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Clash of Civilizations, Culture and Conflict

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Abstract

In a series of influential studies, Huntington (1993a, 1993b, 1998) argued that the fundamental source of conflict in the post-Cold War world will not be primarily ideological or economic, but rather the great divisions among humankind. Given the fault lines between civilizations, the primary axis of conflict in the future will be civilization clashes. This paper tests Huntington's hypothesis evaluating the impact of civilizations on militarized interstate disputes. In particular, we investigate whether countries that belong to different civilizations tend to be more involved in conflict than countries that belong to the same civilization. We show that over the period of 1816-2001, dissimilarity in civilization in a dyad has no effect on conflict involvement. However, even after controlling for temporal dependence, and for geographic, political, military and economic factors, being part of different civilizations *in the post-Cold War period* brings about 63.6% higher probability of conflict than belonging to the same civilization, whereas this effect is insignificant *during the Cold War*. Moreover, we show that the element of civilizations that triggers belligerent relations the most is the language channel, despite Huntington's unyielding emphasis on religion.

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In class and ideological conflicts, the key question was "Which side are you on?" and people could and did choose sides and change sides. In conflicts between civilizations, the question is "What are you?" That is a given that cannot be changed. And as we know, from Bosnia to the Caucasus to the Sudan, the wrong answer to that question can mean a bullet in the head. (Samuel P. Huntington, 1993)

1 Introduction

In the summer of 1993 Foreign Affairs published an article entitled "The Clash of Civilizations?" by Samuel Huntington, which generated a myriad of discussion and controversy. The article poses the question of whether conflicts between civilizations would dominate the future of world order. Defining a civilization as the broadest cultural entity and identity under which people form the highest cultural grouping Huntington (1993a, 1993b, 1998, 2000) claims that the primary axis of conflict in today's post-Cold War world will be along civilizational lines. He asserts that civilizational conflicts have been suppressed by the Cold War, since superpower rivalry (or East-West rivalry) was so important and widespread that other divisions were forced into background. However, by the end of the Cold War civilizational differences are unleashed; and consequently, the greatest threat to world peace in the post-Cold War era are conflicts between civilizations.

With that in mind, the objective of this study is to evaluate the impact of civilizations at large on militarized interstate disputes, and, at the same time, to confront several of Huntington's hypotheses. Using Huntington's civilizational typology we first investigate whether countries that belong to different civilizations tend to be more involved in militarized conflict than countries that belong to the same civilization. We run tests both on cross-sectional level and over a panel of years between 1816 and 2001. Our findings suggest that civilizational differences do in fact matter, but only in the pre-Cold War and the post-Cold War periods, not during the Cold War. Over the entire sample of 1816-2001 we show that dissimilarity in civilization in a dyad has no overall statistically significant impact on conflict involvement.

Furthermore, we break down our investigation into Cold War and post-Cold War periods, and take a closer look into Huntington's the Clash of Civilizations in the post-Cold War hypothesis by making comparisons between these two epochs. Strikingly, even when temporal dependence, geographic, political, military and economic factors are taken into account, being part of different civilizations in the post-Cold War period brings about 63.6% higher probability of conflict than belonging to the same civilization, whereas this effect is insignificant during the Cold War.

Additionally, we probe the assertion that civilizational differences have been suppressed by the Cold War and by the end of the Cold War civilizational differences are unleashed. To that end, we provide evidence that civilizational dissimilarity had a positive impact on conflict probability in the pre-Cold War period as well, while this effect disappeared during the Cold War.

Lastly, we use alternative measures of culture in an attempt to break down civilizations into their components. Based on the data set on religious, linguistic and ethnic fragmentation within countries between 1945-1994 collected by Ellingsen (2000)¹, we make use of binary indicators of whether the two countries in a dyad have different majority religion, different majority language and different majority ethnicity. We reaffirm Huntington's thesis by providing evidence that in the post-Cold War period if the two countries do not share the same language they have 66.9% higher probability of conflict, and this probability is increased by 27.9% if they have different religion, although insignificantly. Through this analysis, we are able to pin down the element of civilizations that triggers the most bellicose relations, the language channel, despite enormous emphasis on religion by Huntington. We exhibit that even though different civilizations indicator is highly correlated with both different language and different religion indicators, as Huntington suggested, it is only different linguistic heritages that leads to conflict but not the religious background of peoples.

We show that our results are robust to temporal dependence by including the years elapsed since a pair of countries have last been at war with each other, past conflict dummies as well as time fixed effects, and prove that the results are not spurious. In addition, we provide a multitude of sensitivity analyses in order to assess the robustness of findings to alternative estimators, to alternative Cold War cutoff points, to alternative dependent variables and to highly conflict prone dyads. Subsequently, we contrast Huntington's categorization against the popular cultural proxy of genetic distance.² We show that the binary indicator of different civilizations constructed from Huntington's civilizational classification survives inclusion of genetic distance measures into the estimation and it explains more than what is captured by genetic distance variable.

Impact of ethnicity, language, history, tradition, social norms, culture and religion, at large, on institutions and the economy have long been studied.³ In the particular context of conflict occurrence, there are studies on both intrastate and interstate conflict.⁴

¹The original data by Ellingsen (2000) have been extended up until 2001 by Gartzke and Gleditsch (2006).

²Genetic distance variable is an index measuring the genetic variance between populations as a fraction of the total genetic variance and it is used by many authors as a proxy for cultural distance. More details on genetic distance variable are to follow in subsection 5.6.

³See, for instance, Mauro (1995), La Porta et al. (1999) and Treisman (2000) for analyses of the impact of culture on institutions. Furthermore, Easterly and Levine (1997) and Alesina et al. (2003) are seminal examples illustrating the effects of ethnic, linguistic and religious fragmentation on the economy through their impact on public policies, infrastructure and productive public goods. In the latter study, it is important to note that the authors construct a commonly referred to data set on ethnic, linguistic and religious fractionalization. As a side note, another index of ethnic and cultural fractionalization commonly used by economists and political scientists alike is constructed by Fearon (2003).

⁴See Garfinkel and Skaperdas (2006) for a review of the recent theoretical literature on conflict and appropriation from an economic perspective, specifically, by applying conventional optimization techniques and game-theoretic tools to study the allocation of resources among competing activities—productive and otherwise appropriative, such as grabbing the product and wealth of others as well as

Fearon and Laitin (2003), for example, suggest that after controlling for per capita income, more ethnically or religiously diverse countries have been no more likely to experience significant civil violence in the post-Cold War period. Instead, they propose poverty, political instability, rough terrain and large populations as the factors characterizing countries at risk of civil war.⁵ Alternatively, Ellingsen (2000) provides evidence that multiethnicity does increase the propensity of domestic violence and such cultural factors are more important in the post-Cold War period.

On the other hand, Spolaore and Wacziarg (2010) and Martin et al. (2008), among others, study interstate conflicts.⁶ Spolaore and Wacziarg (2010) examine the theoretical and empirical relationship between the occurrence of interstate conflicts and the degree of relatedness between countries. Using genetic proximity as a measure of cultural traits they show that genetically closer populations are more prone to go to war with each other as these populations share closer ideal points and a bigger lot of common problematic issues. Martin et al. (2008), instead, emphasize the role trade links play in interstate dispute and show that while strong bilateral trade relations reduce the probability of conflict, good multilateral trade relations with third parties augment it.

More specific to the Huntington's hypothesis, there are as well several studies in the literature that try to tackle Huntington's thesis from different angles. Using data from 1820 to 1989 Henderson (1997, 1998) analyze the impact of cultural factors on the relationship between joint democracy and war involvement and finds that both ethnic and linguistic similarities have a direct association with war, whereas religious similarity within dyads decreases the likelihood of a war. He also finds that when a pair of states share a common democratic political culture, democracy exerts a conflict dampening impact that overrides ethnic, linguistic, or religious factors. Russett et al. (2000) and Henderson and Tucker (2001) assess the incidents of militarized interstate disputes during the periods 1950-92 and 1816-1992, respectively. They find that such traditional realist influences as contiguity, alliances and relative power as well as liberal influences of joint democracy and interdependence provide a much better account of interstate conflict involvement and that intercivilizational dyads are less, and not more, conflict prone. Chiozza (2002) runs an empirical test of Huntington's thesis using Kosimo data between 1946-1997 that include nonviolent conflicts and shows that state interactions across the civilizational divide are not more conflict prone. Gartzke and Gleditsch (2006), on the other hand, examine the relationship between sharing a cultural heritage and conflict involvement using data on the dominant religions, ethnicities and languages of country pairs. They show that while sharing the same religion reduces the likelihood

defending one's own product and wealth.

⁵Another example of intrastate conflict is Garcia-Montalvo and Reynal-Querol (2002). They argue that the index of ethnic polarization predicts civil wars better than the index of fractionalization and suggest that different measures of heterogeneity might be needed depending on the question under scrutiny.

⁶Another example on the analysis of interstate conflict is Caselli et al. (2012). They study the role of resource endowments and their geographic location for interstate conflict.

of conflict between two states, sharing the same ethnicity or the same language increases it.⁷

Though the studies described above are valuable in their own respect, one should acknowledge their limitations. First of all, coverage of the post-Cold War period is extremely limited. Exactly to the point, Huntington puts his argument forward and makes predictions specifically about the post-Cold War world. Henderson (1997, 1998) does not cover the post-Cold War period at all as the data set ends in 1989. In addition, a direct test of Huntington's hypothesis based on the classification of civilizations is not the central theme of this study, but rather an index of ethnic, cultural or religious similarity is used. Although, such measures might be very insightful, a more befitting starting point would be Huntington's own typology. Russett et al. (2000) suffer from data limitations as well. Their data set covers 1950-1992 period. Moreover, although they acknowledge (p. 584) that the central theme of Huntington's thesis is that culture and cultural identities are shaping patterns of cohesion, disintegration, and conflict in the post-Cold War world, they do not test this claim for the post-Cold War period, but for a time-period that largely spans Cold War itself. Henderson and Tucker (2001) also endure data limitations as their data set ends in 1992, which covers only one year after the demise of the Soviet Union. Besides, they only look at wars, that are conflicts with at least 1000 battle deaths. They do not take into account all other ranges of conflict with less than 1000 battle deaths or other sorts of militarized clash short of fatalities. On the other hand, though Chiozza (2002) has a reasonable coverage of the post-Cold War period (1946-1997) his study overlooks the importance of economic interdependence in conflict analysis. Furthermore, subsampling done for the estimation strategy renders his results dubious. Also, in his study, although different civilization dyads estimated to have higher probability of conflict than same civilization dyads under some scenarios, he overlooks his own findings and concludes that intercivilizational dyads are not more likely to find themselves embroiled in international conflict, not even in the post-Cold War period. Gartzke and Gleditsch (2006), despite their claims on the Clash of Civilizations hypothesis, investigate the period of 1950-2001 and do not look into post-Cold War claims of Huntington. They also report a predicted probability of conflict for a mixed religion dyad that is higher in the post-Cold War than in the Cold War period, which is a finding that contradicts their own conclusion.

Given the amount of limitations suffered by these studies, we deem it necessary to confront Huntington's the Clash of Civilizations in the post-Cold War hypothesis more rigorously with more recent and more extensive data set taking the basis of civilizations mapped out by Huntington as a starting point and building upon it using different estimation strategies and alternative measures of culture.

The remainder of the paper proceeds as follows. Section 2 gives a brief account of the clash of civilizations hypothesis. In Section 3 we describe the data set used and the methodology applied for the analyses. Section 4 presents our results. Section 5

⁷Other related studies are Norris and Inglehart (2002), Mungiu-Pippidi and Mindruta (2002), Bolks and Stoll (2003) and Jakobsen and Jakobsen (2010).

attempts at providing an explanation for the underlying mechanism. In Section 6, we break down civilizations into their defining factors and components. Section 7 provides sensitivity analyses. Finally, Section 8 gives some concluding remarks.

2 What is the Clash of Civilizations Hypothesis?

In 1993 Samuel Huntington published his article entitled "The Clash of Civilizations?" in *Foreign Affairs Magazine* in response to Francis Fukuyama's 1992 book, *The End of History and the Last Man*. This article immediately stirred a lot of controversy and heated debate; and subsequently became one of the most oft-cited articles in the field of international relations. Put briefly, Huntington (1993a) argued that the fundamental source of conflict in the new world, i.e. in the post-Cold War world, will not be primarily ideological nor primarily economic, but the great divisions among humankind; therefore, the primary axis of conflict in the future will be along civilizational lines.

Huntington takes civilizations as the main unit of his analyses. "The culture of a village in southern Italy may be different from that of a village in northern Italy, but both will share in a common Italian culture that distinguishes them from German villages. European communities, in turn, will share cultural features that distinguish them from Arab or Chinese communities. Arabs, Chinese and Westerners, however, are not part of any broader cultural entity. They constitute civilizations."⁸ Therefore, a civilization is defined as "a cultural entity, the highest cultural grouping of people and the broadest level of cultural identity people have short of what distinguishes humans from other species. It is defined both by common objective elements, such as language, history, religion, customs, institutions, and by the subjective self-identification of people."⁹ Huntington treats religion as the central defining characteristic of a civilization; hence, the major civilizations in human history have been closely identified with the world's great religions. These civilizations outlined include the Sinic, Japanese, Hindu, Islamic, Orthodox, Western, Latin American, Buddhist and African civilizations plus "lone" countries that do not belong to any of the major civilizations.

According to Huntington, inter-civilizational differences stand out in the way individuals comprehend the relations between God and man, the individual and the group, the citizen and the state, parents and children, husband and wife as well as in the weight of importance they put in matters of responsibility and rights, freedom and authority, and equality and hierarchy. He further claims that these differences are largely irresolvable; they are the product of centuries and are far more fundamental than differences among political ideologies and political regimes as they concern the very self-identification of man. The fact that people identify themselves with a civilization inevitably implies that they think of themselves separately from other civilizations and differentiate themselves from the members of other civilizations. Identity at any level - personal, tribal, racial, civilizational - can only be defined in relation to an "other", a different person, tribe, race, or civilization. This brings about a group identity in the

⁸Huntington (1993a), p.24.

⁹Huntington (1993a), p.23-24.

simple form of "us" and "them" which nurtures clashes with those that are different.

Viewing culture as the "cause" Huntington (1993a) suggests that civilizations tend to violence with other civilizations that do not share their culture, world view and values. Such vehement tendencies, long held in check by the Cold War, have been unleashed by the end of the Cold War and, from then onwards, form the dominant pattern of global conflict. One theorem that logically devolves from Huntington's cultural realist rendering of clashing civilizations is that the degree of cultural dissimilarity between states should predict the likelihood of conflict between them. In this view, culturally dissimilar dyads, *ceteris paribus*, should be more inclined to conflict than culturally similar dyads. As such, Huntington claims that in the post-Cold War world the most important distinctions among peoples are not ideological, political, or economic, but they are cultural; and therefore, clashes of civilizations are the greatest threat to world peace. Although nation states will remain the most powerful actors in world affairs, world politics at the macro level are likely to involve conflicts and shifting power balances of states from different civilizations. At the micro level, on the other hand, the most violent, prolonged and dangerous conflicts are likely to be between states and groups from different civilizations. The clash of civilizations will dominate global politics and the fault lines between civilizations will be the battle lines of the future and of today.

Huntington highlights several factors as for why civilizations will clash. First, differences between civilizations are basic and are more fundamental than differences among political ideologies and political regimes. Civilizations differ from one another by history, language, culture, tradition, and, most importantly, religion. These differences are the product of centuries and cannot be easily overcome, and they, in turn, raise conflictual tensions. Second, increased interaction among peoples of different civilizations makes the world a smaller place and raises the consciousness and the awareness of differences between civilizations and commonalities within civilizations, which ultimately invigorates differences and enmities stretching back deep in history. Third, as economic modernization and social change throughout the world separate people from local identities, a resurgence of religious identity is replacing diminishing local and state-based identities. As such, the unsecularization of the world and the revival of religion in the late twentieth century set the stage for identity and commitment that overreach national boundaries and unite civilizations. Fourth, increased civilization consciousness sparks a return-to-the-roots phenomenon in non-Western states. The elites of non-Western societies are going through a de-Westernization and indigenization process. Fifth, cultural differences and characteristics are less mutable and, therefore, less easily resolved than political or economic ones. An example highlights this point. A person can be half-French and half-Arab and a citizen of two countries, but it is not possible to be half-Catholic and half-Muslim. Finally, increased economic regionalization heightens civilization consciousness and, in turn, common civilization facilitates the expansion of economic relations. The interaction of these factors has resulted in an increased salience of civilizational affiliations in global politics. With the Cold War over, cultural commonalities increasingly prevail over ideological differences and civilizational differences

are more and more likely to generate conflict.

Depiction of several real world incidents, such as the wars following the break up of Yugoslavia, in Chechnya, and between India and Pakistan, can be cited as evidence of inter-civilizational conflict. To draw attention to the fact that states treat other states differently depending on whether they belong to a similar civilization, Huntington exemplifies the failure of the West to provide meaningful support to the Bosnian Muslims in the Yugoslavian War or to denounce Croat atrocities in the same manner Serb atrocities were denounced. Civilizations also run up in support of similar civilizations. For instance, Russia's unwillingness to join other U.N. Security Council members in getting the Serbs in Croatia to make peace with the Croatian government, and the offer of Iran and other Muslim nations to provide 18,000 troops to protect Bosnian Muslims during the Yugoslavian War are cases in point. A last example comes from the intensified period of war between Armenians and Azeris: Turkish and Iranian demands that the Armenians surrender their conquests, the deployment of Turkish troops to the border and Iranian troops across the Azerbaijan border, on one hand, and Russia's warning that the Iranian action contributes to "escalation of the conflict" and "pushes it to dangerous limits of internationalization", on the other.

3 Data and Methodology

After having laid out the background for the upcoming empirical analysis, in this section we describe the data set used in estimations and spell out the methodological strategy.

3.1 Measurement of Conflict

Our principal dependent variable is the occurrence of a militarized interstate dispute (MID) between any two states i and j in any given year t . Data set on conflict runs between 1816 and 2001.¹⁰ The intensity index of conflict takes on a value from 0 for no militarized dispute to 5 for high intensity conflict that is defined as an inter-state war with more than 1000 total battle deaths. The levels of intensity are classified as: 1 = No militarized action, 2 = Threat to use force, 3 = Display of force, 4 = Use of force, and 5 = War. In accordance with the literature, we define an indicator variable of conflict that takes one if the intensity of militarized conflict between any two states is equal to or greater than 3, zero otherwise.¹¹ This way of more broadly defining an MID facilitates a more robust estimation, since the number of wars (corresponding to a conflict intensity of 5) since 1815 is very low and this prohibits robust estimates. Therefore, we primarily focus on the broader indicator of conflict.

Between 1816-2001 there has been an upward trend in the number of militarized conflict per year with spikes of World War I and World War II. We also observe a relative increase starting with early 90's compared to rather high but stable levels of conflict

¹⁰Conflict data come from the Correlates of War Project, Militarized Interstate Disputes, Version 3.10; which is described in Ghosn et al. (2004) and Ghosn and Bennett (2003). A data set on war is also available as Correlates of War Project, 2011 COW Wars, 1816-2007, Version 4.0 (for details see also Sarkees and Wayman (2010)).

¹¹For example, see Martin et al. (2008) and Spolaore and Wacziarg (2010).

during Cold War.¹² On the other hand, when we look at the proportion of militarized disputes within and across civilizations, we see that 36 percent of all conflict between 1816 and 2001 took place between countries that are part of the same civilization, whereas 64 percent of the conflictual relationships were among different civilizational memberships.¹³ When we break this analysis down to Cold War and post-Cold War periods, we observe that there is a bigger percentage of inter-civilizational militarized conflict during Cold War than during post-Cold War, 65 percent compared to 60 percent.¹⁴ However, this observation alone is far from enough to draw any conclusion without having a rigorous econometric analysis.

3.2 Measurement of Civilizations

To assess the Clash of Civilizations hypothesis, it is essential to identify world's major civilizations and the respective countries that belong to them. Therefore, 179 countries are classified as members of various civilizations. As described in Section 2, the central defining characteristic of a civilization is its religion, hence, the major civilizations in human history have been closely identified with major religions. These civilizations include Western, Sinic, Islamic, Hindu, Orthodox, Latin American, African, Buddhist and "Lone" States. The classification and the construction of civilization membership is based on Huntington (1998). Accordingly, each country is assigned to a civilization following the criteria outlined in Huntington (1998).¹⁵

Although one may oppose Huntington's classification of civilizations and assignment of countries, in order to assess the clash of civilizations hypothesis properly it is crucial to stay as close as possible to his categorization. For instance, Western civilization is mostly comprised of European countries and the Western offshoots such as the United States, Canada, Australia and New Zealand. Some Anglo-Caribbean countries like Barbados or Jamaica are also defined as part of the Western civilization. Sinic civilization is centralized around China and it includes other Asian states such as Hong Kong, North Korea, South Korea, Taiwan and Vietnam, and the uniting element for these countries is Confucianism. African states with considerable Muslim population were assigned to Islamic civilization only when they had more than fifty percent Muslim population and were included in the African civilization otherwise. Latin American civilization is composed of Central and South American countries. On the other hand, three "lone states", Ethiopia, Haiti, Japan, are not identified with any of the major civilizations. Israel is the most curious case given its location, distinct religion (Judaism) and historically belligerent relations with its neighbors. However, for our estimations assigning Israel to the Western civilization or to the lone states would not make a difference, since all its neighbors it has militarized disputes with belong to the Islamic civilization, and in either case any such conflict would be inter-civilizational. Table 1A in the Appendix lays out the exact civilizational coding of the countries.

¹²Interested reader can consult Figure 1A in the Appendix.

¹³See Figure 2A in the Appendix.

¹⁴See figures 3A and 4A in the Appendix.

¹⁵See Table 1A in the Appendix for the details of country specific civilizational memberships.

Furthermore, country dyads are formed by pairing each country with one another, which resulted in 15931 dyads. To indicate civilizational heterogeneity within a dyad we construct a variable labeled "Different Civilizations" , DC_{ij} , denoting whether a pair of countries belong to different civilizations. This variable is coded as one if in a dyad the two countries i and j belong to different civilizations and as zero if both countries belong to the same civilization. Out of 15931 country-pairs 2875 pairs are formed with countries belonging to the same civilization and 13056 pairs belonging to different civilizations.

3.3 Control Variables

We also include a wide range of control variables into our regression analysis. These variables can be grouped under four umbrella categories: geographic factors, political factors, military factors and economic factors.

Geographic factors include contiguity, geodesic distance, latitudinal and longitudinal distances, landlocked countries, island countries and land mass of the countries.

Political factors are whether countries have a colonial relationship, whether they had common colonizers, whether they have been part of the same polity, their legal origins and their democracy record.

Military factors include major power status, military capabilities, alliances, number of peaceful years and other wars present in a given year.

Economic factors include income differences, bilateral openness and multilateral openness.

All variables are described in detail in the Data Appendix.

3.4 Descriptive Statistics

We observe in Table 1 the number of conflicts across and within civilizations and their share in the total number of conflicts between 1816 and 2001. On-diagonal entries correspond to the conflicts which have happened between countries that are members of the same civilization; whereas off-diagonal elements are the conflicts between countries that belong to different civilizations. This table gives us a better understanding of what part of the conflicts are inter-civilizational and what part intra-civilizational; moreover, we get a sense of what civilizations have more conflictual relationships than the others.

[Table 1 around here]

We observe many on-diagonal elements which tell us that there is a myriad of intra-civilizational disputes, though the numbers are much smaller than off-diagonal entries. By looking at intra-civilizational disputes we observe that the Western civilization have had the highest number of intra-civilizational conflicts (9.5 percent). This comes as no surprise since there is a high number of Western countries and they have existed for a longer period of time.¹⁶ Western civilization is followed by the Islamic and the Latin American countries with, 7.9 and 6.8 percents of all conflicts, respectively .

¹⁶I thank Olaf DeGroot for pointing this out.

One striking observation from Table 1 is that when we look into highly conflictual inter-civilizational linkages we notice that one side usually involves a Western country. For instance, the first four highest number of inter-civilizational conflicts are Western versus Islamic with 13.1 percent, Western versus Orthodox with 12 percent, Western versus Latin American with 7.4 percent and Western versus Sinic civilizations with 6 percent, respectively. This pattern of high Western conflict involvement is followed by the conflicts between Islamic and Orthodox civilizations.

For Cold War and post-Cold War break down of Table 1, see tables 2A and 3A in the Appendix. Important to notice in tables 2A and 3A is that while the highest number of conflict during the Cold War period is between Western and Islamic civilizations, conflicts between Western and Orthodox civilizations are uppermost in the post-Cold War period.

For additional insights at a first glance see also Table 4A in the Appendix which provides summary statistics of all variables.

3.5 Empirical Specification

As a starting point, we collapse the panel into a cross-section (as in Spolaore and Wacziarg, 2010), in which case our dependent variable becomes a binary indicator of whether there has ever been a conflict between a pair of countries over a given period. Following the existing literature¹⁷ we run regressions of a binary indicator of conflict on several determinants of conflict. Given our main explanatory variable -civilizational dissimilarity- is time invariant this specification seems appropriate. Therefore the baseline cross-sectional regression is the following:

$$C_{ij} = \beta_0 + \beta_1 DC_{ij} + \beta_2 X_{ij} + \varepsilon_{ij} \quad (1)$$

where C_{ij} is an indicator of conflict between a pair of countries and takes the value one if the pair of countries were ever involved in a militarized dispute, and zero otherwise; DC_{ij} is an indicator of civilizational heterogeneity that takes value one when a pair of countries belong to different civilizations and zero otherwise; and X_{ij} is a vector of time-invariant control variables such as geographic factors and colonial and legal indicators.

Moreover, we apply a second methodology to exploit the full panel data set. This way we can make use of time varying dimensions of our explanatory variables such as democracy or military and economic indicators. Accordingly, the baseline panel regression would be as follows:

$$C_{ijt} = \gamma_0 + \gamma_1 DC_{ij} + \gamma_2 X_{ij}^1 + \gamma_3 X_{ijt}^2 + \eta_{ijt} \quad (2)$$

X_{ij}^1 contains all of the aforementioned time-invariant variables, while X_{ijt}^2 is a vector of time-varying variables such as democracy, differences in military capabilities, number of other wars in year t , number of years countries have been at peace with each other, occurrence of an alliance, income differences and trade relations.

¹⁷For example, Bremer (1992) and Martin et al. (2008).

It is important to take into consideration temporal dependence when one studies conflict. To that end, we have the number of years countries have been at peace with each other as a control variable. In addition, we further need to control for temporal autocorrelation in conflicts by adding lagged conflict dummies. Hence, as in Martin et al. (2008), we include a set of 20 binary variables that equal to 1 if a dyad was in conflict in $t - 1, t - 2, t - 3, \dots, t - 20$. Moreover, to control for any year specific factors that are unobservable to the econometrician but might impact the evolution of the probability of conflict over time, we include year fixed effects.

Both equations (1) and (2) are estimated using probit and robust p-values (corrected for clustering at the dyad level for the panel case) are reported. Throughout the paper we report marginal effects of the probit regressions evaluated at the means of the independent variables and, for the sake of readability, we multiply all of the marginal effects by one hundred in all tables. In addition, we report standardized magnitude of the effect of civilizational dissimilarity, which largely eases interpretation. Standardized magnitude is the effect of a discrete change from zero to one in different civilizations dummy as a percentage of the probability of conflict calculated at the means of the variables.

4 Results

4.1 Baseline Cross Sectional Analyses

In this section we present our results concerning militarized clash between states and the role civilizational differences play in conflict involvement. As a starting point, we run cross-sectional analyses. We collapse our panel data of conflict into one cross-sectional variable that takes on value one if a country pair has ever been involved in militarized dispute, zero otherwise. We use probit models and marginal effects evaluated at the means are presented. There are 178 countries in the cross-section analyses from which country dyads are constructed.

4.1.1 Entire Sample

In Table 2 we present the regression results covering the entire sample, whereas in Table 3 we break down our analysis and make Cold War and post-Cold War comparisons.

[Table 2 around here]

In Table 2 column (1) we start off with an augmented set of geographical factors that are commonly considered to be determinants of conflict. All the signs on the coefficients are as expected. Contiguity increases the likelihood of conflict, while distance and geographic barriers reduce the probability of conflict.

In column (2) different civilizational membership variable is added to the geographic factors. This coefficient is positive, however, insignificant. Moreover, as before, contiguity has a positive effect on conflict probability. This variable is always highly significant and the biggest in magnitude among all the determinants of inter-state conflict in all

the regression specifications. We also control for other geographic measures to account for the distance between countries and the physical barriers within and across countries. These include the distance between countries, differences in longitudes and latitudes, instance of landlocked and island countries in a dyad and the physical size of the countries. As expected, the physical distance and barriers between countries act as a significant deterrent to militarized clashes expect for islands being more vulnerable to conflict.

In column (3) of Table 2 we take into account political factors that might affect conflict likelihood such as colonial links, whether the countries have been part of the same polity and their legal origins. Our results suggest that colonial and governmental history play a significant role for they instigate conflict involvement. Moreover, having different legal origins decreases the probability to find a peaceful solution to their problems.

In column (4) of Table 2, instead, we run a similar regression to that of column (3) using an indicator of war (conflicts of level 5 with more than 1000 battle deaths) as dependent variable rather than conflict of level 3 and above. We observe the positive effect of different civilizational membership, however, insignificant, on war involvement and all conclusions regarding other explanatory variables carry over.

To put the importance of belonging to different civilizations in perspective we take a look at the standardized magnitudes. In columns (2) and (3) we observe that being part of different civilizations increases the predicted probability of conflict by 4.2 to 8.2 percent; whereas it increases the probability of war by 34 percent points as shown in column (4), however, none of these effects is statistically different from zero.

We can confidently conclude from Table 2 that, over the period of 1816-2001, belonging to different civilizations does not have a significant impact on interstate conflict involvement.

4.1.2 Cold War and post-Cold War Comparisons

Although we had, by and large, a first pass at investigating the impact of culture on conflict involvement in Table 2, it is far from satisfactory and does not directly test Huntington's hypothesis. Next, we present a break-down analysis of Cold War and post-Cold War periods as well as pre-Cold War period, which are to be followed by more detailed panel analysis.

[Table 3 around here]

Columns (1), (2) and (3) of Table 3 provide us with a comparison of pre-Cold War, Cold War and post-Cold War periods, respectively, using all time-invariant controls. The dependent variable is an indicator of whether a pair of countries have ever been involved in a conflict in the respective time period that each column indicates. Countries that belong to different civilizations are more likely to be involved in militarized dispute in the post-Cold War era than in the Cold War era. During the Cold War the coefficient is both insignificant and small in magnitude. This result delivers support for Huntington's hypothesis stating that civilizational differences are more emphasized

since the end of the Cold War and that countries that are part of the same civilization conflict with one another less than the ones that belong to different civilizations. Being part of different civilizations boosts the likelihood of conflict by about 69% during the post-Cold War era compared to an insignificant 9.5% impact during the Cold War.

In addition, importance of distance and physical barriers in conflict involvement is lesser in the post-Cold War period than in the Cold War period. This might be due to advancement of the military technology over time enabling countries to have better, more sophisticated military capabilities in recent times. Advanced military technology might render more distant wars feasible so that proximity of countries do not play as big of a role as it used to when it comes to raiding a target. Furthermore, notice that dissimilar legal origins lose their consequence in the post-Cold War era. This might be the case because more countries adopted democracy when communism collapsed and this fact washes out the legal differences between countries when both are democratic.¹⁸

The main mechanism Huntington suggested as for why civilizational differences were not as influential in the Cold War as in the post-Cold War is that they were suppressed by ideology and forced into the background. If this is the case, then the impact of civilizational differences should be significant before the Cold War started and ideology repressed civilizations. With this in mind, in column (1) we run the same analysis for the pre-Cold War period and the evidence data provide is supportive of such a mechanism. In the pre-Cold War period civilizational differences increased the probability of conflict as they did in the post-Cold War period, although by a smaller percentage.

4.2 Panel Analyses

4.2.1 Entire Sample

Now, we turn to our panel regressions. We have an indicator variable of conflict for the years 1816 to 2001; hence this gives us a good coverage of the post-Cold War period and enlarges the number of observations. Moreover, a panel data set allows us to make use of the time-varying dimension of the variables such as democracy, military and economic factors, and therefore, enriches the analysis. Table 4 reports the results covering 1816 to 2001. Our findings from cross-sectional regressions are confirmed by this panel setting.

[Table 4 around here]

The same set of regressors as in Table 2 is used in columns (1) and (2) of Table 4, namely, geographic and political determinants of conflict. These two tables only contrast by the use we make of panel dimension. In columns (1) and (2) of Table 4 the results show that if a pair of countries belong to different civilizations they have 28.7 to 33.8 percent higher chances of conflict than if they were to be part of the same civilization.

¹⁸The correlation between different legal origins dummy and the sum of democracy indexes variable is about .10.

In column (3) we bring the democratic peace argument into the picture and control for the sum of democracy indexes of the two countries as in Martin et al. (2008).¹⁹ As expected, democracy promotes peace. Our variable on civilizational dissimilarity is still positively significant; the magnitude is much reduced, however, and differential civilizational membership in a dyad brings about 19.6% higher likelihood of conflict.

Column (4) includes all of the previously discussed geographic and political factors including democracy and additional variables of military factors. More specifically, in column (4) we add to the previously present geographic and political factors military factors such as number of major military powers in a dyad, log of absolute differences in military capabilities of the two countries, whether the pair of countries are part of an alliance, number of other wars fought in the same year and the number of years the two countries spent at peace with each other. Now, the coefficient on civilizational dissimilarity is insignificant. Moreover, notice that big players in the world scene are more conflict prone. If a pair of countries are part of an alliance they fight less, though insignificantly. It is important to highlight that peace promotes peace, i.e. the longer the countries have peaceful relations with one another the less likely it is for them to be caught up in a fight.

Hence, one can conclude from this analysis that, when other determinants of conflict, temporal dependence and time fixed effects are appropriately taken into account, different civilizational belongings do not have a conflict inducing impact over the period of 1816-2001.

4.2.2 Cold War and post-Cold War Comparisons

In Table 5 we additionally account for the economic factors. Since bilateral and multilateral openness data are available on a large scale only for 1950 on and conflict data end in 2001, our analysis is limited to 1950-2001, hence, the drop in the number of observations. Then, on top of the previous controls that were present in the regressions, we include the absolute difference in log per capita income as well as bilateral and multilateral trade relations in our regression. Observe that the bigger the income difference between countries is, the smaller are the odds for a conflict. This might be due to the weaker country acknowledging the fact of not being able to cope with a richer country and looking for peaceful ways to settle the issues. That is to say that the poor countries might lack the political unity, economic power and military capability to challenge the rich countries. To avoid reverse causality between conflict and trade relations we lag the trade variables by four periods.²⁰ As in Martin et al. (2008) we establish the negative effect of bilateral interdependence and the positive effect of trading with third parties on conflict probability. In both cases, distance operates in the opposite direction and lessens the effect of trade links. Over the period of 1950-2001, in our full specification with 22 control variables and year and past conflict dummies, the coeffi-

¹⁹For a discussion on the democratic peace argument see Henderson (1997) and Levy and Razin (2004).

²⁰Martin et al. (2008) show that a four-year lag on bilateral and multilateral openness is appropriate to avoid contemporaneous reverse causality.

cient on different civilizations dummy maintains its positive sign, though insignificant. This finding reinforces our previous finding that, when other determinants of conflict, temporal dependence and time fixed effects are appropriately taken into account, civilizational dissimilarity does not increase the overall probability of a militarized conflict.

[Table 5 around here]

To carry Cold War and post-Cold War comparisons we start off by looking at Table 5 again.²¹ In column (2) of Table 5 we augment the specification in column (1) by adding an interaction of post-Cold War dummy and different civilizations variable. This way we will have an idea about the differential effects of civilizational dissimilarity in two different time periods. Notice that the interaction of post-Cold War dummy and different civilizations variable has a positive and significant coefficient which means that civilizational differences matter more in the post-Cold War world. Therefore, our results suggest that while being part of different civilizations might not influence the probability of conflict in the Cold War era, it increases the likelihood of conflict by 50% in the post-Cold War era.

To further probe this argument we split the sample into Cold War and post-Cold War periods. We observe that when we control for a very rich set of variables on geographic, political, military and economic factors as well as temporal dependence, in columns (3) and (4) of Table 5, a pair of countries belonging to different civilizations in the post-Cold War era have 63.6% points higher probability of experiencing conflict than countries that belong to the same civilization and this effect is significant. During the Cold War, on the other hand, more similar countries are prone to militarized dispute and if two countries in a dyad are members of different civilizations their chances of conflict is reduced by 22%, although this effect is not statistically different from zero. An additional Chow test on different civilizations variable for the two models of columns (3) and (4) give us a $\chi^2 = 2.77$ so that we can confidently conclude that these two coefficients are different from each other at least at the 10% level. These results in columns (3) and (4) of Table 5 leads us to a conclusion that is supportive of Huntington's thesis. Namely, the effect of civilizational differences is more accentuated in the post-Cold War era compared to the Cold War era.

Anecdotal evidence can make a case in point. For instance, such a pattern can be exemplified by the relationships of Azerbaijan and Armenia, on the one hand, and of Ukraine and Russia, on the other. Azerbaijan and Armenia are two culturally different states that speak different languages, practice different religions and have different ethnicities. While they were both in the Soviet Union their relationships were generally peaceful and friendly under the Soviet rule, however, once the Soviet Union disintegrated these two countries could not overcome their differences in peaceful ways and ended up slaughtering each other. Ukraine and Russia, on the other hand, are two culturally similar Orthodox countries, and when they had their own clashes starting from

²¹As mentioned before, Cold War corresponds to 1946-1991 and post-Cold War is 1992 on. When income variables added to the regression though, Cold War is considered from 1950 on due to data availability.

1992 over the illicit diversion of Russian gas, they were able to resolve it by peaceful means without resorting to arms.

These results could also be consistently thought of in a model of two blocs versus multiple equilibria (Alesina and Spolaore, 2003). It could be the case that during the Cold War countries were able to approach problematic matters in two different perspectives only (two ideologies that are Communism and Liberal Democracy); whereas in the post-Cold War period there is a multitude of views and perspectives that confront one another, and, this, in turn, can lower the probability of a peaceful settlement to the issue at hand. Hence, less of the inter-state confrontations could be settled peacefully in the post-Cold War era.

5 An Explanation

We observe a changing pattern over time in the impact of civilizational dissimilarity on conflict involvement. But, why is this the case? Could it be that ideology played a role?

Huntington claims it is not that there were no civilizational differences during the Cold War, but they were suppressed by ideology and were forced into the background during the Cold War era. By the demise of the Cold War, influence of ideology declines and civilizational differences are unleashed, and that is why we should observe a heightened level of clash of civilizations in the post-Cold War era compared to the Cold War era. In his own words, "as world moves out of its Western phase, the ideologies typified late Western civilization decline, and their place is taken by religious and cultural based forms of identity and commitment", Huntington (1998, p.54).

If that is the deriving mechanism for why civilizational differences should impact conflict probability in the post-Cold War world, then we should observe a similar effect of civilizational differences before the Cold War as well as after.²² If it was ideology that repressed civilizational differences, then in the pre-Cold War period, different civilizational belongings among country pairs should also increase their conflict likelihood as they do in the post-Cold War period. This is exactly what we look into in Table 6.

In Table 6 we compare the effect of different civilizations dummy on conflict involvement in the Cold War to its effect in the pre-Cold War period. In the first column of Table 6 we show that civilizational differences increased conflict probability in the Pax Britannica period. Columns (2) and (3) also indicate a positive impact of civilizational differences in the pre-Cold War period, whereas this effect is not statistically different from zero in the Cold War period. Therefore, the mechanism that suggests that civilizational differences were suppressed by ideology during the Cold War and should have a more active voice otherwise gathers some support in the data.

[Table 6 around here]

²²I thank Francesco Caselli for his comments on this point.

6 Breaking Down Civilizations

In this section, we break down civilizations and attempt at understanding what they are composed of in terms of other cultural measures and how these, in turn, affect conflict involvement.

Huntington claims that "of all the objective elements which define civilizations, the most important usually is religion. To a very large degree, the major civilizations in human history have been closely identified with the world's great religions." He further suggests that "the central elements of any culture or civilization are language and religion" (Huntington, 1998, p.59), and continues to say that "language is only second to religion as a factor distinguishing people of one culture from those of another" (Huntington, 1998, p.70)

From the above statements one can conclude that the most important elements of a civilization are religion and language. With this in mind, in this section, we break down the civilizations and see what actually constitute a civilization. Therefore, we look into fundamental elements of a civilization such as religion, language and ethnicity. Moreover, one can doubt the civilizational categorization of Huntington and believe that our results are biased and driven by the particular way our different civilizations indicator is constructed. We challenge such a doubt by providing additional measures of civilizational/cultural cleavages and look at what drives our results. More specifically, we use Tanja Ellingsen's "Ethnic Witches' Brew Data Set" that provides us with data on religious, linguistic and ethnic fragmentation within countries between 1945-2001.

Ellingsen (2000) collected data on the size and name of the linguistic, religious, and ethnic dominant groups; the number of linguistic, religious, and ethnic groups; the size and name of the linguistic, religious, and ethnic minority groups as well as ethnic affinities. She has obtained information from three reference books: Handbook of the Nations, Britannica Book of the Year and Demographic Yearbook. For example, 89 dominant linguistic groups, such as Arabic, Hindi, Malaysian, Spanish, etc., are identified, or 8 majority religions such as Judaism, Islam, Shintoism, Christianity, etc. are identified.

What is particularly important for our purpose in this data set is the information on the name and proportional size of the largest linguistic, religious, and ethnic groups. We recode this data set and have indicator variables for whether the two countries in a dyad have different dominant religion, language and ethnicity.²³

We first look at the correlation between different civilizations variable and the new different religion, different language and different ethnicity variables. A cursory look at Table 7 tells us that different civilizations indicator is highly correlated with different religion and different language indicators as Huntington suggested. Hence, from these simple correlation coefficients we can conclude that civilizational groupings are indeed highly based on religion and language, and, to a lesser extent, correlated with ethnicities.

²³The original data by Tanja Ellingsen runs from 1945 to 1994. We use the version of the data by Gartzke and Gleditsch (2006) and this version of the data set runs up until 2001. For more details, see Ellingsen (2000) and Gartzke and Gleditsch (2006).

Nevertheless, this is not enough to conclude that religious or linguistic differences lead to militarized disputes or vice versa.

[Table 7 around here]

In Table 8 we replace our different civilizations indicator with a binary variable which equals one if the two countries in the dyad have different majority religion. The full set of control variables (not reported coefficients) as well as time fixed effects and past conflict dummies are employed in every regression. Estimation results are highly analogous to our previous findings, however statistically insignificant. Over the full sample, when the two countries do not share the same dominant religion they face a higher probability of conflict, though this effect is insignificant. If we look at the Cold War and post-Cold War samples, the results lead us to similar findings as before. In the post-Cold War period, two countries with different religions have a 28 percent higher conflict probability than two countries with the same religion; whereas during the Cold War this effect is negative, although in both cases the coefficients are insignificant. Therefore, given all the coefficients on different religions indicator are insignificant, we can conclude that although the direction of the effects are consistent with previous findings, the most important factor that causes conflictual clashes is not religion as Huntington suggested.

[Table 8 around here]

In a similar vein, we repeat in Table 9 the same analysis putting forward the "different majority language" indicator as our variable of interest. "Different majority language" is a binary variable equal to one if the two countries in a dyad do not speak the same dominant language. The results presented in Table 9 confirm now Huntington's hypothesis. In the post-Cold War period, two countries with different majority language have 67 percent higher likelihood of conflict, while this effect is negative during the Cold War. Hence, one component of civilizations that actually incinerate conflict in the post-Cold War era is language.

[Table 9 around here]

Lastly, we repeat the same exercises in Table 10 using an indicator variable that takes one when the two counties in a dyad have "different majority ethnicity." Having different dominant ethnicities does not seem to significantly affect conflict involvement of countries in the post-Cold War era, while it has a negative impact during the Cold War.

[Table 10 around here]

From this analysis we can conclude that having different languages has a stronger, statistically significant and robust impact on conflict involvement compared to having

different ethnicities or religions, although the direction of the effects are in line with our predictions. Huntington’s hypothesis about the clash of civilizations in the post-Cold War era is reaffirmed and these results indicate towards a link between Huntington’s typology of civilizations and linguistic associations between countries, but not necessarily toward a link between religious dissimilarity and conflict. Gartzke and Gleditsch (2006) claim that sharing a religion reduces conflict likelihood, while sharing a language or an ethnicity increases it. However, contrary to their findings, we show that when other determinants of conflict are properly taken into account sharing a religion, ethnicity or language does not have an overall effect on conflict involvement. Additionally, when a pair of countries do not share a common language they are more likely to fight in the post-Cold War era.

7 Sensitivity Analysis

In this section we challenge our findings by using various sensitivity tests. We do that first by employing estimators alternative to the probit model. Second, we experiment with different cutoff points for the end of the Cold War. Third, we scrutinize the use of alternative dependent variables. Fourth, we look into how some conflictual country-pairs might influence the results. Fifth, we draw the pre-Cold War period into the picture for comparison. Finally, we contrast our measure of civilizations with a popular measure of genetic distance and see whether different civilizations dummy survive its inclusion.

7.1 Alternative Estimators

In Table 11 we run the same analysis of the effect of different civilizations on conflict probability with alternative estimators. In Panel A of Table 11 we employ a linear probability model. In Panel B we make use of a logit model. In Panel C, lastly, we use King and Zeng’s rare events logit (ReLogit) estimator (see, King and Zeng, 2001a; 2001b; Tomz, King and Zeng, 2003). This estimator adjusts the estimation for binary dependent variables with many more zeros than ones. Standard errors are again clustered at the dyad level.

Conclusions from the previous analyses carry over. Different civilizational belongings do not have an overall impact on inter-state conflict likelihood. However, this effect shows differential patterns in the Cold War and post-Cold War periods. While civilizational dissimilarity increases conflict probability in the post-Cold War period, it does not display any significant impact during the Cold War.

[Table 11 around here]

7.2 Alternative Cold War Cutoff Points

Most scholars attach the end of the Cold War to the dissolution of the Soviet Union. That is why in our analysis so far we took 1991 as the point when the Cold War ended. However, consensus on when the Cold War actually ended is scarce. For instance,

in November 1988, British Prime Minister Margaret Thatcher, proclaimed, "The Cold War is over". Thus, it is necessary to highlight the fact that our results are not sensitive to a particular cutoff point. In what follows we experiment with a few plausible Cold War cutoff years.

Table 12 presents a replica of our previous analysis with alternative years of ending for Cold War. In Panel A we take the end of Cold War as 1988; in Panel B as 1989; and in Panel C as 1990. Previous findings carry over. There is a change in the effect of civilizational differences on the conflict likelihood in the post-Cold War period compared to the Cold War period, and countries of different civilizations are more likely to fight in the post-Cold War period.

[Table 12 around here]

7.3 Alternative Dependent Variables

Table 13 establishes that the findings are not sensitive to the way the dependent variable is constructed. Hence, instead of using as dependent variable a binary indicator of conflict for militarized disputes that are greater than or equal to the intensity level of 3, we experiment with alternative dependent variables.

In Panel A of Table 13 we take conflicts of any level of intensity as they are and run OLS regressions. In Panel B, we create a binary indicator of conflict taking the level of conflict intensity two as the threshold. In Panel C, we do the same for the conflict intensity of 4. Previous findings carry over. Only for the conflict level of 4 and above, although the direction is correct, statistical significance disappears in the post-Cold War period. This might be due to the difficulty of having robust estimates when there are so few conflicts of such level.

[Table 13 around here]

7.4 Bellicose Dyads

In Panel A of Table 14 we run the analysis for bellicose pairs only, that is the pair of countries that have ever had any conflict. Previous conclusions carry forward.

In Panel B and Panel C we drop the top 1% conflictual dyads out of the analysis, first out of the belligerent dyads and then out of all country pairs. We do that in order to take into account the concerns over controversial countries and doubts of reverse engineering in country-civilization typology. For instance, when we look into top bellicose dyads, the top 5 belligerent dyads we observe are as follows: Israel-Syria, North Korea-South Korea, Armenia-Azerbaijan, Egypt-Israel and India-Pakistan. In order to establish the fact that our results are not driven by a few specific country pairs that belong to different civilizations and that fight over and over again, we drop top 1% of countries with conflictual relationships. Notwithstanding such concerns we still observe a positive and significant impact of civilizational dissimilarity on the likelihood of conflict in the post-Cold War era.

[Table 14 around here]

7.5 Casting Genetic Distance in Comparison

Index of genetic distance as a proxy for culture has recently attracted a number of researchers (Giuliano, Spilimbergo and Tonon, 2006; Guiso, Sapienza and Zingales, 2009; Spolaore and Wacziarg, 2009, 2010). Moreover, Desmet et al. (2006) provide empirical support for choosing genetic distance as a proxy for cultural differences measured by World Values Survey. To that end, we would like to test the sensitivity of our measures of culture against genetic distance variable and see how they fare in comparison.

Genetic distance is a summary measure of differences in allele frequencies across a range of neutral genes (or chromosomal loci). Correspondingly, the index constructed measures the genetic variance between populations as a fraction of the total genetic variance. Given genetic characteristics are transmitted throughout generations at a regular pace, genetic distance is closely linked to the times when two populations shared common ancestors. It is argued that the degree of genetic distance also reflects cultural distance for culture can be transmitted across genetically related individuals, and therefore, populations that are farther apart genealogically tend to be, on average, more different in characteristics that are transmitted with variations from parents to children.²⁴

In this strand of the literature, for instance, using genetic distance as a measure of cultural dissimilarity, researchers tried to explain the differences in the level of development across countries (Spolaore and Wacziarg, 2009), the effect of culture on the likelihood of conflict involvement of country dyads (Spolaore and Wacziarg, 2010) or the level of trust populations have for each other (Guiso, Sapienza and Zingales, 2009).

Given the above discussion and the importance of genetic distance in recent times we deem it necessary to establish the robustness of our results to the inclusion of this variable. The genetic distance data we use are from Spolaore and Wacziarg (2009) as the genetic distance information on populations is mapped onto countries.

In Table 15 we probe whether our indicator of different civilizations survive inclusion of genetic distance variable, and therefore, whether it explains an element of culture that is not captured by genetic distance. Genetic distance is added to the full set of control variables (coefficients not reported) in all estimations with time fixed effects and past conflict dummies. The results are prominent. Our measure of different civilizations not only survives inclusion of genetic distance, but it also shows a very large and significant impact on conflict involvement in the post-Cold War era. The consequences of different civilizational belongings is much sharper in the post-Cold War period. A dyad of different civilizations have an increased likelihood of conflict (by 76%) in the post-Cold War era compared to a statistically insignificant impact during the Cold War. These results show that our measure of different civilizations is robust to the inclusion of genetic distance and reflects an element of civilizational and cultural differences that is

²⁴For more details and the discussion on the construction of genetic distance between populations, its corresponding mapping onto countries and its cultural implications, interested reader should see Cavalli-Sforza and Feldman (1981), Cavalli-Sforza et al. (1994), Giuliano, Spilimbergo and Tonon (2006) and Spolaore and Wacziarg (2009).

not captured by genetic distance.

In all of the regressions genetic distance appears to reduce the probability of conflict. Spolaore and Wacziarg (2010) explain this fact by arguing that genetically closer populations share more ideal points to dispute about and a bigger lot of common problematic issues. On the other hand, Giuliano, Spilimbergo and Tonon (2006) argue that genetic distance reflects geographical barriers. If this was the case, the negative sign on the genetic distance coefficient manifests more or less the same effect of geodesic distance or other geographical barriers on conflict. Either way, the effect of different civilizations in the post-Cold War is not altered.

[Table 15 around here]

8 Conclusion

As Huntington (1993b) stated, faith and family, blood and belief are what people identify themselves with and what they will fight and die for. That is why the clash of civilizations is replacing the Cold War as the central phenomenon of global politics and why a civilizational paradigm provides, better than any alternative, a useful starting point for understanding and coping with the changes going on in the world. However, this is not to argue that civilizational identities will replace all other identities or nation states will disappear or within civilization conflict will never occur.

Though the above claim by Huntington might neglect several aspects that feed into conflictual fault lines, there is an element of truth in it as this study shows. To that end, using a rich data set, this paper provides the lacking rigorous empirical analysis of what was verbalized by Huntington. We do not only put forward various tests and specifications, but also carry out a number of alternative robustness checks. Our results are very persistent. We show that civilizational differences do matter in conflictual relations only in the post-Cold War period, but have no overall impact. More specifically, we show that, in the post-Cold War era, country pairs that belong to different civilizations are associated with 63.6% higher conflict probability than the ones that belong to the same civilization. These results are not driven by the particular classification of civilizations and countries, nor do they depend on the specific estimator or the choice of dependent variable. Furthermore, evidence suggests that although different civilizations indicator is highly correlated with different religion and different language indicators, only having different languages for a dyad increases the conflict likelihood but not having different religions. We provide evidence that two countries that have different majority languages in the post-Cold War period face a 67 percent higher probability of conflict than countries of the same language, whereas this effect is negative during the Cold War.

Table 1. Number of Conflicts within and across Civilizations between 1816-2001.

<i>Civilizations</i>	<i>Western</i>	<i>Sinic</i>	<i>Islamic</i>	<i>Hindu</i>	<i>Orthodox</i>	<i>Lat. American</i>	<i>African</i>	<i>Buddhist</i>	<i>Lone States</i>
<i>Western</i>	419 (9.5%)								
<i>Sinic</i>	265 (6%)	127 (2.8%)							
<i>Islamic</i>	581 (13.1%)	15 (.34%)	351 (7.9%)						
<i>Hindu</i>	5 (.11%)	33 (.74%)	65 (1.4%)	3 (.06%)					
<i>Orthodox</i>	530 (12%)	90 (2.04%)	247 (5.6%)	0	105 (2.3%)				
<i>Lat. American</i>	326 (7.4%)	7 (.15%)	8 (.18%)	11 (.24%)	13 (.29%)	302 (6.8%)			
<i>African</i>	39 (.88%)	0	53 (1.2%)	5 (.11%)	6 (.13%)	21 (.47%)	193 (4.3%)		
<i>Buddhist</i>	25 (.56%)	81 (1.8%)	3 (.06%)	6 (.13%)	5 (.11%)	0	0	78 (1.7%)	
<i>Lone States</i>	106 (2.4%)	86 (1.9%)	44 (.99%)	0	82 (1.8%)	41 (.93%)	7 (.15%)	16 (.36%)	4 (.09%)

Source: Author's own construction. Percentages are in parentheses.

Table 2. Cross-Sectional Regressions, probit.
(Dependent variable: dichotomous indicator for whether a country pair was ever involved in a conflict, 1816-2001).

	(1)	(2)	(3)	(4)
	geographic factors	add different civilizations	add polical factors	war (dependent variable)
Different Civilizations		.189 (0.41)	.126 (0.57)	.074 (0.18)
Contiguity	9.49*** (0.00)	9.56*** (0.00)	8.68*** (0.00)	.685*** (0.00)
Log Geodesic Distance	-1.97*** (0.00)	-2.00*** (0.00)	-1.82*** (0.00)	-.188*** (0.00)
Log Abs. Diff. in Latitudes	-.417*** (0.00)	-.425*** (0.00)	-.452*** (0.00)	-.098*** (0.00)
Log Abs. Diff. in Longitudes	-.135 0.23	-.136 (0.22)	-.157 (0.15)	-.022 (0.43)
#Landlocked Countries	-2.06*** (0.00)	-2.05*** (0.00)	-1.97*** (0.00)	-.221*** (0.00)
#Island Countries	1.36*** (0.00)	1.36*** (0.00)	1.28*** (0.00)	.062 (0.23)
Log Product of Land Areas	.82*** (0.00)	.82*** (0.00)	.775*** (0.00)	.114*** (0.00)
Ever in Colonial Relationship			5.59*** (0.00)	.253 (0.19)
Common Colonizer			-1.32*** (0.00)	-.222*** (0.00)
Same Country			5.55*** (0.00)	1.03*** (0.00)
Different Legal Origins			.438** (0.02)	.143*** (0.00)
# Obs.	15309	15309	15309	15309
Standardized Magnitude(%)		9.96	6.98	38.10

Robust p-values in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability.

Table 3. Cross-Sectional Regressions, probit.
(Dependent variable: dichotomous indicator for whether a country pair was ever involved in a conflict, pre-Cold War, Cold War and post-Cold War Comparisons).

	(1) pre-Cold War period	(2) Cold War period	(3) post-Cold War period
Different Civilizations	5.05*** (0.00)	.090 (0.59)	.164*** (0.00)
Contiguity	16.39*** (0.00)	4.87*** (0.00)	1.01*** (0.00)
Log Geodesic Distance	-9.34*** (0.00)	-.663*** (0.00)	-.296*** (0.00)
Log Abs. Diff. in Latitudes	-.439 (0.55)	-.24*** (0.00)	-.166*** (0.00)
Log Abs. Diff. in Longitudes	1.13 (0.25)	-.323*** (0.00)	-.099*** (0.00)
#Landlocked Countries	-8.03*** (0.00)	-1.21*** (0.00)	-.099** (0.03)
#Island Countries	10.98*** (0.00)	.704*** (0.00)	.089 (0.14)
Log Product of Land Areas	3.02*** (0.00)	.404*** (0.00)	.124*** (0.00)
Ever in Colonial Relationship	15.53*** (0.00)	2.11*** (0.00)	.281 (0.12)
Common Colonizer		-.415* (0.05)	-.207*** (0.00)
Same Country	12.36* (0.05)	4.05*** (0.00)	.216 (0.2)
Different Legal Origins	2.18 (0.12)	.308** (0.02)	-.014 (0.8)
# Obs.	2154	13774	15309
Standardized Magnitude(%)	49.53	9.55	69.22

Robust p-values in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability.

Table 4. Panel Regressions, probit, 1816-2001.
(Dependent variable: dichotomous indicator of conflict)

	(1)	(2)	(3)	(4)
	geographic factors	political factors	control democracy	military factors
Different Civilizations	.033*** (0.00)	.028*** (0.00)	.019* (0.06)	.006 (0.47)
Contiguity	.143*** (0.00)	.135*** (0.00)	.175*** (0.00)	.15*** (0.00)
Log Geodesic Distance	-.058*** (0.00)	-.057*** (0.00)	-.04*** (0.00)	-.024*** (0.00)
Log Abs. Diff. in Latitudes	-.028*** (0.00)	-.027*** (0.00)	-.029*** (0.00)	-.023*** (0.00)
Log Abs. Diff. in Longitudes	-.028*** (0.00)	-.028*** (0.00)	-.032*** (0.00)	-.029*** (0.00)
#Landlocked Countries	-.051*** (0.00)	-.048*** (0.00)	-.051*** (0.00)	-.033*** (0.00)
#Island Countries	.063*** (0.00)	.057*** (0.00)	.069*** (0.00)	.026*** (0.00)
Log Product of Land Areas	.032*** (0.00)	.031*** (0.00)	.032*** (0.00)	.017*** (0.00)
Ever in Colonial Relationship		.105*** (0.00)	.133*** (0.00)	.067*** (0.00)
Common Colonizer		-.013 (0.37)	-.003 (0.83)	-.008 (0.55)
Same Country		.04* (0.05)	.034 (0.12)	.078*** (0.00)
Different Legal Origins		.03*** (0.00)	.032*** (0.00)	-.003 (0.65)
Sum of Democracy Indexes			-.001*** (0.00)	-.001*** (0.00)
#Major Powers				.086*** (0.00)
Log Abs. Diff. in Military Capabilities				.012*** (0.00)
Alliance Dummy				-.017 (0.11)
#Other Wars in t				-.0006 (0.68)
#Peaceful Years				-.001*** (0.00)
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
# of Obs.	583390	583390	487985	487176
Standardized Magnitude(%)	33.85	28.73	19.65	8.04

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability.

Table 5. Panel Regressions, probit, full set of controls, 1950-2001.
(Dependent variable: dichotomous indicator of conflict; Cold War
and post-Cold War Comparisons).

	(1)	(2)	(3)	(4)
	Entire	Entire	Cold	Post
	Sample	Sample	War	Cold War
Different Civilizations	.004 (0.69)	-.004 (0.74)	-.020 (0.23)	.019** (0.02)
Different Civilizations×Post-Cold War		.037* (0.08)		
Abs. Diff. in Log pc Income	-.002 (0.54)	-.002 (0.47)	-.011** (0.01)	.004* (0.07)
Log Bi. Openness, t-4	-.058*** (0.00)	-.057*** (0.00)	-.070** (0.01)	-.033** (0.02)
Log Multi. Openness, t-4	.152** (0.01)	.159*** (0.00)	.093 (0.23)	.111** (0.03)
Log Distance×Log Bi. Openness	.008*** (0.00)	.008*** (0.00)	.011*** (0.00)	.004** (0.01)
Log Distance×Log Multi. Openness	-.021*** (0.00)	-.022*** (0.00)	-.015 (0.13)	-.015** (0.04)
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	149639	149639	101456	48183
Standardized Magnitude(%)	6.36	50.07	-22.88	63.66

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years.

Table 6. Pre-Cold War and Cold War Regressions, probit, 1816-1991.

(Dependent variable: dichotomous indicator of conflict; pre-Cold War and Cold War Comparisons).

	(1)	(2)	(3)	(4)
	1816-1913	1914-1945	1816-1945	1946-1991
Different Civilizations	.153*** (0.00)	.036* (0.10)	.064** (0.02)	-.002 (0.81)
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	39010	47432	86442	282061
Standardized Magnitude(%)	58.67	33.12	31.66	-3.69

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. All marginal effects are multiplied by 100 for the sake of readability. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All regressions include time fixed effects and past conflict dummies. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years.

Table 7. Breaking Down Civilizations; Correlation Matrix

	Different Civilizations	Different Religion	Different Language	Different Ethnicity
Different Civilizations	1			
Different Religion	0.39*	1		
Different Language	0.37*	0.20*	1	
Different Ethnicity	0.23*	0.11*	0.38*	1

* Significant at the 1 percent level or better.

Table 8. Different Majority Religion and Conflict, probit, full set of controls, 1950-2001.

(Dependent variable: dichotomous indicator of conflict.)

	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	post-Cold War
Different Majority Religion	.006 (0.56)	.004 (0.72)	-.00002 (0.99)	.006 (0.38)
Different Religion×Post-Cold War		.009 (0.65)		
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	146790	146790	101233	45557
Standardized Magnitude(%)	8.86	12.64	-.028	27.98

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different majority religion dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 9. Different Majority Language and Conflict, probit, full set of controls, 1950-2001.

(Dependent variable: dichotomous indicator of conflict.)

	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	post-Cold War
Different Majority Language	-.014 (0.39)	-.029 (0.13)	-.051** (0.04)	.018** (0.05)
Different Language×Post-Cold War		.073** (0.01)		
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	143451	143451	101233	42218
Standardized Magnitude(%)	-20.2	100.1	-57.1	66.95

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different majority language dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 10. Different Majority Ethnicity and Conflict, probit, full set of controls, 1950-2001.

(Dependent variable: dichotomous indicator of conflict.)

	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	post-Cold War
Different Majority Ethnicity	-.039** (0.04)	-.050** (0.02)	-.067** (0.01)	.006 (0.64)
Different Ethnicity×Post-Cold War		.037 (0.24)		
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	144910	144910	99591	45319
Standardized Magnitude(%)	-50.9	48.64	-74.36	20.56

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different majority ethnicity dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 11. Alternative Estimators, full set of controls, 1950-2001.
(Dependent variable: dichotomous indicator of conflict; Cold War
and post-Cold War Comparisons).

Panel A: Linear Probability Model				
	(1)	(2)	(3)	(4)
	Entire	Entire	Cold	Post
	Sample	Sample	War	Cold War
Different Civilizations	.04 (0.62)	-.06 (0.52)	-.102 (0.25)	.306*** (0.00)
Different Civilizations×Post-Cold War		.313*** (0.00)		
# of Obs.	149646	149646	101463	48183
Panel B: Logit				
	(1)	(2)	(3)	(4)
	Entire	Entire	Cold	Post
	Sample	Sample	War	Cold War
Different Civilizations	.001 (0.89)	-.009 (0.47)	-.017 (0.23)	.024* (0.07)
Different Civilizations×Post-Cold War		.036** (0.04)		
# of Obs.	149639	149639	101456	48183
Panel C: ReLogit				
	(1)	(2)	(3)	(4)
	Entire	Entire	Cold	Post
	Sample	Sample	War	Cold War
Different Civilizations	.011 (0.92)	-.093 (0.47)	-.160 (0.22)	.399* (0.08)
Different Civilizations×Post-Cold War		.36** (0.05)		
# of Obs.	149646	149646	101463	48183
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Marginal effects are reported in all columns with the exception of the ReLogit regressions. For dummy variables, marginal effects are for discrete changes from 0 to 1. All marginal effects are multiplied by 100 for the sake of readability. All regressions include time fixed effects and past conflict dummies. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 12. Alternative Cold War Cutoff Years, probit, full set of controls, 1950-2001.

(Dependent variable: dichotomous indicator of conflict; Cold War and post-Cold War Comparisons).

Panel A: Last Year of Cold War=1988				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.004 (0.69)	-.011 (0.46)	-.026 (0.15)	.026** (0.02)
Different Civilizations×Post-Cold War		.046** (0.04)		
# of Obs.	149639	149639	88907	60732
Panel B: Last Year of Cold War=1989				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.004 (0.69)	-.008 (0.54)	-.022 (0.18)	.026** (0.02)
Different Civilizations×Post-Cold War		.042** (0.05)		
# of Obs.	149639	149639	93096	56543
Panel C: Last Year of Cold War=1990				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.004 (0.69)	-.006 (0.66)	-.024 (0.18)	.023** (0.01)
Different Civilizations×Post-Cold War		.041* (0.06)		
# of Obs.	149639	149639	97237	52402
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. All marginal effects are multiplied by 100 for the sake of readability. All regressions include time fixed effects and past conflict dummies. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 13. Alternative Dependent Variables, full set of controls, 1950-2001. (Cold War and post-Cold War Comparisons).

Panel A: Conflict Intensity, OLS				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.066 (0.83)	-.337 (0.37)	-.473 (0.19)	1.068** (0.02)
Different Civilizations×Post-Cold War		1.25*** (0.00)		
# of Obs.	149646	149646	101463	48183

Panel B: Conflict ≥ 2, Probit				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.0006 (0.96)	-.009 (0.55)	-.027 (0.19)	.021** (0.02)
Different Civilizations×Post-Cold War		.043* (0.07)		
# of Obs.	149639	149639	101456	48183

Panel C: Conflict ≥ 4, Probit				
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	-.010 (0.19)	-.015 (0.11)	-.028** (0.02)	.003 (0.39)
Different Civilizations×Post-Cold War		.014 (0.37)		
# of Obs.	149639	149639	101456	48183

Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 14. Bellicose Dyads, probit, full set of controls, 1950-2001.
(Dependent variable: dichotomous indicator of conflict; Cold War and post-Cold War Comparisons).

	Panel A: Bellicose Dyads Only			
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.481*	.271	-.020	1.38***
	(0.08)	(0.36)	(0.94)	(0.00)
Different Civilizations×Post-Cold War		.889*		
		(0.07)		
# of Obs.	19105	19105	14388	4717
<hr/>				
	Panel B: Drop Top 1% War-Prone Dyads of Bellicose Dyads			
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	.093	.079	-.288	.751**
	(0.64)	(0.72)	(0.23)	(0.02)
Different Civilizations×Post-Cold War		.057		
		(0.88)		
# of Obs.	17346	17346	13188	4158
<hr/>				
	Panel C: Drop Top 1% War-Prone Dyads of All Dyads			
	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	Post Cold War
Different Civilizations	-.002	-.005	-.026*	.011**
	(0.76)	(0.64)	(0.08)	(0.05)
Different Civilizations×Post-Cold War		.007		
		(0.67)		
# of Obs.	147880	147880	100256	47624
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. All marginal effects are multiplied by 100 for the sake of readability. All regressions include time fixed effects and past conflict dummies. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

Table 15. Genetic Distance in Comparison, probit, full set of controls, 1950-2001.

(Dependent variable: dichotomous indicator of conflict.)

	(1)	(2)	(3)	(4)
	Entire Sample	Entire Sample	Cold War	post-Cold War
Different Civilizations	.016 (0.14)	.007 (0.55)	-.003 (0.82)	.021*** (0.00)
Different Civilizations×Post-Cold War		.040** (0.05)		
Genetic Distance	-.00004*** (0.00)	-.00004*** (0.00)	-.00005*** (0.00)	-.00001*** (0.00)
Year Fixed Effects	YES	YES	YES	YES
Past Conflict Dummies	YES	YES	YES	YES
Additional Controls	YES	YES	YES	YES
# of Obs.	148556	148556	101107	47449
Standardized Magnitude(%)	23.18	58.04	-4.31	76.16

Robust p-values clustered at the dyad level in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%. Probit marginal effects are reported in all columns. For dummy variables, marginal effects are for discrete changes from 0 to 1. The standardized magnitude is the effect of a discrete change from 0 to 1 in *different civilizations dummy* as a percentage of the probability of conflict at the means of the variables. All marginal effects are multiplied by 100 for the sake of readability. In addition to the variables reported all regression columns include Contiguity, Log Geodesic Distance, Log Absolute Difference in Latitudes, Log Absolute Difference in Longitudes, Number of Landlocked Countries in the Pair, Number of Island Countries in the Pair, Log Product of Land Areas in sq km, Ever in Colonial Relationship, Common Colonizer, Countries were or are the Same Country, Different Legal Origins, Sum of Democracy Indexes, Number of Major Powers in the Pair, Log Absolute Difference in Military Capabilities, Alliance Dummy, Number of Other Wars in t, Number of Peaceful Years, Absolute Difference in Log per capita Income, Log Bilateral Openness (t-4), Log Multilateral Openness (t-4), Log Distance×Log Bilateral Openness, Log Distance×Log Multilateral Openness.

A Appendix

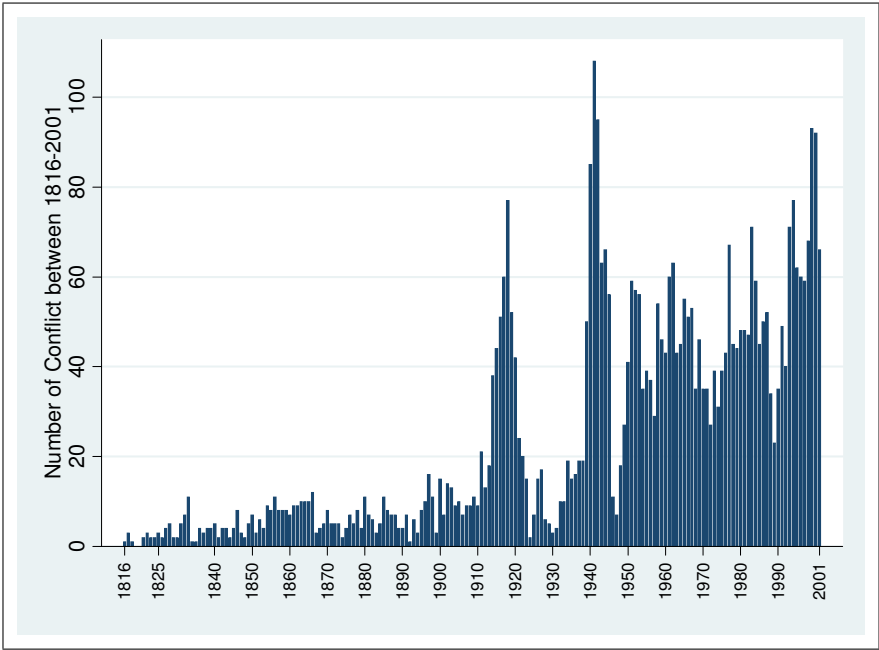


Figure 1A: Number of Conflict, 1816-2001

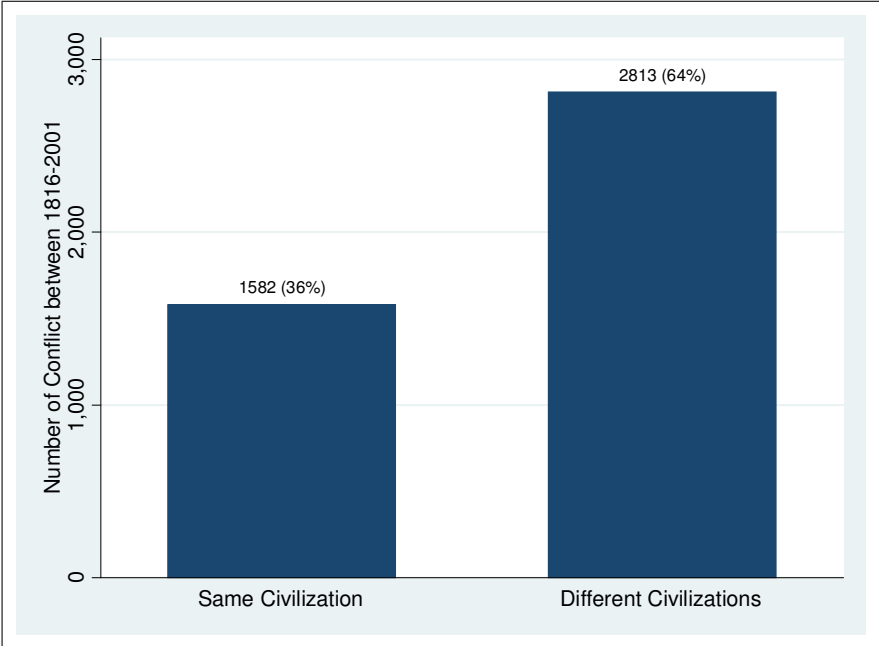


Figure 2A. Number of Conflict, 1816-2001 (Same Civilization and Different Civilizations Breakdown)

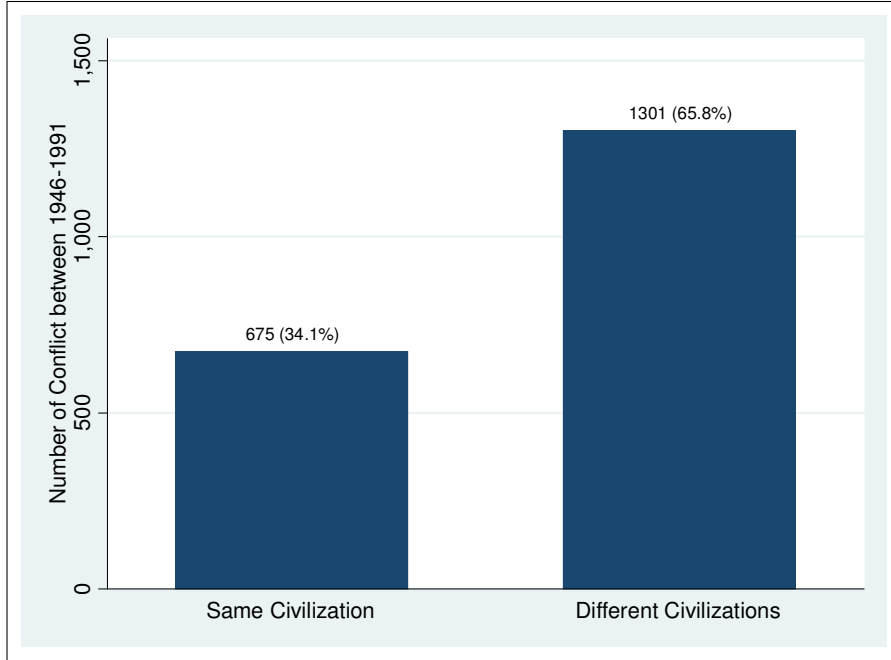


Figure 3A. Number of Conflict, 1946-1991 (Same Civilization and Different Civilizations Breakdown)

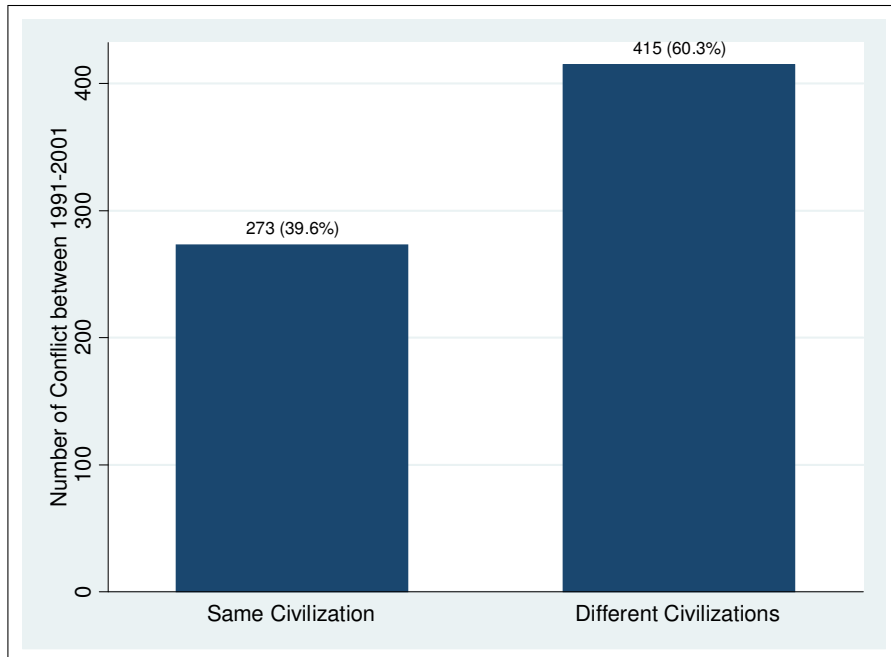


Figure 4A. Number of Conflict, 1991-2001 (Same Civilization and Different Civilizations Breakdown)

TABLE 1A. Civilization Membership

Civilization	Country
Western	Andorra, Australia, Austria, Barbados, Belgium, Canada, Croatia, Czech Rep., Denmark, Dominica, Estonia, Finland, France, French Guiana, Germany, Greenland, Grenada, Hungary, Iceland, Ireland, Israel, Italy, Jamaica, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Papua New Guinea, Philippines, Poland, Portugal, San Marino, Slovakia, Slovenia, Solomon Islands, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, United States, Vanuatu.
Sinic	China, Hong Kong, North Korea, South Korea, Taiwan, Vietnam.
Islamic	Afghanistan, Albania, Algeria, Azerbaijan, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei, Burkina Faso, Chad, Djibouti, Egypt, Eritrea, Gambia, Guinea, Guinea-Bissau, Indonesia, Iran, Iraq, Jordan, Kyrgyzstan, Kuwait, Lebanon, Libya, Malaysia, Mali, Mauritania, Morocco, Niger, Oman, Pakistan, Qatar, Saudi Arabia, Senegal, Somalia, Sudan, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Yemen.
Hindu	Guyana, India, Nepal.
Orthodox	Armenia, Belarus, Bulgaria, Cyprus, Georgia, Greece, Kazakhstan, Macedonia, Moldova, Romania, Russia, Serbia, Ukraine.
Latin American	Antigua and Barbuda, Argentina, Bahamas, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Rep., Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Lucia, St.Vincent & Grenadines, Uruguay, Venezuela.
African	Angola, Benin, Botswana, Burundi, Cameroon, Cape Verde, Central African Republic, Comoros, Congo, Congo Dem. Rep. (Zaire), Equatorial Guinea, Gabon, Ghana, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Sao Tome and Principe, Sierra Leone, South Africa, Suriname, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.
Buddhist	Bhutan, Cambodia, Lao People's Dem. Rep., Mongolia, Myanmar, Singapore, Sri Lanka, Thailand.
"Lone" States	Ethiopia, Haiti, Japan.

Source: Author's own construction based on Huntington (1998).

TABLE 2A. Number of Conflicts within and across Civilizations between 1946-1991.

<i>Civilizations</i>	<i>Western</i>	<i>Sinic</i>	<i>Islamic</i>	<i>Hindu</i>	<i>Orthodox</i>	<i>Latin American</i>	<i>African</i>	<i>Buddhist</i>	<i>Lone States</i>
<i>Western</i>	35 (1.7%)								
<i>Sinic</i>	200 (10%)	97 (4.9%)							
<i>Islamic</i>	387 (19.5)	14 (.7%)	241 (12.1%)						
<i>Hindu</i>	4 (.2%)	33 (1.6%)	52 (2.6%)	3 (.15%)					
<i>Orthodox</i>	130 (6.5%)	41 (2.0%)	56 (2.8%)	0	14 (.7%)				
<i>Latin American</i>	67 (3.3%)	7 (.35%)	8 (.4%)	10 (.5%)	5 (.25%)	90 (4.5%)			
<i>African</i>	29 (1.4%)	0	32 (1.6%)	3 (.15%)	2 (.1%)	21 (1%)	127 (6.4%)		
<i>Buddhist</i>	11 (.55%)	77 (3.8%)	2 (.1%)	5 (.25%)	5 (.25%)	0	0	68 (3.4)	
<i>Lone States</i>	5 (.25%)	28 (1.4%)	33 (1.6%)	0	27 (1.3%)	7 (.35%)	0	0	0

Source: Author's own construction. Percentages are in parentheses.

TABLE 3A. Number of Conflicts within and across Civilizations between 1991-2001.

<i>Civilizations</i>	<i>Western</i>	<i>Sinic</i>	<i>Islamic</i>	<i>Hindu</i>	<i>Orthodox</i>	<i>Latin American</i>	<i>African</i>	<i>Buddhist</i>	<i>Lone States</i>
<i>Western</i>	10 (1.4%)								
<i>Sinic</i>	30 (4.3%)	30 (4.3%)							
<i>Islamic</i>	65 (9.4%)	1 (.14%)	98 (14.2%)						
<i>Hindu</i>	1 (.14%)	0	13 (1.8%)	0					
<i>Orthodox</i>	138 (20%)	2 (.29%)	87 (12.6%)	0	31 (4.5%)				
<i>Latin American</i>	7 (1%)	0	0	1 (.14%)	2 (.29%)	28 (4%)			
<i>African</i>	2 (.29%)	0	21 (3%)	2 (.29%)	0	0	66 (9.5%)		
<i>Buddhist</i>	0	3 (.43%)	1 (.14%)	1 (.14%)	0	0	0	10 (1.4%)	
<i>Lone States</i>	10 (1.4%)	13 (1.8%)	5 (.72%)	0	6 (.87%)	3 (.43%)	1 (.14%)	0	0

Source: Author's own construction. Percentages are in parentheses.

TABLE 4A. Summary Statistics

Variable	# Obs.	Mean	Std. Dev.	Min	Max
Conflict (%)	590337	.744	8.596	0	100
Different Civilizations	590337	.807	.394	0	1
Contiguity Dummy	590337	.046	.210	0	1
Log Distance	589696	8.714	.8009	4.29	9.89
Log Absolute Latitude Difference	586598	2.903	1.135	-4.09	4.64
Log Absolute Longitude Difference	586818	3.735	1.21	-4.60	5.61
# Landlocked Countries in a Dyad	586845	.347	.535	0	2
Log Product of Land Area	586845	24.30	3.077	9.86	32.76
Colonial Relationship Dummy	599328	.0159	.125	0	1
Common Colonizer Dummy	501041	.094	.291	0	1
Part of Same Polity Dummy	593424	.0107	.103	0	1
Different Legal Origins Dummy	613318	.632	.482	0	1
Sum of Democracy Indexes	490839	-.3869	10.6	-20	20
# Major Powers in a Dyad	608431	.108	.323	0	2
Log Absolute CINC Difference	589315	-5.944	2.02	-18.42	-.957
Alliance Dummy	613297	.057	.232	0	1
# Other Wars in Year t	607076	22.57	19.05	0	107
# Peaceful Years	590337	27.89	27.32	0	186
Absolute Log Income Difference	278897	2.812	2.039	.0000095	12.26
Log Bilateral Openness	225272	-6.887	2.27	-16.78	2.13
Log Multilateral Openness	225448	-1.387	.848	-10.41	8.95
Genetic Distance	709471	1070.29	810.93	0	3375
Different Religion	512181	.627	.483	0	1
Different Language	432289	.956	.204	0	1
Different Ethnicity	445003	.966	.180	0	1

B Data Appendix

Geographic Factors Geographical proximity is considered to be one of the strongest determinants of war (Gleditsch and Singer, 1975; Henderson, 1997). As one of the measures of geographical proximity territorial contiguity is shown to be a strong predictor of conflict (Bremer, 1992). The proximity of interactions is likely to offer both the opportunity and the willingness to engage in conflict. Therefore, we take contiguity as one of the control variables. Contiguity variable takes value one if there is any land or water contiguity between two countries in a pair, zero otherwise.²⁵

As in Spolaore and Wacziarg (2010), we also control for additional geographic distance metrics such as the measure of the great circle (geodesic) distance between the major cities of the countries²⁶, latitudinal and longitudinal distances and indicators of geographic isolation and geographic barriers such as number of landlocked countries in a dyad and the land area of the countries.²⁷ Large countries, for instance, might be more difficult to defend and at the same time they might have important minorities which could be a source of conflict. Lastly, we use the number of islands in a dyad as an additional geographic barrier.²⁸

Political Factors Factors which might have contributed to the current state of the institutions and to the state of the matters between two countries go back in history. To control for such historical, political and institutional links we include a dummy variable for whether a dyad ever had a colonial relationship, i.e. whether one was a colony of the other at some point in time. In addition, we have a dummy variable for whether a pair of countries have had a common colonizer after 1945, i.e. whether the two countries have been colonized by the same third country. Furthermore, governing bodies leave their legacy on cultural, historical, political and institutional ties and this requires inclusion of a dummy variable to control for whether two countries have ever been part of the same polity.²⁹

Different legal origins have been shown to have strong implications for institutional outcomes (La Porta et al., 1999). These institutional outcomes may, in turn, shape the conflict pattern between two countries. Therefore, we create a dummy variable for whether two countries in a pair have different legal origins. This variable takes value one if the two countries in a dyad have different legal origins, zero otherwise. Legal origin indicators are from La Porta et al. (1999) and are based on the following legal systems: common law, French civil law, German civil law, Scandinavian law and Socialist law.

²⁵For contiguity data we use Correlates of War Project, Direct Contiguity Data, 1816-2006, Version 3.1 (Stinnett et al., 2002). See also Gochman (1991) for additional details.

²⁶See Head and Mayer (2002) for details.

²⁷These data are compiled by the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). The data are available at <http://www.cepii.fr/anglaisgraph/bdd/distances.htm>.

²⁸Number of islands variable is created based on the data acquired from Global Island Database, available at <http://gid.unep-wcmc.org/>, and CIA The World Factbook, available at <https://www.cia.gov/library/publications/the-world-factbook/index.html>.

²⁹These data come as well from CEPII. The data are available at <http://www.cepii.fr/anglaisgraph/bdd/distances.htm>.

Democratic peace argument suggests that democratic countries are less prone to violence and democracy promotes peace (Levy and Razin, 2004). We measure the extent of democracy using the 21-point institutionalized democracy scale in a modified version of the Polity IV data where -10 means a hereditary monarchy and +10 a consolidated democracy.³⁰ As in Martin et al. (2008), we use the sum of the democracy indexes of the two countries in a pair.

Military Factors The idea that an equal balance of military capabilities deters conflict in a contest of arms forces us to control for relative military capabilities of countries (Russett et al., 2000). To this end, we use National Material Capabilities data set. The widely-used Composite Index of National Capability (CINC) index is based on six variables in the data set: total population, urban population, iron and steel production, energy consumption, military personnel, and military expenditure of all state members.³¹

Major military actors are expected to be positively associated with dispute involvement (Chiozza, 2002). Hence, we control for the number of countries with major power status in a dyad as designated by the authors of the Correlates of War Project.³²

Widespread expectations about allies are that they fight each other less as they are already in agreement regarding their concerns of security. Likewise, allied states often have other political and economic interests in common (Russett et al., 2000). To control for the influence of alliances on conflict, we include a dummy variable for whether a pair of countries are in some form of alliance.³³

Furthermore, to take into consideration the continuity of conflictual relationships we create a variable for the number of peaceful years between two countries since the last conflict between them has occurred. This way of controlling for temporal dependence is classical in political science.

Lastly, in order to control for the contagion and the spillover from other disputes we construct a variable that takes into account the number of other wars in the world in year t .

Economic Factors Following the idea of Spolaore and Wacziarg (2010) who find that income differences have an effect on the likelihood of conflict, we take into account the absolute value of the log income difference between two countries in a dyad from

³⁰The suggested way of categorization and interpretation of these scores by the project authors is as follows. Scores from -10 to -6 correspond to "autocracies", from -5 to +5 to "anocracies" and from +6 to +10 to "democracies". The data are available at <http://www.systemicpeace.org/polity/polity4.htm>.

³¹We use National Material Capabilities data set Version 4.0 from Correlates of War Project. For details see also Singer (1987) and Singer et al. (1972).

³²Our data come from State System Membership List Version 2008.1 of Correlates of War Project. The designation of major powers also follows COW criteria and includes Austria-Hungary (1816–1918), Prussia/Germany (1816–1918, 1925–1945), Russia/USSR (1816–1917, 1922–), France (1816–1940, 1945–), United Kingdom (1816–), Italy (1860–1943), Japan (1895–1945), United States (1898–), and China (1949–). China, France, the USA, the UK, and the USSR are classified as major powers since 1945, as are the German Federal Republic and Japan after 1991.

³³Alliances data are Version 3.03 from Correlates of War Project (Gibler, 2009; Gibler and Sarkees, 2004). These data originally date back to Singer and Small (1966) and Small and Singer (1969).

1950 on.³⁴

One would also need to not overlook trade relations as economic dependence makes countries less daring when it comes to conflict involvement. For instance, Russett et al. (2000) divide the sum of a country's exports and imports with its dyadic partner by its GDP to see how much this bilateral trade relation is economically important. They claim that, as in the case of the influence of democratic institutions, one expects the likelihood of a dispute to be primarily influenced by the freedom of action available to the state less constrained from using force, i.e. the state with the lower bilateral trade-to-GDP ratio, because it is less economically dependent on trade with the other member of the dyad. On the other hand, Martin et al. (2008) and Spolaore and Wacziarg (2010) take into account bilateral openness between a pair of countries and their multilateral openness with third parties. Following this stream we use bilateral and multilateral openness together with their interaction with distance. Bilateral openness is constructed by dividing the trade volume between a pair of countries by the GDP of each country and then taking the average. Multilateral openness, on the other hand, is constructed by dividing the trade volume with third parties of each country in a pair by its GDP and then taking the average.³⁵

³⁴For income data we use Penn World Tables Version 6.2 available at http://pwt.econ.upenn.edu/php_site/pwt_index.php.

³⁵Trade data come from Correlates of War Project, Trade Data Set, Version 2.0. See also Barbieri et al. (2008, 2009).

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