# *Notes and Comments*

## *Cultural Distance and Interstate Conflicts*

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In 1993, in his controversial 'The Clash of Civilizations' thesis, Samuel Huntington argues that cultural identity is to become the principal focus of individual allegiance and could ultimately lead to an increasing number of clashes between states, regardless of political incentives and constraints. In the post-Cold War world in particular, Huntington[1] argues, the main source of conflict would not be ideological, political or economic differences but rather cultural. In other words, fundamental differences between the largest blocks of cultural groups – the so-called 'civilizations' – would increase the likelihood of conflict along the cultural fault lines separating those groups.

According to Huntington,[2] a civilization is 'the highest cultural grouping of people and the broadest level of cultural identity people have'. This definition is imprecise and is difficult to operationalize. Huntington argues that the world could be divided into discrete macro-cultural areas, the Western, Latin American, Confucian (Sinic), Islamic, Slavic-Orthodox, Hindu, Japanese, Buddhist, and a 'possible African' civilization.[3] As the list makes clear, the central defining characteristic of a civilization is religion and, in fact, conflicts between civilizations are mostly between peoples of different religions while language is a secondary distinguishing factor.[4]

In the following years, his thesis has been the subject of a number of empirical studies on the effect of cultural differences on conflict.[5] Interestingly, however, while the methods are quite similar, they fail to reach a consensus on the very existence of a 'clash of civilizations'. In fact, only Bolks and Stoll,[6] Tusicisny,[7] Ellis,[8] and Gokmen[9] lend empirical support to Huntington's thesis. Common to all of these studies is the extensive reliance on dichotomous variables to mark the cultural identity of each state in the international system. In fact, virtually all of the above studies use Huntington's minimalist classification, the only exceptions being Henderson[10] and Gartzke and Gleditsch,[11] who look at cultural, linguistic and religious

[1] Huntington 1993.
[2] Huntington (1996), p. 41.
[3] Huntington 1996.
[4] See Huntington 1996.
[5] See Bolks and Stoll 2003; Charron 2010; Chiozza 2002; Ellis 2010; Gartzke and Gleditsch 2006; Gokmen 2012; Henderson 1997; Henderson 1998; Henderson and Tucker 2001; Russett, Oneal and Cox 2000; Tusicisny 2004.
[6] Bolks and Stoll 2003.
[7] Tusicisny 2004.
[8] Ellis 2010.
[9] Gokmen 2012.
[10] Henderson 1997; Henderson 1998.
[11] Gartzke and Gleditsch 2006.

similarity within dyads (i.e., whether A and B have the same dominant linguistic, ethnic or religious group). Nevertheless, they reach similar conclusions: religious similarity within dyads decreases the risk of war onset, while both ethnic and linguistic similarity have the opposite effect.[12]

Despite the efforts to move beyond Huntington's oversimplification, they still suffer from the limitations inherent in the 'dichotomization' of a continuous concept. There are two unfortunate consequences of this. First, while states might not share the exact same culture in most of the cases, they often still have some degree of commonality of culture. To put it differently, the likelihood that two countries share a common identity is a function of their cultural distance. This means that cultural and linguistic differences fit more easily along a continuum rather than within distinct boxes. As culture forms identities, it is the *share* of common identity which makes it more likely that states have common norms, similar perceptions, ideas and preferences. If anything then, cultural bonds or, conversely, cultural distances between two countries are likely to affect their conflicting interactions. Similarly, the *degree* of cultural similarities makes coordination, and, as a result, the resolution of a conflict less problematic.[13] The extent of similarities then, or the cultural distance between countries, should imply better coordination and communication channels between them, and in turn, should lower the chances of observing militarized conflict between them. We conjecture that the reason why the previous literature failed to reach a consensus is the dichotomous nature of the culture variables used. This choice reduces the dimensionality of the problem significantly. Therefore, this may not allow one to capture enough variation, which makes identification all the more difficult.

Secondly, the above studies consider countries' individual identities as immutable objects. This shortcoming is all the more remarkable as it ignores the fact that the very religious, racial and ethnic make-up of modern societies have dramatically changed in the last few decades as a consequence of mass migration. According to the World Bank, the global migrant stock almost doubled between 1960 and 2000, rising from 92 million to 165 million.[14] As a consequence of this, the populations in modern societies have become substantially more heterogeneous along traditional dimensions such as national origin or ethnicity. New immigrants from Asia and Latin America have added a large degree of cultural diversity to the US population in recent decades, just as waves of immigrants from Eastern Europe are changing the composition of West European societies and South–South migrations are profoundly changing the structure of the receiving countries. By ignoring the time-varying dimension of culture, the above studies have failed to duly account for the changing nature of modern societies. Yet, to date there has been no attempt to improve our understanding of what defines cultural distances in the first place, and which elements of cultural distance matter the most in determining inter-state wars.

This Research Note offers an extensive empirical analysis of the relationship between identity and interstate disputes by including a number of *ad-hoc* measures of cultural distance in the benchmark empirical models on the likelihood of militarized interstate disputes. By moving beyond simple indicators of common religion or similar language, our findings suggest that conflict is more likely between culturally distant countries. For example, the average marginal effect of the index of international language barrier on the probability of conflict relative to the average probability of conflict is around 65 per cent. Overall, we find that the average marginal impact of cultural distance on the likelihood of conflict relative to the average probability of conflict is in the range of 10 per cent to 129 per cent. Our results are robust to the inclusion of a nearly exhaustive set of other known determinants of interstate war and to different model specifications.

In the following sections we first describe the data on cultural distance and, in the next section, the methodological approach. We then discuss the results and provide some conclusive remarks. In the Online Appendix we further review the literature on the conceptualization of cultural distance, include some empirical models with the full set of control variables, and identify a number of questions to explore in future research. In particular, we discuss the 'cultural homogeneity' assumption; we suggest more refined measures of cultural distance, using e.g., geo-referenced cultural zones; and we consider in more details our additional findings on the issue of conflict escalation.

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[12] Gartzke and Gleditsch (2006) also find some evidence that some same-religion dyads are more conflict prone than mixed dyads.

[13] See e.g., Bakaki, Böhmelt and Bove 2015; Beardsley 2011; Bercovitch and Elgström 2001; Fearon 1995.

[14] Özden et al. 2011.

MEASURING CULTURAL DISTANCE

To capture cross-cultural variations between states effectively, we employ five different indexes along linguistic and cultural distances. First, to capture the linguistic distance between two countries, we use the *language barrier* index, which has been recently used to show that language barriers are significantly negatively correlated with bilateral trade.[15] The language barrier for a pair of languages is calculated using linguistic data provided by the World Atlas of Languages, which gives detailed information on 2,650 languages. In particular, for each language, the atlas provides up to 139 linguistic features, which fall into ten linguistic categories. Each feature assumes one of several values. All features listed for each language pair are considered, and a score 0 is assigned if a feature has the same value for both languages, and the score 1 if the values differ from each other. The average of the resulting list of scores is the language barrier, which ranges between 0 and 1. No language barrier, i.e. the two languages are basically identical, is signified by 0, and 1 means two languages have no features in common (e.g., Tonga–Bangladesh). Since more than one language is spoken in some countries, we employ two alternative indexes: the basic *language barrier*, which uses the main official languages, as well as the *international language* barrier, which uses the most widely spoken world languages.

Secondly, we adopt Kogut and Singh's[16] *standardized measure of cultural differences* as well as an improved version provided by Kandogan.[17] Although the degree of cultural differences is notably difficult to conceptualize, Kogut and Singh[18] offer a simple and standardized measure of cultural distance, which is based on Hofstede's dimensions of national culture.[19] In particular, Kogut and Singh[20] develop a mathematical measure of 'cultural distance' (CD) as a composite index based on the deviation from each of Hofstede's four national culture scales:[21] power distance, uncertainty avoidance, masculinity/femininity, and individualism.[22]

These dimensions of culture are rooted in people's values, where values are 'broad preferences for one state of affairs over others …; they are opinions on how things are and they also affect our behavior'.[23] As such, by explicitly taking into account the values held by the majority of the population in each of the surveyed countries, these dimensions can effectively capture differences in countries' norms, perceptions, and ways to deal with conflicting situations. Higher cultural distance pertains to higher divergence in opinions, norms or values. This should, in turn, affect the odds of conflict between countries.

The method used by Kogut and Singh is widely adopted by a large number of scholars, in particular in international business and economics, where it has been applied to foreign investment expansion, entry mode choice, and the performance of foreign invested affiliates, among others.[24] Yet, Kandogan demonstrates that this method is based on the assumption of zero covariance between different dimensions of culture.[25] Since this assumption might fail for several cultural dimensions of countries measured by Hofstede,[26] we also use Kandogan's modification to this measure that corrects for this potentially weak assumption,[27] and hence produces more accurate measures of cultural distance.

[15] Lohmann 2011.
[16] Kogut and Singh 1988.
[17] Kandogan 2012.
[18] Kogut and Singh 1988.
[19] Hofstede 1980.
[20] Kogut and Singh 1988.
[21] Hofstede 1980.
[22] More specifically, power distance can be regarded as the strength of social hierarchy; uncertainty avoidance is the discomfort with uncertainty and ambiguity; masculinity vs. femininity is the preferences for achievement, heroism, assertiveness, and material rewards for success vs. co-operation, modesty, caring for the weak, and quality of life; and individualism vs. collectivism is the preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their families in contrast to preferences for a society in which individuals expect members of a particular in-group to look after them in exchange for loyalty.
[23] Hofstede (1985), p. 347.
[24] Kogut and Singh 1988.
[25] Kandogan 2012.
[26] Hofstede 1980.
[27] Kandogan 2012.

TABLE 1    *Summary Statistics of Cultural Distance Variables*

|  | Mean | Std. Dev. | Min. | Max. | Obs. |
|---|---|---|---|---|---|
| Language Barrier | 0.428 | 0.201 | 0 | 1 | 197,422 |
| International Language Barrier | 0.366 | 0.200 | 0 | 1 | 203,166 |
| Cultural Distance (Kogut) | 9.639 | 0.949 | 5.398 | 11.554 | 83,409 |
| Cultural Distance (Kandogan) | 9.695 | 0.856 | 5.262 | 11.503 | 83,409 |
| Cultural Distance (WVS) | 0.999 | 0.342 | 0.048 | 1.737 | 4,568 |

TABLE 2    *Correlations across Variables of Interest*

|  | Language Barrier | (ILB) | (Kogut) | (Kandogan) |
|---|---|---|---|---|
| International Language Barrier (ILB) | 0.610* | | | |
| Cultural Distance (Kogut) | 0.044* | 0.033* | | |
| Cultural Distance (Kandogan) | 0.061* | 0.051* | 0.940* | |
| Cultural Distance (WVS) | 0.215* | 0.205* | 0.400* | 0.325* |

*Means significant at the 1% level.

Thirdly, to cross-validate our empirical findings on cultural distance and to duly take into account societal dynamics and changes in the composition of societies, we use another popular quantitative measure of cultural distance, which is based on the World Values Surveys (WVS). Conducted between 1998 and 2006, the surveys provide standardized data for a broad and varying set of issues related to economics, politics, religion, gender roles, family values, communal identities, civic engagement, ethical concerns, environmental protection, and scientific and technological progress.[28] We use the composite value of two dimensions, traditional vs. secular-rational values and survival vs. self-expression values, which account for more than 70 per cent of the cross-cultural variance. The traditional vs. secular-rational values dimension captures the difference between societies in which religion is very important and those in which it is not. In particular, societies closer to the traditional pole are more likely to display difference to authority and show high degrees of national pride and a nationalistic outlook while societies with secular-rational values have opposite preferences. The second dimension is linked to the transition from industrial society to post-industrial societies. Societies near the self-expression pole tend to prioritize well-being and the quality of life issues, such as women's emancipation and equal status for racial and sexual minorities, over economic and physical security. Broadly speaking, members of the societies in which individuals focus more on survival find foreigners and outsiders, ethnic diversity, and cultural change to be threatening. The distance between two countries is simply the absolute value of the difference between their scores while the aggregate distance is the square root of the sum of squared differences. Since the surveys were not conducted on an annual basis, our yearly measure of cultural distance is obtained by linear interpolation.

Table 1 reports the summary statistics for our variables of interest, cultural distance variables.[29] All of our variables of interest have sizeable variation to allow us to capture the effect of cultural distance on conflict. The means and the standard deviations of Language Barrier and International Language Barrier variables have comparable values. Similarly, the means and the standard deviations of the two Cultural Distance variables according to Kogut and Kandogan are very close.

Additionally, Table 2 presents pairwise correlations across our cultural variables of interest. We observe that all of the cultural distance variables are positively and significantly correlated. Language Barrier is highly correlated with International Language Barrier, 61 per cent, and Kogut's Cultural Distance is very highly correlated with Kandogan's Cultural Distance, 94 per cent. Interestingly, Cultural Distance (WVS)

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[28] See Inglehart and Welzel (2005) for more details.
[29] Summary statistics for all the remaining variables are reported in the Online Appendix Table A.1.

based on the World Values Survey also shows positive correlation with the remaining cultural distance measures. Thus, these correlations tell us that all the cultural distance measures not only capture some common underlying element of culture, but they also account for some distinct characteristic of culture that is not captured with the remaining measures.

CONTROL VARIABLES AND EMPIRICAL STRATEGY

We estimate the impact of cultural differences on military conflict by building on two recent and nearly exhaustive analyses of the determinants of Militarized Interstate Disputes (MIDs),[30] Martin, Mayer and Thoenig[31] and Gartzke and Gleditsch.[32]

We start by estimating a model similar to the benchmark specifications of Martin, Mayer and Thoenig,[33] which use a large dataset of military conflicts on the 1950–2000 period. We choose this model over other alternatives as it possibly has the most exhaustive list of controls that can potentially affect the probability of MIDs. The model is a logistic regression with robust standard errors adjusted for clustering by dyads. The purpose of the original model is to show that countries more open to global trade have a higher probability of war because multilateral trade openness reduces the cost of a bilateral conflict by decreasing bilateral dependence; accordingly, Martin, Mayer and Thoenig include both measures of bilateral openness (i.e. the average of bilateral import flows over Gross Domestic Product (GDP)) and multilateral trade openness (i.e. the average of total imports of the two countries excluding their bilateral imports divided by their GDPs). Other control variables are year dummies, whose coefficients are not reported, and a set of twenty different dummies (coefficients also unreported) coded as 1 when the country pair was involved in an MID in $t-1$, $t-2$, … $t-20$ to control for the temporal autocorrelation in wars. The model also includes variables which are common in the trade literature such as a dummy of zero trade; an index of similarity of language; the existence of a preferential trade area; the number of General Agreement on Tariffs and Trade or World Trade Organization (GATT/WTO) members in the country pair; and dummies of colonial relationship and a dummy for country pairs with a common colonizer.[34] Political controls include the sum of areas of the two countries (in log); the sum of democracy indexes; and measures of political affinity such as the United Nations vote correlation (lagged by four years) and a dummy for the presence of a military alliance within a country pair. Finally, to deal with the issue of cross-sectional serial correlation of wars, Martin, Mayer and Thoenig include the number of MIDs in which the countries of the pair are involved in time $t$ (excluding their potential bilateral MID), and the distance to the nearest current war which does not involve a country from the pair.

To assess the sensitivity of our results, we also build on Garzke and Gleditsch's model specifications.[35] The likelihood of a militarized dispute in a dyad is estimated by a logit model with robust standard errors clustered at the pair level and cubic splines that take into account temporal dependencies and heteroskedasticity. The analysis includes all dyad years between 1950 and 2001. Gartzke and Gleditsch's model controls for the (log of) distance between capital cities; a dummy variable scored 1 if there is direct geographic contiguity; the lowest value of the polity score and the lowest value of the GDP per capita (in log) for the two countries in a dyad; the logged ratio of the larger to smaller GDP (called capability ratio); a dichotomous variable scored 1 if at least one state in a dyad is classified as a major power;[36] a dummy scored 1 if a dyad entails the presence of a defence pact, neutrality pact, or entente, based on the Correlates of War (COW) Alliance data[37] and the number of peaceful years (since the last MID) between the two countries.

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[30] Both articles use MID data from the Correlates of War project.
[31] Martin, Mayer and Thoenig 2008.
[32] Gartzke and Gleditsch 2006.
[33] Martin, Mayer and Thoenig 2008.
[34] Martin, Mayer and Thoenig (2008, p.884) introduce these controls as they 'are related to the cultural, historical, political, and institutional ties between countries, and they may also affect the probability of military conflict'.
[35] Gartzke and Gleditsch 2006.
[36] China, France, the USA, the UK, and the USSR are major powers since 1945 and German Federal Republic and Japan since 1991, according to the Correlates of War Classification.
[37] Gibler and Sarkees 2004.

Table A.1 in the Online Appendix presents some summary statistics on the number of observations and the frequency of war for the full sample 1950–2001, as well as the same summary statistics for the independent variables of the two alternative models.

Results are reported in Tables 3–7. To facilitate the reading, we only show our variables of interest and anticipate that the results are largely consistent with expectations and previous studies when we turn to our control variables. We refer the interested readers to the Online Appendix, Tables A.2 and A.3, for the full set of control variables and to the corresponding models in Martin, Mayer and Thoenig[38] and Gartzke and Gleditsch[39] for a full discussion of them.

As we said above, we start our analysis in Table 3 with specifications following Martin, Mayer and Thoenig. We assess the impact of our cultural distance measures on conflict. All five measures of cultural distance have a positive effect on conflict involvement. In other words, culturally more distant states fight more on average. In column (i) of Table 3, we see that Language Barrier positively affects conflict, although insignificant. When we take into account International Language Barrier in column (ii), however, it has a positive and significant effect on conflict involvement. This should not come as a surprise as the part of the culture of a country that is reflected in a language should be more related to the spoken languages than to the official ones. To assess the magnitude of the effects, for each model we calculate the standardized marginal effect as the average marginal effect of a cultural distance variable on the probability of conflict relative to the average probability of conflict, which is about 0.0066. This effect is sizeable for International Language Barrier and is around 65 per cent. When we use the Cultural Distance (Kogut) measure, instead, the results are qualitatively similar. Cultural distance increases the probability of conflict and this effect is significant at the 1 per cent level. The standardized marginal effect, however, is reduced this time around, and is about 14 per cent. The standardized marginal effect of Cultural Distance (Kandogan) on conflict probability is similar at 11 per cent, with a significance level of 10 per cent. The effect of Cultural Distance (WVS) is also positive and significant. However, the large standardized marginal effect should be interpreted with caution as the number of countries that are in the WVS is limited due to data availability. All the results from our cultural distance measures considered together, evidence suggests that cultural distance increases the likelihood of interstate militarized conflict.[40]

Additionally, in Figure 1, we present the odds ratios of the coefficients of Table 3 together with their 95 per cent confidence intervals. For example, holding all other variables constant, we would see a 25 per cent and 19 per cent increase in the odds of conflict for a one-unit increase in Cultural Distance (Kogut) and Cultural Distance (Kandogan) variables, respectively; while the same increase in Language Barrier raises the odds of conflict by 52 per cent.

Next, in Table 4, we consider politically relevant dyads. A dyad is politically relevant either when the two countries are contiguous or when one of them is a major power. This sample restriction is often used by conflict researchers as such dyads are supposed to be more at risk of international conflict.[41] The results are qualitatively similar, although the effects of International Language Barrier and Cultural Distance (WVS) are larger for politically relevant dyads. For example, on average, one-unit increase in the Cultural Distance (Kogut) variable increases the probability of conflict by almost 12 per cent with respect to the average probability of conflict, whereas this effect is about 77 per cent for International Language Barrier. We also observe some reduction in the significance levels; however, this should be expected as we are working with a much smaller sample size now.

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[38] Martin, Mayer and Thoenig 2008.
[39] Gartzke and Gleditsch 2006.
[40] In a two-step selection model, we also explored the effects of cultural distance on escalation. The results are insignificant. While cultural distance increases the likelihood of conflict, it has no effect on escalation once a dyad is in conflict. We provide more details about this exercise in the online appendix.
[41] Lemke and Reed 2001.

TABLE 3     *Cultural Distance and International Conflict*

| Dependent Variable: MID | i | ii | iii | iv | v |
|---|---|---|---|---|---|
| Language Barrier | 0.420 | | | | |
| | (0.286) | | | | |
| International Language Barrier | | 1.069*** | | | |
| | | (0.309) | | | |
| Cultural Distance (Kogut) | | | 0.230*** | | |
| | | | (0.088) | | |
| Cultural Distance (Kandogan) | | | | 0.178* | |
| | | | | (0.097) | |
| Cultural Distance (WVS) | | | | | 2.801* |
| | | | | | (1.543) |
| Standardized Marginal Effect | 25.37 | 64.96 | 13.63 | 10.56 | 129.36 |
| N | 197,422 | 203,166 | 83,409 | 83,409 | 4,568 |

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.
*Notes*: Robust standard errors are given in parentheses clustered by dyad. Controls: Log Distance, Contiguity, Sum Areas, Colonial Link, Number of Peaceful Years, Alliance, UN Vote Correlation, Sum of Democracy Indexes, Number of Other Wars, Log Distance to Nearest War, Log Bilateral Openness, Log Multilateral Openness, Zero Trade Dummy, Common Official Language, Free Trade Areas, Number of GATT members in the Dyad, time fixed-effects and past conflict dummies (last 20 years).

TABLE 4     *Cultural Distance and International Conflict, Politically Relevant Dyads*

| Dependent Variable: MID | i | ii | iii | iv | v |
|---|---|---|---|---|---|
| Language Barrier | 0.354 | | | | |
| | (0.318) | | | | |
| International Language Barrier | | 1.242*** | | | |
| | | (0.326) | | | |
| Cultural Distance (Kogut) | | | 0.197** | | |
| | | | (0.095) | | |
| Cultural Distance (Kandogan) | | | | 0.131 | |
| | | | | (0.106) | |
| Cultural Distance (WVS) | | | | | 7.829** |
| | | | | | (3.801) |
| Standardized Marginal Effect | 21.86 | 76.92 | 11.71 | 7.84 | 234.87 |
| N | 251,11 | 255,62 | 135,44 | 135,44 | 930 |

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.
Robust standard errors are given in parentheses clustered by dyad.
Controls: Log Distance, Contiguity, Sum Areas, Colonial Link, Number of Peaceful Years, Alliance, UN Vote Correlation, Sum of Democracy Indexes, Number of Other Wars, Log Distance to Nearest War, Log Bilateral Openness, Log Multilateral Openness, Zero Trade Dummy, Common Official Language, Free Trade Areas, Number of GATT members in the Dyad, time fixed-effects and past conflict dummies (last 20 years).

    In Tables 5 and 6, we evaluate the robustness of our main results to alternative estimation methods. We reproduce our main results using a probit model and a linear probability model respectively, and, by and large, the results carry over, with the sole exception that International Language Barrier has no effect in a linear probability model.[42] Interestingly, the marginal effects in Table 5 are close to those of Table 3. For instance, the standardized marginal effects of Cultural Distance (Kogut) and Cultural Distance (Kandogan) variables are 12 per cent and 9 per cent, respectively. The sizes of the coefficients in Table 6 allow for a

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[42] We also assessed the robustness of our results to the rarity of ones in the dependent variable using rare events logit model, and the previous findings carry over.

TABLE 5    *Alternative Methods: Probit*

| Dependent Variable: MID | i | ii | iii | iv | v |
|---|---|---|---|---|---|
| Language Barrier | 0.127 | | | | |
| | (0.116) | | | | |
| International Language Barrier | | 0.412*** | | | |
| | | (0.131) | | | |
| Cultural Distance (Kogut) | | | 0.093** | | |
| | | | (0.037) | | |
| Cultural Distance (Kandogan) | | | | 0.071* | |
| | | | | (0.042) | |
| Cultural Distance (WVS) | | | | | 0.978* |
| | | | | | (0.525) |
| Standardized Marginal Effect | 17.28 | 56.37 | 12.26 | 9.36 | 99.21 |
| N | 197,422 | 203,166 | 83,409 | 83,409 | 4,568 |

$*p < 0.10$, $**p < 0.05$, $***p < 0.01$.
Robust standard errors are given in parentheses clustered by dyad.
Controls: Log Distance, Contiguity, Sum Areas, Colonial Link, Number of Peaceful Years, Alliance, UN Vote Correlation, Sum of Democracy Indexes, Number of Other Wars, Log Distance to Nearest War, Log Bilateral Openness, Log Multilateral Openness, Zero Trade Dummy, Common Official Language, Free Trade Areas, Number of GATT members in the Dyad, time fixed-effects and past conflict dummies (last 20 years).

TABLE 6    *Alternative Methods: Linear Probability Model*

| Dependent Variable: MID | i | ii | iii | iv | v |
|---|---|---|---|---|---|
| Language Barrier | −0.001 | | | | |
| | (0.001) | | | | |
| International Language Barrier | | 0.0004 | | | |
| | | (0.002) | | | |
| Cultural Distance (Kogut) | | | 0.001*** | | |
| | | | (0.000) | | |
| Cultural Distance (Kandogan) | | | | 0.001* | |
| | | | | (0.000) | |
| Cultural Distance (WVS) | | | | | 0.008*** |
| | | | | | (0.002) |
| Standardized Marginal Effect | −21.60 | 8.16 | 19.10 | 12.43 | 159.17 |
| N | 197,422 | 203,166 | 83,409 | 83,409 | 5,313 |

$*p < 0.10$, $**p < 0.05$, $***p < 0.01$.
Robust standard errors are given in parentheses clustered by dyad.
Controls: Log Distance, Contiguity, Sum Areas, Colonial Link, Number of Peaceful Years, Alliance, UN Vote Correlation, Sum of Democracy Indexes, Number of Other Wars, Log Distance to Nearest War, Log Bilateral Openness, Log Multilateral Openness, Zero Trade Dummy, Common Official Language, Free Trade Areas, Number of GATT members in the Dyad, time fixed-effects and past conflict dummies (last 20 years).

direct reading, and can be interpreted as slopes or elasticities. Although they indicate a very small marginal impact of cultural distance on the probability that two countries are at war, remember that the absolute probabilities themselves are small as militarized disputes between states are rare overall. In fact, the standardized marginal effects relative to the average probability provide a more appropriate interpretation. For example, these effects are about 19 per cent and 12 per cent for Cultural Distance (Kogut) and Cultural Distance (Kandogan) variables, respectively. We can conclude from these two tables that the previous expectations about cultural distance and conflict are strongly borne out by this new set of empirical results. Our results are not sensitive to the method of estimation, and cultural distance increases the likelihood of conflict.

TABLE 7     *Gartzke–Gleditsch Specification*

| Dependent Variable: MID | i | ii | iii | iv | v |
|---|---|---|---|---|---|
| Language Barrier | 0.740** | | | | |
| | (0.356) | | | | |
| International Language Barrier | | 1.313*** | | | |
| | | (0.370) | | | |
| Cultural Distance (Kogut) | | | 0.262** | | |
| | | | (0.118) | | |
| Cultural Distance (Kandogan) | | | | 0.227* | |
| | | | | (0.128) | |
| Cultural Distance (WVS) | | | | | 1.510** |
| | | | | | (0.590) |
| Standardized Marginal Effect | 66.14 | 116.99 | 22.95 | 19.91 | 105.01 |
| N | 360,784 | 372,402 | 122,392 | 122,392 | 6,801 |

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.
Robust standard errors are given in parentheses clustered by dyad.
Controls: Log Distance, Contiguity, Lower of Democracy score, Lower of GDP per capita, Trade to GDP ratio, Capability ratio, Major Power, Alliance, Peace Years, Cubic Splines.
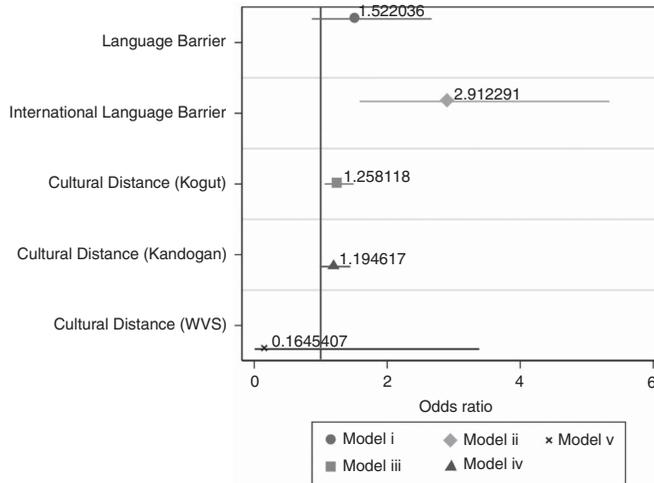


Fig. 1. *Odds ratios of Table 3 coefficients.*
*Note:* Cultural Distance (WVS) is scaled down by 100 for the sake of readability.

To assess the robustness of our results to model specification, we build on Garzke and Gledtisch's model. Two key points distinguish our efforts from theirs: the inclusion of new, continuous and time-varying proxies for cultural distance, and the alternative splines. Table 7 presents the results. Our previous findings are confirmed one more time. The results are qualitatively similar, and cultural distance positively impacts the likelihood of militarized interstate disputes. In addition, it is worth pointing out that the significance levels are improved now and the marginal effects are larger compared to the previous models of Table 3. From the above tables, exploring various estimation techniques and specifications, we feel confident in concluding that cultural distance has an impact on militarized interstate disputes, and it significantly and substantively increases the probability of conflict. Lastly, one might argue that there is reverse causality in our models. We do not deem the potential problem of endogeneity as a major concern. The consensus in the literature suggests that variables such as language, religion or culture are pre-determined

to subsequent conflict.[43] Given the period under study covers conflict in the second half of the twentieth century, such persistent and slow-moving cultural variables should not suffer from endogeneity to a great extent.

CONCLUSIONS

Samuel Huntington's thesis on the 'Clash of Civilizations' is one of the most fascinating and debated issues in the field of international relations, and has sparked a long-lasting debate about its validity among academics, practitioners and policy makers. The scholarly literature on international studies has long grappled with how to define, characterize and analyze his thesis. Although some of the seminal works provided little support to Huntington's thesis, later studies seemed partially to confirm it. While most of these studies use Huntington's measure of the concept of civilizations, his classification was tentative, imprecise and difficult to operationalize. Moreover, previous studies rely on a 'dichotomization' of civilizations, which is a continuous concept, and treat it as an immutable object, while it is certainly subject to variation over time.

Political events in recent years, such as the NATO–Russia confrontation over Ukraine, Russia's attempts to resurrect its cultural and political dominance in the former Soviet sphere, the unprecedented rise of Islamic extremism in the Middle East, the foundation of an organization like ISIS with a declared aim of building a Muslim caliphate and waging war on Western civilization, or the rise of independence and anti-EU movements in Europe, have been attributed by many political observers to cultural clashes. We argue that whether and how identity impacts the likelihood of militarized interstate dispute hinges crucially on the definition and operationalization of 'civilizations' or cultural similarity.

Therefore, we introduce a number of *ad hoc* measures of cultural distance in the benchmark empirical models on the likelihood of militarized interstate disputes. Regardless of how we deal with the definition of cultural distance, the empirical evidence points consistently towards the importance of cultural distance in explaining the odds of inter-state conflict. Although the extent of evidence for an effect of cultural distance on conflict clearly depends on model specification and data considerations, in particular the size of the effect, our results suggest that conflict is more likely between culturally distant countries.

SUPPLEMENTARY MATERIAL

For supplementary material/s referred to in this article, please visit http://dx.doi.org/doi:10.1017/S0007123415000551

LIST OF REFERENCES

Bakaki, Zorzeta, Tobias Böhmelt, and Vincenzo Bove. 2015. Barriers to Coordination? Examining the Impact of Culture on International Mediation Occurrence and Effectiveness. *Political Studies*, May 2015; DOI: 10.1111/1467-9248.12199.

Beardsley, Kyle. 2011. *The Mediation Dilemma*. Ithaca, N.Y.: Cornell University Press.

Bercovitch, Jacob, and Ole Elgström. 2001. Culture and International Mediation: Exploring Theoretical and Empirical Linkages. *International Negotiation* 6 (1):3–23.

Bolks, Sean, and Richard Stoll. 2003. Examining Conflict Escalation within the Civilizations Context. *Conflict Management and Peace Science* 20 (2):85–109.

Charron, Nicholas. 2010. Déjà Vu All Over Again: A Post-Cold War Empirical Analysis of Samuel Huntington's 'Clash of Civilizations' Theory. *Cooperation and Conflict* 45 (1):107–27.

Chiozza, Giacomo. 2002. Is There a Clash of Civilizations? Evidence from Patterns of International Conflict Involvement, 1946–97. *Journal of Peace Research* 39 (6):711–34.

Ellis, Glynn. 2010. Gauging the Magnitude of Civilization Conflict. *Conflict Management and Peace Science* 27 (3):219–38.

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[43] Gartzke and Gleditsch 2006; Henderson 1997; Martin, Mayer and Thoenig 2008.

Fearon, James D. 1995. Rationalist Explanations for War. *International Organization* 49 (3):379–414.

Gartzke, Erik, and Kristian Skrede Gleditsch. 2006. Identity and Conflict: Ties that Bind and Differences that Divide. *European Journal of International Relations* 12 (1):53–87.

Gibler, Douglas M., and Meredith Reid Sarkees. 2004. Measuring Alliances: The Correlates of War Formal Interstate Alliance Dataset, 1816–2000. *Journal of Peace Research* 41 (2):211–22.

Gokmen, Gunes. 2012. *Clash of Civilizations, Culture and Conflict*, technical report, Network of European Peace Scientists, Working Paper No. 8/2012.

Henderson, Errol A. 1997. Culture or Contiguity Ethnic Conflict, the Similarity of States, and the Onset of War, 1820–1989. *Journal of Conflict Resolution* 41 (5):649–68.

Henderson, Errol Anthony. 1998. The Democratic Peace through the Lens of Culture, 1820–1989. *International Studies Quarterly* 42 (3):461–84.

Henderson, Errol A., and Richard Tucker. 2001. Clear and Present Strangers: The Clash of Civilizations and International Conflict. *International Studies Quarterly* 45 (2):317–38.

Hofstede, Geert. 1980. *Culture's Consequences: National Differences in Thinking and Organizing*. New York: Sage.

——. 1985. The Interaction between National and Organizational Value Systems. *Journal of Management Studies* 22 (4):347–57.

Huntington, Samuel P. 1993. The Clash of Civilizations? *Foreign Affairs* 72 (3):22–49.

——. 1996. *The Clash of Civilizations and the Remaking of World Order*. Gurgaon, Haryana: Penguin Books India.

Inglehart, Ronald, and Christian Welzel. 2005. *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. Cambridge: Cambridge University Press.

Kandogan, Yener. 2012. An Improvement to Kogut and Singh Measure of Cultural Distance Considering the Relationship among Different Dimensions of Culture. *Research in International Business and Finance* 26 (2):196–203.

Kogut, Bruce, and Harbir Singh. 1988. The Effect of National Culture on the Choice of Entry Mode. *Journal of International Business Studies* 19 (3):411–32.

Lemke, Douglas, and William Reed. 2001. The Relevance of Politically Relevant Dyads. *Journal of Conflict Resolution* 45 (1):126–44.

Lohmann, Johannes. 2011. Do Language Barriers Affect Trade? *Economics Letters* 110 (2):159–62.

Martin, Philippe, Thierry Mayer, and Mathias Thoenig. 2008. Make Trade Not War? *Review of Economic Studies* 75 (3):865–900.

Özden, Çağlar, Christopher R. Parsons, Maurice Schiff, and Terrie L. Walmsley. 2011. Where on Earth is Everybody? The Evolution of Global Bilateral Migration 1960–2000. *World Bank Economic Review* 25 (1):12–56.

Russett, Bruce M., John R. Oneal, and Michaelene Cox. 2000. Clash of Civilizations, or Realism and Liberalism Déjà Vu? Some Evidence. *Journal of Peace Research* 37 (5):583–608.

Tusicisny, Andrej. 2004. Civilizational Conflicts: More Frequent, Longer, and Bloodier? *Journal of Peace Research* 41 (4):485–98.