheist civilizations had higher rates of survival historically. As detailed in Iyigun (2007), human civilizations which came to exist between 2500 BCE and 1750 CE lasted about 320 years on average. But, controlling for various factors such as geographic location and time trends, Christian, Muslim and to a less certain extent, Jewish societies too, survived about 20 to 25 percent longer than non-monotheist civilizations.

If the social, political and economic benefits of monotheism did give societies a

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evolution of the Roman Catholic Church from an economics perspective, see Robert Ekelund, Jr., Robert Hebert, and Robert Tollison, Chapter X of this Handbook and (1996) and Ekelund and Tollison (forthcoming). And for the sociopolitical as well as economic implications of Islam, see Timur Kuran (2004, 2008), Eric Chaney, Chapter Y of this Handbook and (2008), and Rubin (2008, 2009), to name a few.

[7] The dataset involves 278 civilizations, such as dynasties, kingdoms or empires, which existed sometime between 2500 BCE and 1750 CE on one or more of the five habitable continents. Civilizations are identified by the Childe-Redman criteria often used in sociology and anthropology. They are classified as 'monotheist' if they met at least one of the following criteria: (i) a majority of its citizens adhered to one of the three main Abrahamic monotheist religions; (ii) its government and political organizations promoted one of the three monotheist traditions through their social, economic and military policies; (iii) its form of government was a theocracy based on an Abrahamic religion. For more details, see Iyigun (2007).

survival advantage and aided monotheistic societies to flourish, the "One God-One True Faith" duality inherent in monotheistic religions also produced some of the most pronounced confrontations in human history. Richardson (1960, pp. 233-39) has shown, for example, that differences between Christianity and Islam have been the causes of wars and that, to a weaker extent, "Christianity incited war between its adherents." Similarly, Wilkinson (1980, pp. 87-90) has claimed that "the propensity of any two groups to fight increases as the differences between them (in language, religion, race, and cultural style) increase." And the more recent political science literature has supplied the view that religion and ethnicity are two fundamental components of 'culture capital', the differences in which that can produce wholesale `clash of civilizations'.[8]

One could quibble with the extent to which religion factors in 'culture capital' and whether or not the latter primarily accounts for the ultimate sociopolitical fault lines among human societies. But it is clear that religious animosities and rivalries were a historically important determinant of violent confrontation. Moreover, if ecclesiastical differences and rivalries, at least among the two Abrahamic faiths of Christianity and Islam, were instigators of violent conflict historically, as Wilkinson (1960) and Richardson (1980) have implied, then it is quite plausible that they left some lasting sociopolitical as well as economic imprints as well.

In fact, our understanding of some milestones in European and Middle Eastern history hinges upon this assertion. As a case in point, consider the strand of the history literature which argues that the Muslim Ottomans' military prowess and their European conquests aided and abetted the survival and spread of the Protestant Reformation in

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[8] The culture capital view of religion has been advocated by, among others, Huntington (1996), Landes (1998), Fox (1997), and Ingelhart and Baker (2000).

Europe.[9] In Iyigun (2008a), I show that the incidence of military engagements between the Lutherans and the Counter-Reformation forces depended negatively and statistically significantly on Ottomans' military activities in Europe. I find that, between the birth of Protestantism in 1517 and the end of the Thirty-Years War in mid-17th century, Ottomans' military expeditions in continental Europe depressed the number of Protestant and Catholic violent engagements on the order of about 40 percent. And the impact of the Ottomans on Europe went beyond suppressing ecclesiastical conflicts only: between 1451 and 1700, when there were roughly 1.5 new conflicts initiated among the Europeans per annum and about 4.7 conflicts per year in total, including those that had begun at earlier dates, Ottoman military expeditions in Europe around 1500 lowered the number of all newly-initiated conflicts within Europe by at least 25 percent, while they dampened all longer-running confrontations by about 15 percent.[10]

These findings indicate that, when societies with different religious backgrounds were pitted against one another, *differences between* them were strong enough to typically trump and *relegate ecclesiastical disagreements within* them.[11] Thus, while the

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[9] This literature includes, but is not limited to, contributions by Benz (1949), Fischer-Galati (1959), Setton (1962), Coles (1968), Inalcik (1970), Max Kortepeter (1972), Shaw (1976), Goffman (2002), and MacCulloch (2003).

[10] Iyigun (2008b) examines the Ottomans' patterns of violent confrontations in the Middle East, Europe and North Africa for the period between 1401 and 1900 CE. Accordingly, the ethnic background of Valide Sultan (the queen mother) was an important and independent determinant of whether the empire engaged in military conquests in Europe versus North Africa or the Middle East. Depending on the empirical specification, the reign of a sultan with a European maternal ethnic background was enough to offset more than 70 percent of the empire's western orientation in imperial conquests. In contrast, the sultans having a European matrilineal descent mostly had no discernible influence on the empire's eastern conflicts, while a Muslim matrilineal genealogy typically boosted Ottomans' military ventures in Europe. See Barrington Moore, Jr., (2001) who also discusses the importance of the Ottoman harem in religious violence.

[11] This against the backdrop of empirical evidence which suggests that, ceteris paribus, societies that were politically, economically and even genealogically closer might have been more prone to go to war with each other historically. For the impact of genetic relatedness on wars, see Spolaore and Wacziarg (2009). For the role of trade relationships on peace and conflict, see, for example, Polachek (1980), Polachek et al. (1999), Barbieri (1996), Barbieri and Schneider (1999), Lee and Pyun (2008), and Jha (2008).

conventional historiography typically attributes the success of the Protestant Reformation to the invention of the printing press, the Muslim versus Christian rivalries which dominated the European agenda at the turn of the 16th century seems to have played a role in the Reformation too.

Next, consider the economic growth and development literature according to which various demographic or social attributes, such as the degree of ethnic, linguistic and religious fractionalization, have an influence on economic and sociopolitical progress. All the same, identifying the causal role of ethnic, religious or linguistic fractionalization in economic development has generally been impeded by the fact that fractionalization itself evolves according to other causal factors.

One such factor presumably involves the historical patterns of violent confrontation in the long run. In the words of Samuel Huntington himself,

> "Many countries are divided in that the [ethnic, racial and religious] differences and conflicts among these groups play an important role in the politics of the country. The depth of this division usually varies over time. Deep divisions within a country can lead to massive violence or threaten the country's existence. This latter threat and movements for autonomy or separation are most likely to arise when cultural differences coincide with differences in geographic location. If culture and geography do not coincide, they may be made to coincide through either genocide or forced migration," (Huntington, 1993: 137, 208).

In Fletcher and Iyigun (2009), we examine the long-run determinants of

contemporary fractionalization across countries along ethnic, linguistic and religious dimensions. We particularly focus on the impact of violent confrontations over the course of medieval and post-Industrial Revolution history on religious fractionalization in Europe, the Middle East, the Near East and North Africa. Covering 953 violent confrontations that took place in 52 countries in the aforementioned geographies over half a millennium between 1400 and 1900 CE, we document that the frequencies and types of conflict influenced contemporary levels of religious and to some extent ethnic and linguistic fractionalization too.

For example, we find that the frequency of Muslim on Christian wars within countries' borders is a statistically significant and positive predictor of their current levels of religious homogeneity; an additional incidence of violent conflict between Muslim and Christian players within the borders of a modern country would have sufficed to lower its current level of religious fractionalization anywhere between 5 to 10 percent. In contrast, Protestant and Catholic confrontations within each country between the 15th and 19th centuries—and to some extent the incidence of Jewish pogroms too—helped produce more modern-day religious fractionalization, with an additional Catholic on Protestant confrontation accounting for more than 15 percent higher religious fractionalization. In addition, the longer was the duration of all such conflicts, the less fractionalized are countries now.

These findings relate to the Huntington hypothesis because they demonstrate that the demographic makeup of countries in Europe, the Middle East and North Africa still bear the traces of a multitude of ecclesiastical and 'cultural clashes' that occurred throughout the course of history. More specifically, those geographies where clashes took

place more often and with longer duration between Muslim and Christian 'civilizations' are likely to be the areas that are more homogenous today. Whereas the areas with a more frequent history of conflicts within the Judeo-Christian or Muslim civilizations are more likely to be more heterogeneous and fractionalized now. Accordingly, modern-day fractionalization might simply be a manifestation of ethnic and religious groups that have painfully learned to coexist. In contrast, a fairly homogenized country is likely to be a geography where the source of that homogeneity is a historically persistent source of conflict that produced attrition and out-migration. Either way, the likelihood of internal violence and conflict would be lower now, rendering the relationship between fractionalization and the propensity of conflict within countries statistically insignificant.

3. The Data

It is possible to explore the role of religious identity, conflict, cooperation on sociopolitical and economic progress by relying on more contemporary time-series data or even cross-sectionally, as some scholars have done. But, in order to appraise hypotheses such as the ones I outlined above, one would need data on religious strife and conflict extending back in time to at least the Middle Ages, when some pivotal historical events altered the course of European and Middle Eastern history.

The *Correlates of War*, which is the conventional conflict data upon which three generations of social scientist have relied, extend only back to the 19th century. Luckily, however, more extensive data has begun to emerge, spearheaded by Brecke (in progress) and upon which Erin Fletcher, Nathan Nunn, Nancy Qian and I expanded in various dimensions.

Brecke's dataset extends the core *Correlates of War* further back in time to 1400 CE. His *Conflict Catalog* is a compilation of the annual record of all violent conflicts that occurred between 1400 CE and the present. The *Catalog* contains a listing of all recorded violent conflicts with a Richardson's magnitude 1.5 or higher that occurred on five continents.[12] For each conflict recorded in the catalog, the primary information covers (i) the number and identities of the parties involved in the conflict; (ii) the common name for the confrontation, if it exists; and (iii) the date(s) of the conflict. On the basis of these data, there also exists derivative information on the duration of the conflict and the number of fatalities, but the latter are only available for less than a third of the sample. Although Brecke's effort is ongoing and spans the five habitable continents, the portion upon which we rely is virtually complete and covers Europe, the Middle East, North Africa and the Near East.

My collaborators and I have been processing these historical conflict data in order to augment and supplement them in a variety of ways. First, we have been classifying them by the actors involved. For example, if a violent conflict pitted a predominantly Muslim society against a Christian one (i.e., the Ottomans versus the Hapsburgs at various occasions during the 16th and 17th centuries or the Russo-Circassian wars between 1832 and 1864), we label that conflict as one involving Muslims against Christians. If, instead, a conflict involved coreligionist groups (such as the Napoleonic wars in Europe or Russia in the 19th century or the Ottomans against the Safavids or

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[12] Brecke uses the definition of violent conflicts supplied by Cioffi-Revilla (1996): "An occurrence of purposive and lethal violence among 2+ social groups pursuing conflicting political goals that results in fatalities, with at least one belligerent group organized under the command of authoritative leadership. The state does not have to be an actor. Data can include massacres of unarmed civilians or territorial conflicts between warlords."

Richardson's index corresponds to 32 or more deaths (log32 = 1.5) and the five continents covered are all those that are inhabitable (i.e., Europe, Asia, the Americas, Australia, and Africa).

Memluks in the 16th century), then it is classified as a confrontation of Christian versus Christian or Muslim on Muslim. And for those conflicts which explicitly had a religious dimension (such as the various Protestant or Huguenot revolts against the Catholic establishment in Europe during the 14th, 15th or 16th centuries, the Ottomans versus the Safavids in Anatolia during the 16th century and various Jewish pogroms that occurred in Europe dating back to the 11th century), we classify them as Catholic-Protestant confrontations, Sunni versus Shi'a conflicts or pogroms.

Second, we have been identifying the geographic location of all conflicts by latitude and longitude in order to plot them in maps using the Geographic Information Systems (GIS) software. Doing so enables us to overlay the patterns of conflicts spatially and chronologically on the political maps of the 'Old World' through time. It also helps to correlate the patterns of conflict with the geographic attributes of conflict locations. Both of those steps are crucial in answering the types of questions on which I elaborate below.

Our dataset covers in excess of 1070 violent confrontations that occurred within the borders of more than 60 contemporary countries from 1400 CE to the present. These data exclude confrontations that occurred at different locations or times as part of a broader conflict. For such protracted and widespread confrontations, we identified up to four battle locations.

Figure 2 is replicated from Iyigun, Nunn and Qian (in progress); it shows the conflicts in our dataset by century and geographic location. In terms of the patterns of warfare and conflict, we see that Austria, France, Germany, Italy, Poland, Russia, Spain and Turkey were the theaters of conflict most often. Adjusting for country size, some of

those countries remain high on the list, although the incidence of violent conflicts in Germany, Russia and Turkey adjusted for their geographic size is relatively low. One can also detect a clear chronological and spatial pattern, which was originally advocated by Parker (1988), whereby the incidence of violent confrontations moved from the west to the east over time.

Of the 52 countries in the sample, predominantly eastern European and Balkan countries, such as Albania, Greece, Austria, Bulgaria, Turkey and Ukraine, saw the most Muslim on Christian conflicts. But in Spain and Russia too there were relatively more conflicts which pitted Muslim against Christian players. And, in six of the countries in the sample, including France, Germany and Switzerland, there were violent confrontations between Protestants and Catholics. Although not shown, our data also cover four countries—Belarus, France, Portugal and Spain—where one or more pogroms took place. Figure 3 charts conflicts in our dataset by actors involved and geographic region. While Western and Eastern continental Europe experienced the highest number of conflicts, the Balkans and Eastern Europe saw a disproportionately large share of the Muslim on Christian wars. And, not surprisingly, Eastern and Western Europe were the primary theater of Protestant versus Catholic confrontations, whereas the Sunni versus Shi'a conflicts took place mostly in the Middle East.

Taking a narrower time span of 1400 to 1900 CE, as we do in Fletcher and Iyigun (2009), we have a total of 953 conflicts, which accounts for roughly 18.3 conflicts on average within each country in the sample.[13] On that basis, there were on average 3.3 violent confrontations per country that involved Muslim and Christian sides, about .73

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[13] In Fletcher and Iyigun (2009), we lose some observations and end up with 52 countries due to a lack of control variables data, such as Gross Domestic Product (GDP) per capita for East Bloc countries prior to early- to mid-1990s.

which pitted Catholics against Protestants and .096 of Jewish pogroms per country. Catholic on Protestant conflicts lasted much longer on average than those between Muslims and Christians, which in turn lasted longer than Jewish pogroms and other types of violent confrontations. Conditional on the fact that there was at least one such type of confrontation within a country between 1400 and 1900 CE, a typical Protestant versus Catholic conflict lasted more than 3.5 years, whereas Muslim on Christian conflicts lasted roughly three years and Jewish pogroms on average did not even last half a year. The average year of conflicts was 1644, with Muslim on Christian wars occurring on average around the year 1626, those between Catholics and Protestants taking place around 1566, and Jewish pogroms being dated around the year 1500 CE.

4. Paths of Future Research

There are various ways in which our data could be utilized to test some important hypotheses on the history of economic and sociopolitical developments in Europe and the Middle East.

For instance, some historians have put forward the claim that the Ottomans' expansion and territorial gains in Eastern Europe and the Mediterranean during the 15th century provided an impetus for the Portuguese and Spanish maritime expeditions in the Atlantic (Brummett, 1993; Shaw, 1976). Further, we have some historical evidence to suggest that the Ottomans' presence solidified the financial relationship between the Genoans and the Iberian kingdoms. It is hypothesized that this association, which materialized in large part due to the loss of the Genoans' dominance of east Mediterranean maritime trade, subsequently played a crucial role in the colonization of

South and North America and the development of Atlantic trade (MacCulloch, 2003: 63).

Acemoglu et al. (2005) claim that European colonial acquisitions and the rise of Atlantic trade account for economic growth spreading from the western port cities of the continent to the east and inward. But did the patterns of conflict and cooperation in continental Europe have something to do with the timing of European colonial exploits in the Americas? And how precisely did the emergence of Atlantic trade play a role in Europe's economic development? Did the economic development of port cities in Western Europe spillover inland to continental Europe in conjunction with—or on the back of—a reduction in violent confrontations in Europe? Or did the struggle between Muslim Ottomans and Christian Europe help shift the primary frontier of conflicts eastward in the European theater well before the emergence of Atlantic trade?

Since our dataset covers the time period and geographic regions in which European naval expeditions in the Atlantic gathered steam and the colonization of the Americas began to yield its potential benefits for Europe, it should enable the pursuit of answers to such questions.

In a parallel vein, political scientists as well as economists have for some time been intrigued by the political fragmentation of Europe and the rise of nation states in the early modern era, and the extent to which such fragmentation then consolidation had anything to with the European economic take-off. According to Charles Tilly, technological advances in military technology in Europe during the course of the 16th and 17th centuries accounts for the political consolidation of Europe and the subsequent rise of nation states (Tilly, 1992).

With the data we have under construction, one could identify (a) if there exists

any link between some of the key military advances historically and the patterns of conflict within Europe; and (b) whether or not the political evolution of Europe could be explained, in part, on the basis of those patterns of conflict. In doing so, one can potentially shed light on whether differences of religion—in conjunction with geography, advances in military technology, et cetera—produced various patterns of conflict historically. One could then explore whether or not those conflict patterns account for the dynamics of political consolidation, institutional development and sociopolitical changes within Europe, the Middle East, and North Africa.

5. Final Thoughts

The historiography of human societies, especially since the dawn of the Axial Age when the foundations of modern spiritual traditions were established, is a testament to the fact that religious rivalries and affinities among social groups produced some lasting sociopolitical effects. Yet, mostly due to data limitations, efforts to explore these effects were, for the most part, lacking.

The research program discussed above is intended to bridge this gap, as it evaluates the role of religion in conjunction with its commensurate effects on conflict and cooperation. Doing so sheds light on how adherence to monotheistic religions enabled human civilizations to expand geographically and endure historically. It also suggests that the geographic and historic patterns of conflict—those between Muslim and Christian societies, in particular—not only relates to the evolution of some European ecclesiastical institutional traditions, such as denominational tolerance and pluralism, but also the extent of religious fractionalization within national borders.

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Table 1: The Adoption of the Three Abrahamic Monotheistic Faiths by Century

Century	Total No.	Monotheist		Jewish		Christian		Muslim	
		Total	% of total	Total	% of total	Total	% of total	Total	% of total
4th CE	16	1	7	0	0	1	6	0	0
6th CE	16	5	33	0	0	5	33	0	0
8th CE	20	4	15	1	4	3	11	0	0
10th CE	28	14	50	0	0	11	39	3	11
12th CE	39	21	53	0	0	19	48	2	5
15th CE	26	19	73	0	0	11	42	8	31
17th CE	18	16	89	0	0	12	71	4	18
Total	163	80	49	1	.6	62	38	17	10.4

Source: Iyigun (2007). The numbers and percentages refer to those civilizations that were in existence both at the start and end of each century. Civilizations are identified by the Childe-Redman indicators and they are classified as 'monotheist' if they met at least one of these criteria: (i) a majority of its citizens adhered to one of the three main Abrahamic monotheist religions; (ii) its government and political organizations promoted one of the three monotheist traditions through their social, economic and military policies; (iii) its form of government was a theocracy based on an Abrahamic religion.
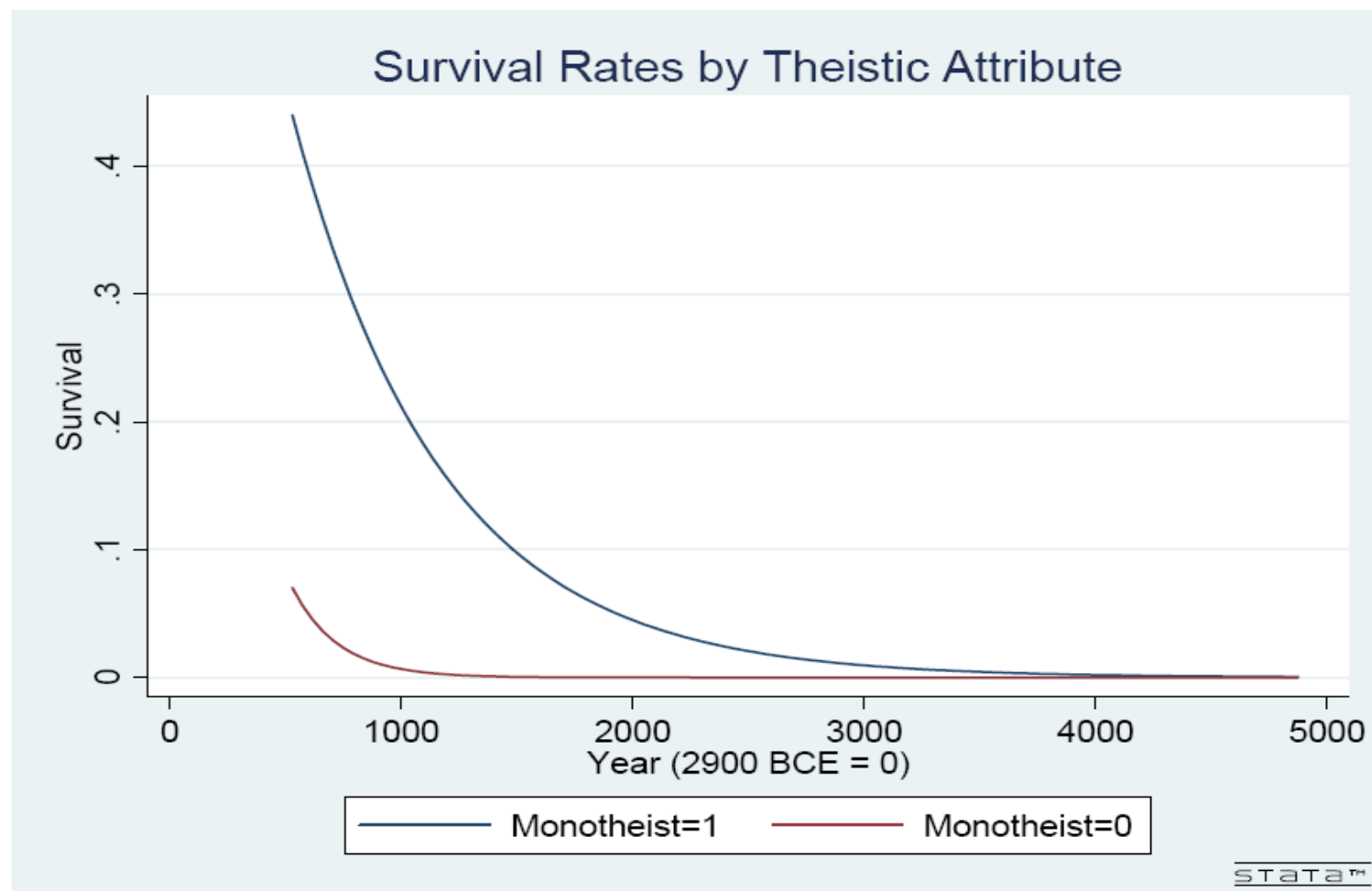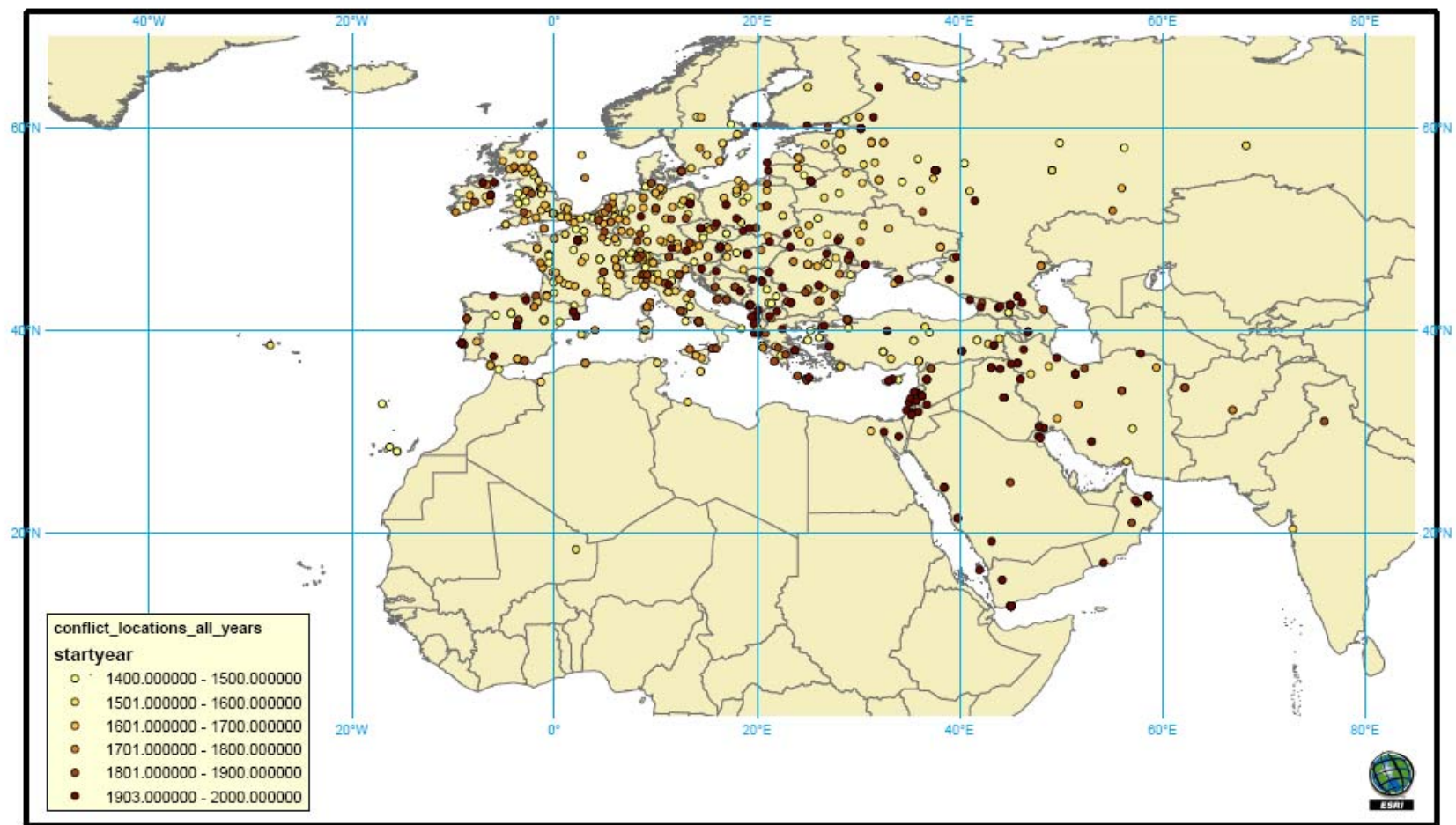
Figure 1:

Survival Rates by Theistic Attribute

Figure 2: Conflicts by Region (1400 – 2000 CE)

conflict_locations_all_years
startyear
- ○ 1400.000000 - 1500.000000
- ○ 1501.000000 - 1600.000000
- ○ 1601.000000 - 1700.000000
- ● 1701.000000 - 1800.000000
- ● 1801.000000 - 1900.000000
- ● 1903.000000 - 2000.000000

Source: Iyigun, Nunn and Qian (in progress).

Figure 3: Conflicts by Type and Region, 1400 – 1900 CE.