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Religions, Rulers, and Conflict

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ABSTRACT: Although civil conflicts seem highly correlated with religion, no robust empirical relationship has been found between religious fragmentation and civil conflict in modern societies. We argue that the religious roots of today's civil conflicts lie deeply in history. The argument is based on a political economy approach centered on the legitimizing function of religion, with the implication that the salience of religious fragmentation would be magnified by rulers who favored co-religionists in the distribution of public goods, which would plant the seeds of grievance and conflict among the disfavored groups. We test the resulting hypotheses using a new dataset that includes annual information regarding the religious and political histories of today's nations since the year 1000. The results show that the likelihood of today's conflicts is higher in societies that historically experienced not just religious fragmentation but rulers who shared religion with one of the groups. We address endogeneity concerns between religious fragmentation and civil conflicts by exploiting variation across countries in their travel cost (walking time) to religious "capitals" of the world. Instrumental variable analysis indicates that the presence of historical religious fragmentation that could be exploited by rulers accounts for a substantial portion of civil conflicts between 1960 and 2017. Discrimination and grievances served as channels of transmission.

KEYWORDS: Civil conflict, conflict, religion, historical roots, political economy, legitimacy, grievance, state capacity, geographic distance, religious difference

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RELIGION, RULERS, AND CONFLICT

By

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1. INTRODUCTION

Although civil conflicts seem highly correlated with religion, the reasons for this association are far from clear. Many of the violent conflicts in modern times have been between parties that differ along religious lines, or they involve groups that define themselves through religious affiliation in their opposition against rulers. Despite the seemingly obvious role of religious fragmentation in these conflicts, researchers have struggled to determine how these differences lead to violence.[1] We cannot simply attribute violence to religious beliefs, because all major religions foster peace and cooperation in fundamental tenets and prescribe peaceful solutions as the preferred means of resolving conflicts. Since religious differences do not always result in violent conflicts, we need to delve deeper into this association to distinguish between those differences that result in violence and other differences that produce peaceful coexistence.

This paper will examine the roots of today's civil conflicts that lie deeply in religious and political history. We argue that civil conflicts are more likely in societies that historically experienced religious fragmentation in a way that could motivate rulers to favor co-religionists over others and lead to the accumulation of discrimination and grievances over time. The argument is based on a political economy approach that focuses on the legitimizing function that religion could play for rulers vis-à-vis citizens by lowering costs of tax collection from co-religionists. In return, the rulers could favor this group over others in the allocation of public goods or economic rights and resources. The manner in which the ruler can bestow his favor could be in the provision of religious goods and services that are not fully available to the disfavored group(s) or in the enactment of laws that limit the access of other groups to employment or educational opportunities. History is replete with examples of favoritism by rulers, such as when military service or certain prestigious occupational opportunities were reserved to members of ruler's own religious group or when states adopted official religions that received exclusive support for personnel, buildings, and activities (Johnson and Koyama, 2019; Coşgel and Miceli, 2009; Coşgel, Histen, Miceli, and Yıldırım, 2018). The effects of this differential treatment accumulate over time, creating discrimination and grievances that may lead to future conflicts. The upshot of the argument is that today's religious conflicts arise not because of religious fragmentation in contemporary societies, nor even merely because of religious fragmentation in history, but because historical fragmentation was coupled with rulers who had reason to favor co-religionists in a fragmented society.

[1] McBride and Richardson (2012: 118), Montalvo and Reynal-Querol (2019: 257).

To examine the argument empirically, we have developed a novel dataset comprising the religious and political histories of today's nations since the year 1000, including annual data on the religion of the political rulers and the main religion and the substantial secondary religion, if any, of the population (Coşgel, 2016). We use this information to mark the years for which the territories corresponding to today's nations had religious fragmentation (presence of substantial secondary religion) and whether the political ruler shared religion with a segment of the population. By aggregating this information over time, we construct indices that measure the fractions of years during which a territory experienced religious fragmentation in its history and the fraction of years during which religious fragmentation coincided with shared religion with the ruler. We run regression analysis to estimate the effects of these variables on measures of civil conflict, controlling for the effects of geography and other exogenous characteristics of territories.

The baseline results of the OLS analysis show that civil conflict in the post-1960 period have been significantly higher in societies that experienced a higher frequency of episodes during which historical religious fragmentation coincided with shared religion with the ruler. The presence of historical religious fragmentation has a significant positive effect on civil conflict when included by itself in the analysis (along with control variables). But the effect of religious fragmentation becomes negative and the significance of this variable disappears as soon as its interaction of with shared religion with the ruler is also introduced in the model.

We address potential endogeneity between civil conflicts and historical religious fragmentation by exploiting the variation among countries in the cost of travel (walking time) to centers of universal religions of the world (Buddhism, Christianity, Islam). We include appropriate geographic variables in the analysis to mitigate potential concerns regarding the exclusion principle. The results of two-stage least squares estimation are consistent with the OLS results, but they show a substantial rise in the magnitude of the effects on civil conflicts of religious fragmentation and fragmentation coupled with shared religion with the ruler, indicating the presence of omitted variables, such as migration or conversion, which caused the OLS method to underestimate the effect of these key variables on civil conflicts. Overall, the results confirm the main argument that religion's effect on today's conflicts come not from contemporary or historical religious fragmentation, but from the deep-rooted effects of historical fragmentation that was coupled with rulers who could favor co-religionists in fragmented societies.

To compare the explanatory power of our key variables against traditional measures of diversity, we check how our results change when we include various other measures of ethnic, religious, and linguistic fractionalization and polarization in the analysis. "Horse race" regressions show that the combined effect of historical religious fragmentation and shared religion with rulers remain consistently significant across different specifications. In all cases, traditional measures based on contemporary data from modern societies have an insignificant effect on civil conflicts, supporting our broad contention that the source of these conflicts lie deeply in history.

We extend the baseline model and perform various tests to check the robustness of our results to alternative specifications. Whereas the dependent variable in the baseline model is a measure of the onset of conflict, we run the same analysis with different measures that consider the intensity and subcategories of governmental and territorial

conflict. In the same vein, we test to see if our results differ across inter-religious and non-inter-religious conflict, or are sensitive to the inclusion of additional controls on income and population, institutions and colonial history, technological frontiers, and exclusion of certain geographic regions from the dataset. Finally, we report on the results of a series of robustness checks estimated under different values of certain parameters and alternative methods of estimation.

In addition, we examine the potential channels that transmitted the effect of shared religion with rulers in fragmented societies to today. Based on our theoretical reasoning, we would expect discrimination and grievances to be among the proximate factors that served in this capacity. To test this expectation, we use data from the All Minorities at Risk dataset regarding political, economic, and cultural grievances and discrimination. The results support the argument that historical religious fragmentation compounded by rulers who could favor co-religionists raised the likelihood of civil conflicts today through the mediating channels of grievances and discrimination.

Our analysis is related to the empirical literature on the determinants of civil conflict, particularly the effect of population diversity. [2] We contribute to this literature a historical political economy approach and a new empirical methodology that uncovers the deep roots of religion's importance in population diversity as a source of conflict. Researchers in this literature have shown how conflict in a diverse society arises out of the difficulty of reconciling the demands for public good provision of different groups under scarcity. If the demands of some groups are unsatisfied, they may develop grievances that lead to civil conflict. These type of grievance-related explanations were examined through traditional measures of diversity, such as indices of fractionalization (large number of small groups), polarization (small number of large groups), and dominance (a large group together with substantial small group), all of which were calculated from data on the distributions of contemporary populations. The findings have been mixed and largely inconclusive.[3] In a pathbreaking development in the literature, Arbatlı et al. (2019) have recently shifted the focus to the deep determinants of conflict, using human genetic diversity as a proxy and exploiting the distance to East Africa via migratory paths as an exogenous source of variation to show that population diversity, determined a long time ago, has contributed significantly to civil conflicts.[4] Following their lead, we emphasize the religious roots of today's civil conflicts that lie deep in history and develop new data and an identification strategy to estimate the effects of historical fragmentation that could be exploited by rulers favoring co-religionists.

In direct relation to the empirical literature on the association between religion and civil conflict, we contribute the first robust empirical analysis of the religious roots of conflicts. [5] Whereas previous analysis of this association focused on religious fragmentation

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[2] For reviews of this literature and examples, see Blattman and Miguel (2010), Garfinkel and Skaperdas (2012).

[3] See, for example, Basedau et al 2016; Collier and Hoeffler 2004; Desmet et al. (2017); Esteban, Mayoral, and Ray, 2012; Fearon and Laitin, 2003; Huber and Mayoral, 2019; and Montalvo and Reynal-Querol, 2005.

[4] Their emphasis on the historical origins of conflict is consistent with the recent literature on the deep historical roots of economic growth and development. For reviews of this literature, see Ashraf and Galor (2018), Nunn (2014), and Spolaore and Wacziarg (2013).

[5] Our analysis is also related to a body of literature that explains conflict through religion-based hatred and irreconcilable hostility between groups (Huntington 1996). Rather than consider the hatred and hostility as

in modern societies, we shift the focus to historical fragmentation. Early empirical studies in the literature typically used indices of fractionalization to measure the effect of religious diversity. They were unable to find a robust relationship between religious fractionalization and civil conflicts, largely because of the inability of indices of fractionalization to capture aspects of religious fragmentation relevant to conflict (Montalvo and Reynal-Querol, 2019: 257). Although the latter introduction of indices of polarization has enhanced the analysis of the effect of *ethnic* diversity on conflict (Montalvo and Reynal-Querol, 2005; Esteban, Mayoral, and Ray, 2012), researchers have been less successful in the analysis of the effect of *religious* diversity, likely because of their continued reliance on data for modern societies. Moreover, both the indices of fractionalization and polarization have been fraught with problems of endogeneity between religious diversity and conflict in modern societies. We overcome these difficulties by introducing measures of religious fragmentation that use historical data and by proposing a novel identification strategy that exploits variation across countries in their travel cost to religious "capitals" of the world. As a result, we find robust, well-identified results regarding the association between religion and civil conflict.

2. THEORETICAL FRAMEWORK

It seems fairly obvious to hypothesize that religious fragmentation in a society represents a potential source of civil conflict. Although the linkage may seem self-evident, scholars so far have failed to determine the specific pathway through which religious fragmentation causes conflict. It is necessary and important to investigate the linkage, both to gain a fuller conceptual understanding of the causes of conflict, and to address econometric issues that might arise in consequence of the causal effect. The particular pathway that we propose is based on previous work that has emphasized the role of religion as a legitimizing force for government.[6] Specifically, religious leaders declare a ruler to be divine or divinely inspired, which then lowers the costs of tax collection. In return, the state may favor members of that religious group by giving it preferential access to various public goods or other economic rights or resources. Over time, however, this favoritism can lead to the accumulation of grievances that may eventually erupt into open conflict.

To understand this logic, note that in societies with multiple religious groups, a situation that we take as given, the religious community may not speak with a consistent voice with respect to the policies of the secular government. In particular, one religion may be more sympathetic to the ruler or more willing to grant legitimacy to the government's actions. This will be especially true if the ruler is actually a member of one of the religions. In that case, members of the ruler's religion will naturally be less resistant to paying taxes as compared to members of other religions, and as a consequence, the ruler will find it in his material interests to shift resources toward members of the favored religion to the point where marginal tax revenues are equalized across groups.

To illustrate this mechanism more formally, suppose there are two religions in a given society, one of which includes the ruler as a member. Let the ruler's religion

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being a matter of current religious beliefs and preferences, however, we examine their historical roots, and use an empirical strategy to estimate their effect on conflict.

[6] See, for example, Cosgel and Miceli (2009) and Cosgel, et al. (2012).

comprise a fraction α of the population, while the other religion comprises the remaining fraction, $1-\alpha$. We make no assumption about α—i.e., the ruler's religion may comprise a majority or a minority of the population. We assume that the taxable output of each group (its "tax capacity") depends on the allocation of public goods in society, which is under the control of the ruler. For simplicity, we suppose that there is a fixed supply of such goods, normalized to one, which is divided between the two groups. Let θ be the fraction assigned to the religion shared by the ruler, while $1-\theta$ is the fraction assigned to the other religion. Finally, let the per-capita gross output of each group be given by a function $B(\cdot)$, which is an increasing and concave function of the allocation of public goods to that group. Members of each group are therefore assumed to be equally productive, with output depending only on each group's access to public goods within society. The resulting overall level of taxable output in society, or total tax capacity, is thus equal to $\alpha B(\theta)+(1-\alpha)B(1-\theta)$.

The amount of taxes actually collected, however, will necessarily fall short of the maximum potential taxes due to collection costs, reflecting citizens' resistance to taxation. We capture this by a parameter δ, which reflects the fraction of potential revenue dissipated by the process of collection. Here is where legitimacy comes into play: if the ruler is perceived of as being more legitimate by one of the religious groups (presumably his own), members of that group will be less resistant to paying taxes, and so tax collection costs will be lower. Thus, if $\delta_1$is the cost of collection for members of the ruler's religion, and δ_2 is the cost for members of the other religion, then $\delta_1<\delta_2$. The actual taxable output thus becomes

$$\alpha B(\theta)(1-\delta_1) + (1-\alpha)B(1-\theta)(1-\delta_2) \qquad (1)$$

The ruler will choose θ to maximize this quantity, which yields the first-order condition[7]

$$\frac{B'(\theta)}{B'(1-\theta)} = \frac{(1-\alpha)(1-\delta_2)}{\alpha(1-\delta_1)} \qquad (2)$$

It follows that if tax-collection costs are equal, public goods would be assigned to the two groups strictly in proportion to their sizes, which presumably would not represent a source of grievance across groups. In other words, access to public goods would be roughly equal on a per capita basis.

However, if members of the ruler's religion view him as being more legitimate, as we have hypothesized, that group will receive a disproportionate share of public goods, reflecting their greater willingness to comply with taxation.[8] This unequal treatment will possibly give rise to grievances on the part of the undersupplied group, which has the potential of generating a revolt. Of course, a rational ruler will recognize this threat and will therefore presumably strive to limit the discriminatory treatment to a degree that just avoids an uprising.[9] Individual rulers, however, will tend to be shortsighted in the their calculations and will fail to foresee the *accumulation* of grievances over time, which may eventually ripen into future conflict. Alternatively, a ruler may simply miscalculate the

[7] The second-order condition for a maximum is satisfied given the concavity of the B functions.

[8] Specifically, (2) implies that $\partial\theta/\partial\delta_1<0$, given $B''<0$. Thus, if $\delta_1=\delta_2$, $\theta/(1-\theta)$ will be proportional to $\alpha/(1-\alpha)$, but as δ_1 falls, θ will rise, all else equal.

[9] See Cosgel and Miceli (2009) for a formal model of this.

degree of discrimination that will trigger violence at any point in time. In any case, according to this theory, it is not the existence of religious fragmentation *per se*, nor the majority status of one religion, that are the sources of conflict. Rather, it is the consistent favoritism of one group over the other, owing to the legitimizing function of religion, which is the actual causal mechanism.

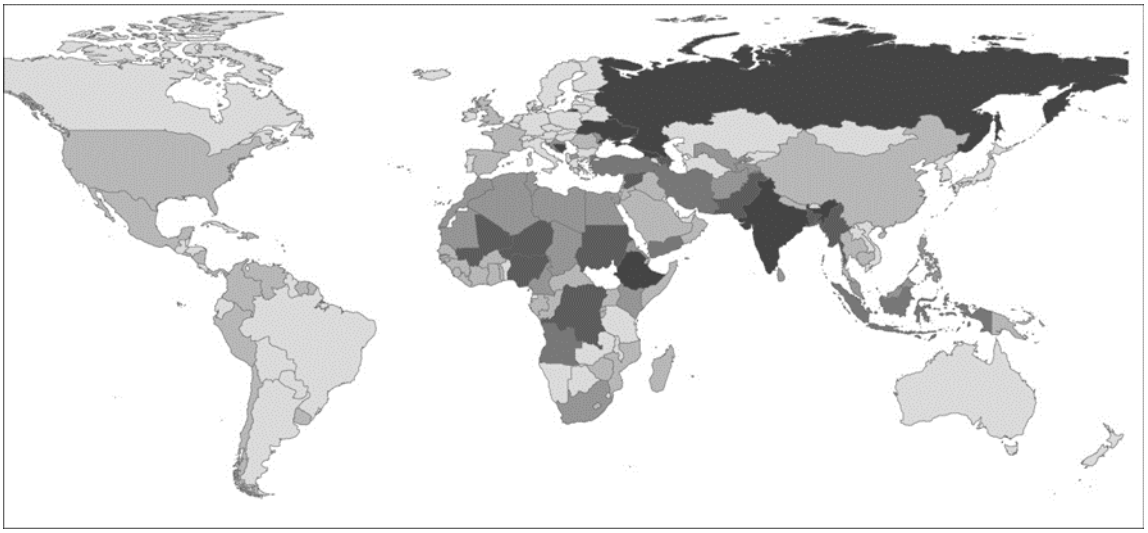
3. DATA AND QUANTITATIVE ANALYSIS

3.1. Conflict Data

To analyze the argument's predictions empirically, we use cross-national data on civil conflicts as well as on other characteristics of countries that likely influenced the occurrence of conflicts. Regarding data on civil conflicts, we first use the measures available in the UCDP/PRIO Armed Conflict Dataset.[10] This dataset defines civil conflict as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths."[11] Consistent with the literature, we focus on civil conflicts in the post-1960 period, because most colonies obtained their independence by 1960.

Based on a broad interpretation of our argument regarding the persistent influence of deep-rooted grievances on all types of civil conflicts by all groups, for our baseline regressions we generate a conflict-year version of the UCDP/PRIO dataset and calculate the average number of new civil conflict eruptions per year during the period between 1960 and 2017 in each country. Figure 1 shows the geographic distribution of this variable throughout the world.

Figure 1
Average number of new civil conflict eruptions per year (1960-2017)



[10] Version 18. See Gleditsch et al., 2002; Pettersson and Eck, 2018.
[11] For the operationalization of the separate elements of this definition of conflict, see http://www.pcr.uu.se/research/ucdp/definitions/.

To check for the robustness of our results to this specification, in a subsequent section we will run the same regressions with other measures and subcategories of conflicts.[12] Finally, we will use variables from the "Religion and Conflict in Developing Countries" dataset of Basedau et al. (2016), which differentiates between inter-religious and other types of conflicts, to determine how our results apply to this distinction. Appendix A shows the means and standard deviations of various measures of conflict used in our analysis.

3.2. Historical Religious Fragmentation

We operationalize the empirical implications of our argument by introducing simple indices of historical religious difference within a society and between the ruler and segments of the population. We construct these indices in two stages. We first define two dummy variables that for each territory and time period mark whether the territory experienced substantial religious fragmentation and whether the ruler shared religion with a substantial religious segment. For a simple measurement that is feasible for data collection in history, the first dummy variable equals one if a sufficiently large fraction of the population adhered to a secondary religion during that period. We describe below the empirical implementation of this definition. Based on this simple conceptualization of religious fragmentation in a territory, the second dummy variable equals one if the ruler adhered to the same religion as the main or substantial secondary religion in the territory.

Interactions of the two dummy variables give us four distinct ways in which the political ruler's religion could differ from, or be the same as, the main and/or substantial secondary religious groups in the population. Specifically, in a given year 1) a substantial secondary religion could exist in a territory, and the ruler could adhere to the main or the secondary religion; 2) a substantial secondary religion could exist, but the ruler's religion could differ from the main and secondary religions; 3) no substantial secondary religion could exist, and the ruler could share religion with the population (main religion); and finally 4) in the absence of a substantial secondary religion, the ruler's religion could differ from the main religion. Given our interest in the effects of religious fragmentation, we will lump the last two of these possibilities into a single group in the regression analysis below and use it as the reference category to focus on the distinct interaction effects of shared religion with the ruler that distinguishes between the first two possibilities.

In the second stage we aggregate this information over time to calculate the corresponding weighted cumulative indices of historical difference. To be more formal, let f^t and s^t denote the two dummy variables defined above that mark the presence of religious fragmentation in the population and shared religion between the ruler and segments of population in each period t. Consider a time span of T periods. We define the index of historical religious fragmentation corresponding to the first dummy variables as follows:

$$HF = \frac{1}{\alpha}\sum_{t=1}^{T}(1+\rho)^{t-T} f^t \ , \qquad (3)$$

[12] In general, the literature has focused on three dimensions of civil conflict: onset, duration and incidence. See Sambanis (2004) for a discussion.

where α is a normalization parameter such that $\alpha = \sum_{t=1}^{T}(1+\rho)^{t-T}$. We consider the effect of time through ρ, a discount rate, such that $\rho \geq 0$. If ρ =0, *HF* puts equal weight on all historical periods, while $\rho > 0$ emphasizes the more recent periods. The resulting indices range from 0 to 1.

In the same vein, we define the index of shared religion with the ruler corresponding to the second dummy variable as:

$$SR = \frac{1}{\alpha}\sum_{t=1}^{T}(1+\rho)^{t-T}\, s^{t} \quad , \tag{4}$$

Finally, we define the second key variable of interest in our analysis, the index of historical fragmentation in the population combined with shared religion with the ruler, which corresponds to the cumulative interaction of the two dummy variables over time, as:

$$HFSR = \frac{1}{\alpha}\sum_{t=1}^{T}(1+\rho)^{t-T}\, f^{t}\, s^{t} \tag{5}$$

3.3. Rulers and religious fragmentation in history

To implement these indices, we use a unique dataset called "Historical Polities Data (HPD)," which includes historical information on the territories occupied by today's nation states since the year 1000. [13] Combing through a wide variety of sources, a team of research assistants gathered information regarding the basic characteristics of these territories during this time period, including the religion of political rulers and the main and substantial secondary religions of the population. In cases of conflicting information about a particular variable, we looked for consistency by giving priority to sources with comprehensive coverage, such as Encyclopædia Britannica, the "Country Studies" collection of the Library of Congress, and the book series "Cambridge Histories Online." Rather than restrict the dataset to territories of certain size, duration, or type, we included all territories for which we could find complete information.

For each territory and year, the HPD identifies the main religion as the one that had the highest percentage of adherents. The benchmark to determine whether other substantial religious groups existed is whether the secondary religion's population share exceeded ten percent, if this information was available. For recent centuries, estimates of population shares of religious groups can be found in Brown and James (2015), which in some cases goes back to the 1700s. For earlier centuries, we used non-quantitative information from our sources to identify the main religion and to determine whether a substantial secondary religion existed.

We categorized religions into groups to facilitate systematic analysis. For indigenous religions, we recorded as much specific information as available regarding differences within a territory, but we coded them under a single category to maintain a consistent standard across territories. We did not differentiate, for example, among the varieties of Chinese folk religions or among the branches of Hinduism that have developed in India over the centuries. In the same vein, we used the coding standards of recent data on historical religious populations by treating broad categories of sects in Islam (Sunni,

[13] For a detailed description of the construction of this dataset, see Coşgel (2016).

Shia, Kharijite) and Christianity (Catholic, Orthodox, Protestant) as distinct religions, but we did not further differentiate among the subcategories of these groups.[14]

Regarding the religions of rulers, we first identified the polities that ruled each territory since the year 1000. A basic question was the presence of a state in a territory. We used the data from Bockstette, et. al. (2002) and Coşgel, et. al. (2018) to determine state presence and the characteristics of polities on an annual basis. This information includes the religions of political rulers, which we recorded based on the same system of coding that we used for the religious groups in the general population. For the pre-state period of a territory's history, for which we often lack written records or clear archeological evidence on their political characteristics, we assumed the ruler's religion to be the same as the population.

Finally, we used the procedure outlined above to calculate the various indices of historical religious difference for analysis. Given the ambitious scope and broad temporal and geographic coverage of the HPD, the final product naturally includes various imperfections caused by the difficulty of gathering and interpreting the required information. As noted above, we defined some of our variables in a binary format or based them on broad categories in order to ensure consistency across territories and time periods. Although some of our procedures may have caused errors in measurement, we do not believe that these errors have biased our results systematically.[15]

For a descriptive summary of the variables constructed from the Historical Polities Data, we show in Appendix A the means and standard deviations of the indices of historical religious difference at T=1960 with ρ = 0.001. Although the dataset includes annual information on the religious and political histories of over 190 of today's nation states, the summary statistics are based on only those 151 states for which we have comprehensive data from the UCDP/PRIO Armed Conflict Dataset and for other control variables.

Regarding the indices of fragmentation and shared religion, our calculations show that the highest incidence of religious difference/similarity approximated by our four categories was in the cases of territories that experienced substantially uniform religion in the population as well as between the ruler and the population (0.52) in their history, followed by those that saw a substantial secondary religion joint with rulers who adhered to the main or the secondary religion (0.30). The lowest incidence was the case of territories and periods that had religious fragmentation (a substantial secondary religion) but rulers who adhered to neither the main or the secondary religion (0.08). In the remaining category of similarly low incidence, we have territories and periods that had a combination of no substantial secondary religion and rulers who did not share religion with the population (0.10).

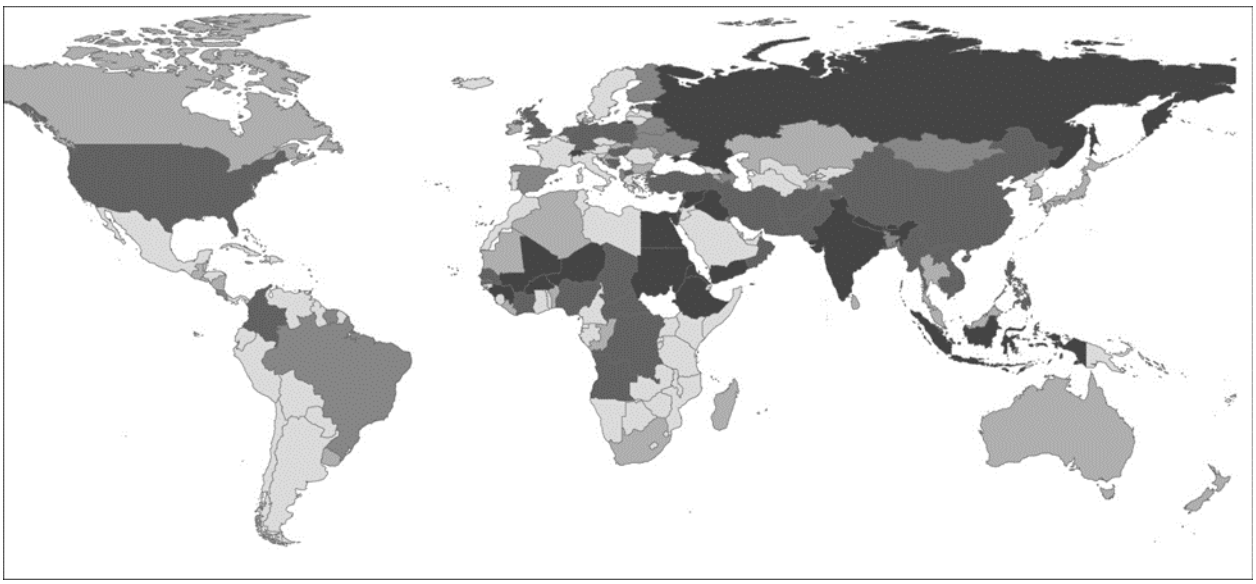
Figure 2 shows the geographic distribution of the key explanatory variable used in our analysis, namely the interaction of historical religious fragmentation with shared religion between the ruler and population. The darker shades in the figure correspond to higher values of the variable. The figure shows interesting patterns regarding the

[14] Any categorization of religions is inherently problematic due to the difficulties of comparison and standardization across different traditions. Rather than introduce bias by implementing our own criteria, we simply used the broad categories commonly used in recent quantitative studies.

[15] See Coşgel (2016) for a detailed discussion of the development of "Historical Polities Data" and its limitations and areas of further development.

geographic distribution of locations in which the rulers had the opportunity to favor coreligionists in history. Historical incidents of religious fragmentation in the population combined with shared religion with the rulers was higher in parts of western and southeastern Asia and in parts of central Africa and eastern Europe. Our results show the significant explanatory power of this distribution for civil conflict (controlling for other factors), a conclusion that remains as we address potential concerns for endogeneity.

Figure 2
Historical incidents of religious fragmentation and shared religion with the rulers



3.4 Control variables

In addition to key variables of interest, we include various other variables in our analysis to control for their possible influence on the occurrence of civil conflicts. Researchers have found evidence that some of the locational and geographic characteristics of territories affect civil conflicts (Arbatlı et al., 2019; Blattman and Miguel. 2010; Garfinkel and Skaperdas, 2012). We include several variables, such as the absolute latitude and elevation of a territory, its island status, and distance to nearest waterway, to control for these effects.

Our main motivation for including certain variables is to address a threat to the credibility of using the cost of travel (walking time) to the birthplaces of universal religions as an instrument for historical religious fragmentation (detailed in the next section). The concern is that there might be a direct association between these locations and civil conflicts, which is possible if universal religions emerged in places of certain characteristics. For example, Cesur and Yıldırım (2018) have recently uncovered a strong link between religion and genetic diversity based on Durkheim's (1912) argument relating the emergence of religion to the need for cooperation. Taking genetic diversity as a proxy for the need for cooperation, they adopt Ashraf and Galor's (2013) strategy of identifying diversity through the migratory distance of a settlement to the cradle of humankind in East

Africa, known as the "Out of Africa" hypothesis. Since the implied direct link between these locations and civil conflicts would cast doubt on the credibility of our instrument, we mitigate this potential concern by including the predicted (ancestry adjusted) genetic diversity as a covariate in both the first and second stage of our analysis.[16]

We include several other geographic variables in our analysis to mitigate similar potential concerns regarding the exclusion principle. For example, civil conflicts in the birthplaces of universal religions may have been related to geographic characteristics of these locations in terrain and suitability for certain economic activities. Therefore, we include measures of ruggedness of terrain and suitability of land for agriculture as covariates.[17] Through such covariates that will be included in both the first and second stage, we are able to control for other associations that could have otherwise linked the instrument directly to civil conflict. For consistency, we include the same variables in the OLS analysis. Appendix A reports the summary statistics of these variables.

4. BASELINE OLS ANALYSIS OF HISTORICAL RELIGIOUS FRAGMENTATION AND CIVIL CONFLICT

In this section we report the result of regression analysis aimed at investigating our hypotheses regarding the determinants of civil conflicts. For baseline analysis, we used OLS to estimate the following equation:

$$CC_i = \beta_1 + \beta_2 HF_i + \beta_3 HFSR_i + \boldsymbol{X}_i' \boldsymbol{\beta}_4 + u_i \ , \qquad (6)$$

where CC_i is the average (log-transformed) number of new civil conflict eruptions per year during the period between 1960 and 2017[18]. HF_i and $HFSR_i$ are the key explanatory variables of interest as defined in (3) and (5), namely the index of historical religious fragmentation and the index of historical religious difference combined with shared religion with the ruler (with T=1960 and ρ = 0.001, as defined above). The coefficients of these indices show their effect relative to the case of no religious fragmentation (with or without shared religion with the ruler), the omitted category. As noted previously, we do not further differentiate among the cases in the base category according to whether the ruler did or did not share religion with the population because in such a religiously homogenous territory there is no basis for favoritism that could result in accumulated grievances in our setting.

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[16] The data for this variable come from Ashraf and Galor (2013). We adopt the mitigation strategy from Dee (2004), who in a similar setup used proximity to two-year colleges as an instrument for enrollment in his analysis of enrollment's effect on civic engagement. He included various covariates, including county-level variables, to address the same threat to the credibility of his instrument due to the violation of the exclusion principle. See also Murnane and Willett (2011: 238-43) for a general discussion of how the inclusion of exogenous covariates, such as geographic variables, into instrumental variable estimation helps to address this concern.

[17] These data come from (Arbatlı et al., 2019), which include information regarding the definitions, construction, and original sources of these variables.

[18] We follow the usual estimation procedure of adding one to the count before log-transforming to retain observations for countries with no recorded new conflicts. See, for example, Arbatlı et al. (2019).

For a direct preliminary test of our basic theoretical argument regarding the key importance of shared religion with the ruler, we run two versions of the model. The first version includes only the individual effect of historical religious fragmentation, and the second adds the combined effect of this variable with shared religion with the ruler. Both versions include $\boldsymbol{X}_{\boldsymbol{i}}'$, the full set of additional variables that control for other heterogeneity across countries.

The results of the baseline analysis reported in Table 1 clearly support our hypotheses regarding the greater likelihood of today's conflicts arising in societies that historically experienced not just religious fragmentation but rulers who shared religion with one of the groups. We see in the first equation that historical religious fragmentation during the period between 1000 and 1960 had a positive and highly significant effect on the frequency of civil conflicts after 1960. But the significance of the effect of this variable disappears when we introduce our second key variable into the analysis, namely the combination of religious fragmentation with shared religion with rulers. The latter variable now dominates the predictive power of our key variables, with a magnitude substantially higher than historical religious fragmentation alone.

Table 1
OLS Estimates of Influences on Civil Conflict

VARIABLES	(1) Conflict	(2) Conflict
Historical religious fragmentation	0.030***	0.012
	(0.007)	(0.012)
Historical religious fragmentation * Ruler shared religion with population		0.024*
		(0.014)
Genetic diversity (aa)	0.378***	0.357***
	(0.086)	(0.084)
Absolute latitude	-0.244**	-0.247**
	(0.112)	(0.111)
Ruggedness	-0.013	-0.018
	(0.032)	(0.032)
Mean elevation	-0.012	-0.011
	(0.008)	(0.008)
Range of elevation	0.010***	0.009***
	(0.003)	(0.003)
Mean land suitability	20.327*	22.659**
	(11.191)	(11.253)
Range of land suitability	9.631	8.383
	(6.992)	(6.882)
Distance to nearest waterway	0.005	0.004
	(0.008)	(0.008)
Island nation dummy	-5.275	-5.583
	(4.835)	(4.770)
Constant	-0.281***	-0.265***
	(0.067)	(0.065)
Observations	151	151
R^2	0.356	0.368

Note: The dependent variable is the log of average number of new civil conflict eruptions per year during the period between 1960 and 2017. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The reversal in the significance of religious fragmentation between the first and second equations has interesting implications. The insignificance of the coefficient of this variable in the second equation indicates that religious fragmentation in the absence of shared religion with the ruler had no effect on civil conflicts. The real effect was through the presence of rulers who could capitalize on this fragmentation. Whereas previous studies typically considered measures of religious fragmentation to investigate the reasons for the association between religion and conflict, our results show that this variable is only a part of the story, not all of it.

As seen in the second equation, the magnitude of the effect of historical religious fragmentation with shared religion with rulers is high. According to the coefficient of this variable, a continually fragmented country that always had rulers who shared religion with a segment of the population experienced approximately 2.4 percent (0.024*100) additional new conflict onsets on average per year than a religiously homogenous country during the period between 1960 and 2017, all else being the same. Given the endogeneity concerns surrounding the relationship between religious fragmentation and civil conflicts, in the next section we employ an instrumental variable analysis to generate better identified estimates of the effects of our key variables. The results will reveal that the true effect of historical religious fragmentation with shared religion with rulers on civil conflicts is even higher.

5. MITIGATING ENDOGENEITY CONCERNS

In the OLS regressions, we used indices of religious difference as key explanatory variables for civil conflicts. These indices, however, may suffer from an endogeneity problem if there are factors, such as past episodes of regional conflict and population movements, which have caused countries to experience historical religious fragmentation as well as current civil conflicts. In that case, historical religious fragmentation could partly reflect mechanisms such as mass conversions and migrations caused by historical events and processes that are also determinants of current civil conflicts. The results of OLS regressions reported in Table 1, therefore, may underestimate the influence of religious fragmentation on civil conflicts if the effect of these omitted events and processes on religious fragmentation is negatively correlated with their effect on current civil conflicts.

Although we were able to address some of the endogeneity concerns (e.g., regarding genetic diversity) by including exogenous geographic variables (e.g., predicted human genetic diversity), we do not have reliable and comprehensive data on historical events and processes for inclusion in our analysis. We thus need to apply an appropriate identification strategy to determine the causal effect of historical religious fragmentation.

We propose to address endogeneity concerns by employing an instrumental variable for historical religious fragmentation. For a suitable instrument, we exploit spatial information regarding the country's proximity to religious centers, more specifically the "cost of travel" (walking time) to the birthplaces or spiritual centers of

missionary/universal religions of the world (Buddhism, Christianity, Islam). Economists have used distance as an instrumental variable in various types of empirical research, such as distance to nearest school as an IV for education and distance to East Africa as an instrument for human genetic diversity.[19] Coşgel et al. (2019) recently extended this approach to religious diversity by exploiting differences in the cost of travel from each country to the centers of universal religions as an instrument for concentration in the religion market. We employ the same instrument for historical religious fragmentation.

The basic reasoning behind this instrument is based on the observation that universal religions increasingly dominated religious markets over time by progressing linearly from their centers to other regions and causing fragmentation along the way. Regarding differences between territories, our hypothesis is that the costlier it is to travel from a territory to centers of universal religions, the longer it will take for universal religions to reach the territory's religion market. Consequently, territories farther away from centers of universal religions will take longer to experience religious fragmentation and thus have lower degrees of historical fragmentation due to the more restricted historical influence of these religions. Using the travel cost to the nearest universal religious center as an instrument for historical religious fragmentation, we use Two Stage Least Squares (2SLS) analysis to identify the direct effect of such fragmentation on civil conflicts.

We measure travel cost as the walking time from the center of the nearest universal religion to each country's capital city. The advantages of our approach in using walking time/distance rather than the aerial distance, which has been typically used in the recent literature (Ashraf and Galor, 2013; Coşgel et al, 2018), is that walking mode of travel incorporates variations in topography and obstacles on the way. Moreover, by using walking time rather than walking distance we are able to incorporate differences in elevation between two points and other factors that depend on the direction of travel. Note also that we opted for a measure based solely on the travel cost to the nearest universal religion rather than more complicated measures that could consider other religious centers because of its simplicity and the strength of its first stage results presented below. [20]

In calculating travel time across continents, we require routes to go through the following waypoints: Cairo, Egypt (Africa-Asia), Istanbul, Turkey (Asia-Europe), Phnom

[19] For examples of distance as an instrument for education, see Card (1995) and Dee (2004). To our knowledge, Stark (1991) is the first scholar to use distance as a variable in empirical analysis of religion, specifically in the rise of Christianity among Greco-Roman cities. Cantoni (2012) finds the distance to Wittenberg to be a significant determinant of the adoption of Protestantism. On the expansion of Islam, see Michalopoulos, Naghavi, and Prarolo (2018). See also Ashraf and Galor (2013) for the relationship between human genetic diversity and the distance from the cradle of humankind in East Africa.

[20] The specific centers used for our calculations are Lumbini, Nepal (Buddhism); Wittenberg, Germany (Protestanism); Istanbul, Turkey (Orthodox Christianity); Karbala, Iraq (Shia Islam); Mecca, Saudi Arabia (Sunni Islam); and Vatican City (Roman Catholicism). These are the centers of universal religions or their sub-branches that have historically expanded out from their birthplaces, eventually becoming main religions in other territories. Scholars of religion may disagree with our choices of centers. For example, some may argue that Bodh Gaya, India should be considered as the center of Buddhism because it is the place where Gautama Buddha is said to have obtained Enlightenment. We do not wish to state a strong position on this debate because our results do not change significantly when we change the center of Buddhism from Lumbini to Bodh Gaya in our calculations. While we acknowledge controversies regarding centers of religions, we have made informed but pragmatic choices of locations that best serve the purpose of identification.

Penh, Cambodia (Asia-Oceania), Palos de la Frontera, Spain (Europe-Western Hemisphere), Santa María la Antigua del Darién, Columbia (Europe-South America) and Tenochtitlan, Mexico (Europe-Central and North America). The first three of these waypoints are based on Ramachandran et al. (2005), and the latter three are based on historical information regarding the starting location of European overseas exploration and the first sites of European conquest in the southern and central/northern sections of the Western Hemisphere (i.e., two sites because of the Darién Gap).[21]

We use travel cost to centers of universal religions as an instrumental variable to estimate two first stage equations. The first is for historical religious fragmentation, as follows:

$$HF_i = \gamma_0 + \gamma_1 T_i + \boldsymbol{X'}_i \boldsymbol{\gamma}_2 + v_i, \quad (7)$$

where T_i is the travel cost (walking days) from the centroid of each country to the nearest universal center. Other variables are as defined in (6) above.

In the same vein, we follow the strategy proposed by Wooldridge (2010: 262-68) to instrument our second key variable, namely historical religious fragmentation with shared religion with ruler, through the following first stage equation:

$$HFSR_i = \alpha_0 + \alpha_1 T_i + \alpha_2 T_i * SR_i + \boldsymbol{X'}_i \boldsymbol{\alpha}_3 + w_i, \quad (8)$$

where SR_i is the index of shared religion with the ruler as defined in (4), which we assume to be exogenous in this formulation.

Table 2
Travel Cost to Universal Religions and Historical Religious Fragmentation: First Stage Results

VARIABLES	(1) Historical religious fragmentation	(2) Historical religious fragmentation * Ruler shared religion with population
Travel cost to nearest universal religion center (walking days)	-4.238***	-7.356***
	(0.797)	(1.664)
Travel cost to nearest universal religion center (walking days) * Ruler shared religion with population		4.298**
		(1.691)

[21] For information regarding the travel time and distance from these centers to each country, we used Python script to retrieve the data from Google server. Since Google currently does not provide data for routes through China, we used Bing to calculate the walking distance from China and in routes from Mongolia, Japan, Taiwan, and South and North Korea going through China. Whenever the route from a country to a religious center inevitably involved travel through a body of water, we used the average walking equivalent (5 km per hour) to incorporate this segment in our calculations. This questionable approximation is roughly consistent with the amount of time (about two months) that Columbus took to cross the Atlantic in his first voyage (about 6,500 km).

Genetic diversity (aa)	-0.422	0.594
	(1.203)	(1.033)
Absolute latitude	-5.531***	-4.678***
	(1.623)	(1.500)
Ruggedness	0.551	0.627**
	(0.363)	(0.314)
Mean elevation	-0.178**	-0.179**
	(0.088)	(0.078)
Range of elevation	0.054*	0.049**
	(0.028)	(0.024)
Mean land suitability	-138.936	-207.949*
	(124.750)	(107.955)
Range of land suitability	66.517	117.387
	(114.844)	(106.021)
Distance to nearest waterway	0.088	0.086
	(0.082)	(0.078)
Island nation dummy	-40.022	-24.935
	(85.146)	(75.533)
Constant	0.937	0.063
	(0.907)	(0.780)
Observations	151	151
R^2	0.195	0.232
F-statistic for excluded instruments	26.21	13.47

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results of first stage analyses, reported in Table 2, show that travel cost to centers of universal religions is a strong instrument for historical religious fragmentation, supporting the relevance of our instrumental variables. Overall, the exogenous variables explain between about 20 to 23 percent of the variation in historical religious fragmentation and its combination with shared religion with the ruler, and the *F*-statistics are 13.4 and 26.2, both highly significant.

To meet the exclusion restriction, the proposed instruments must have no direct effect on civil conflicts other than through the channel of historical religious fragmentation. We make a two-fold argument that this principle is satisfied. The first is conceptual, based on our presumption, supported by the lack of scholarly research to the contrary, that religions were not systematically born in locations that were directly associated with civil conflicts.

In addition, for a stronger case in justifying the credibility of our instrument, we included covariates in our analysis that effectively control for the possible direct associations between centers of universal religions and civil conflict, as noted in the previous section. Based on the results of recent studies, it was especially important to include predicted human genetic diversity as a variable in our analysis (Ashraf and Galor, 2013). Cesur and Yıldırım (2018) have recently found this variable to have a significant effect on religion, with implications for the birthplaces of religions. Researchers have also shown that genetic diversity has a direct impact on the number of ethnic groups, cultural fragmentation, and conflict in societies (Ashraf and Galor, 2013; Arbatlı, et al., 2019). These findings raise the possibility of a direct association between our instrument and civil

conflicts that goes through the channel of human genetic diversity. To mitigate this concern, we control for the predicted (ancestry adjusted) genetic diversity in both the first and second stages of our analysis. Our analysis also includes various other variables regarding location and geographic characteristics in elevation, terrain, and suitability for economic activities, which allows us to argue that, among individuals in countries that were equidistant to the cradle of civilization and had the same geographic characteristics, there was no direct link between proximity to centers of universal religions and civil conflicts.

6. AN INSTRUMENTAL VARIABLES ANALYSIS OF CIVIL CONFLICTS

Table 3 shows the second stage results of the instrumental variables method of estimation. Compared to the OLS results reported in Table 1, the magnitude of the effects of our key variables rose substantially under the 2SLS method. The rise is more than twice for both variables, indicating that the original OLS regressions analyses severely underestimated the influence of historical religious fragmentation and the combined effect of this variable with shared religion with rulers on civil conflicts. Regarding our main argument, the 2SLS results show that a continually fragmented country that always had rulers who shared religion with a segment of the population experienced approximately 7.7 percent additional new conflict onsets on average per year than a religiously homogenous country during the period between 1960 and 2017, all else being the same. Whereas the OLS estimate of this effect was 2.4, the true effect turns out to be about three times higher once we mitigate endogeneity concerns.

Table 3
2SLS Estimates of Influences on Civil Conflict

VARIABLES	(1) Conflict	(2) Conflict
Historical religious fragmentation	0.067***	0.006
	(0.016)	(0.017)
Historical religious fragmentation * Ruler shared religion with population		0.077***
		(0.017)
Genetic diversity (aa)	0.299***	0.231***
	(0.090)	(0.089)
Absolute latitude	-0.170	-0.181
	(0.135)	(0.142)
Ruggedness	-0.048	-0.061
	(0.042)	(0.043)
Mean elevation	-0.003	-0.000
	(0.009)	(0.009)
Range of elevation	0.008***	0.007**
	(0.003)	(0.003)
Mean land suitability	28.431**	35.793***
	(12.435)	(13.276)
Range of land suitability	7.522	3.532
	(8.791)	(9.293)
Distance to nearest waterway	0.003	0.002
	(0.007)	(0.007)
Island nation dummy	-2.765	-3.817

	(5.577)	(5.506)
Constant	-0.238***	-0.187***
	(0.068)	(0.066)
Observations	151	151
R^2	0.176	0.136
F-statistic for excluded instruments	26.21	13.47

Note: The dependent variable is the log of (one plus) average number of new civil conflict eruptions per year during the period between 1960 and 2017. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The direction of the omitted variable bias indicates that it originates from factors whose effect on religious fragmentation is negatively correlated with their effect on current civil conflicts. Although we do not have direct evidence regarding the bias, we speculate that it must have come from variables, such as past regional conflicts, that raised the likelihood of civil conflicts but reduced religious fragmentation, or from other variables, such as the establishment of trade routes, that lowered conflicts but increased religious diversity. The mechanisms causing these variables to affect religious fragmentation could be conversion or migration. Past conflicts, for example, may have reduced religious fragmentation in a territory as winners of these conflicts forced populations to convert or emigrate. Conversely, the establishment of trade routes, while enhancing cooperation and reducing conflicts, may have raised religious fragmentation in a territory by exposing inhabitants to new religions and fostering conversion and migration, as was the case for the expansion of Islam in Asia (Michalopoulos, Naghavi, and Prarolo, 2018). In both scenarios, the effects of omitted variables on civil conflicts and on religious fragmentation would have worked in opposite directions, combining for a significant negative bias on the coefficients estimated by the OLS method.

7. COMPARISON WITH OTHER MEASURES OF DIVERSITY

In this section we compare our key variable against genetic diversity and various other traditional indices of population diversity such as fractionalization and polarization. The latter are measures typically calculated from data on the distributions of contemporary populations (Alesina et al, 2003; Montalvo and Reynal-Querol, 2005). Researchers have conventionally used these indices in previous empirical analysis of the effect of religion and ethnicity on civil conflict, despite well-known problems of endogeneity between religious diversity and conflict in modern societies. Although recent analysis has uncovered interesting results regarding the effect of ethnic polarization on conflict (Montalvo and Reynal-Querol, 2005; Esteban, Mayoral, and Ray, 2012), the results have been inconclusive for religious diversity.

Table 4
Other Measures of Diversity

VARIABLES	(1) Conflict	(2) Conflict	(3) Conflict	(4) Conflict	(5) Conflict	(6) Conflict	(7) Conflict
Historical religious fragmentation	0.006	0.019	0.021	0.016	0.018	0.007	0.009
	(0.017)	(0.020)	(0.025)	(0.019)	(0.021)	(0.016)	(0.021)
Historical religious fragmentation * Ruler shared religion with population	0.078***	0.081***	0.071**	0.087***	0.091***	0.067***	0.062**
	(0.018)	(0.022)	(0.028)	(0.021)	(0.024)	(0.017)	(0.025)
Genetic diversity (aa)	0.229**					0.275***	0.237***
	(0.089)					(0.088)	(0.083)
Religious fractionalization		-0.010				-0.014	-0.016
		(0.012)				(0.010)	(0.011)
Religious polarization			-0.012				-0.002
			(0.011)				(0.010)
Ethnic fractionalization				0.006		0.007	-0.007
				(0.014)		(0.012)	(0.014)
Ethnolinguistic polarization					-0.010	-0.002	-0.009
					(0.014)	(0.013)	(0.015)
Controls	Y	Y	Y	Y	Y	Y	Y
Observations	149	149	109	149	149	149	109
R^2	0.117	-0.083	0.090	-0.117	-0.191	0.221	0.354
F-statistic for excluded instruments	13	17.64	13.23	14.76	13.33	12.35	8.440

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Control variables include absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy.

Aside from the success of indices of fractionalization and polarization in predicting civil conflict, the question that also concerns us is whether the inclusion of these indices in the analysis would alter our results. To examine this question, we include measures of ethnic, linguistic, and religious fractionalization/polarization as variables in our analysis. Recall that we have already included human genetic diversity in the baseline analysis to mitigate endogeneity concerns regarding our instrument, as described earlier. The coefficient of this variable is highly significant, consistent with the results of Arbatlı et al., 2019). The coefficients of our key explanatory variable, "Historical religious fragmentation * Ruler shared religion with population," remain positive and highly significant across equations, confirming the robustness of our results to alternative measures of ethnic and religious diversity as additional controls. The results clearly support our broad contention that the roots of today's civil conflicts lie deeply in history, either in genetic diversity or historical religious fragmentation, determined centuries earlier rather than by the current

population compositions of modern societies that is typically the basis for traditional measures of diversity.

8. EXTENSIONS AND ROBUSTNESS CHECKS

We now extend the baseline analysis and run various tests to check the robustness of our results to alternative specifications. We first determine whether the basic argument regarding the effect of shared religion with rulers in historically fragmented societies applies to other definitions of conflict as the dependent variable. Using the same dataset, we run the same analysis with different measures of conflict that consider not just the onset frequency of conflict but the intensity and subcategories of civil conflict. For a related test of how our results vary across types of conflict, we use a different dataset that differentiates between inter-religious and nonreligious conflict. Likewise, we incorporate income, population, and various institutional, and historical variables into the analysis, and we exclude the new world and MENA countries from the dataset to see whether the inclusion of other controls and exclusion of certain subsets of countries alter the results. In addition, we include various traditional measures of fractionalization and polarization for comparison and test of sensitivity. Finally, we report on the results of a series of robustness checks conducted by recalculating the indices of historical religious difference under different values of the parameter ρ and by using alternative methods of estimation.

a. *Alternative measures of civil conflict from the UCDP-PRIO dataset*

Consider first the question of whether our conclusions are robust to using other measures of civil conflict as the dependent variable. In our baseline analysis, we defined the dependent variable as the average number of new civil conflict eruptions per year in the period between 1960 and 2017. To see the sensitivity of our results to this specification, we now differentiate between the territorial and governmental subcategories of civil conflicts and consider influences on high-intensity conflicts (over 1,000 deaths) Table 5 shows the results of 2SLS method of estimation using the same instruments and control variables as the baseline model.

Table 5
Robustness to other Measures of Conflict

VARIABLES	(1) Conflict	(2) Territorial conflict	(3) Governmental conflict	(4) High intensity conflict
Historical religious fragmentation	0.006	0.021	-0.014*	-0.000
	(0.017)	(0.015)	(0.008)	(0.004)
Historical religious fragmentation * Ruler shared religion with population	0.077***	0.056***	0.021**	0.015***
	(0.017)	(0.016)	(0.010)	(0.005)
Controls	Y	Y	Y	Y

Observations	151	151	151	151
R^2	0.136	0.088	0.183	0.050
F-statistic for excluded instruments	13.47	13.47	13.47	13.47

Note: The dependent variable is the log of average number of new civil, territorial, governmental, and high-intensity conflict eruptions per year, as stated in the first row, calculated for the period between 1960 and 2017. Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Our results are clearly robust to other measures of civil conflicts found in the UCDP-PRIO dataset. The signs and significance of the coefficients of the two key variables are consistent across equations, indicating that historical religious fragmentation with shared religion with rulers explains not just the average number of new civil conflict eruptions per year but also their intensity and subcategories of territorial and governmental conflicts. Regarding the latter, it is interesting that the coefficient of our key variable is substantially larger (more than twice) for territorial than governmental conflicts. Although the theoretical model did not distinguish between types of conflicts, the results indicate that the favoritism and grievances emanating from historically shared religion with rulers in fragmented societies currently have a greater impact on the onset of territorial than governmental conflicts.

b. *Inter-religious versus other conflicts*

We next turn to the question of whether our results apply differently to civil conflicts that involve parties that differ in religious affiliation as compared to those that do not differ systematically. Starting with the onset measure of conflict as found in the UCDP-PRIO dataset, Basedau et al. (2016: 237) used information from other sources to define a new dichotomous variable, called "interreligious conflict onset," which refers to those in which "the warring factions differed greatly in their religious affiliation." Note, however, that the Basedau et al. dataset covers only developing countries for the period between 1990 and 2010. Despite this limitation, we use this dataset to see how our results vary between interreligious conflict as defined and other conflicts in developing countries. For comparison, we derived a new variable called "non-interreligious conflict" that refers to those onsets for which the value of "interreligious conflict onset" equals zero. Using the same instruments and control variables as the baseline model, we ran the 2SLS method of estimation separately for these subcategories by replacing the dependent variable with the (log) average number of years with the two types of conflict.

Table 6
Differences between Inter-religious and Non-Inter-religious Conflicts

VARIABLES	(1) New conflict	(2) New inter-religious conflict	(3) New non-inter-religious conflict

Historical religious fragmentation	-0.012	0.032	-0.044
	(0.046)	(0.027)	(0.034)
Historical religious fragmentation * Ruler shared religion with population	0.231***	0.102***	0.137***
	(0.061)	(0.035)	(0.046)
Controls	Y	Y	Y
Observations	114	114	114
R^2	0.132	0.129	0.088
F-statistic for excluded instruments	15.64	15.64	15.64

Note: Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01 Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy.

As seen in Table 6, the results show interesting differences in the way our key variables affected interreligious and other civil conflicts in this limited dataset that includes 114 observations for developing countries (compared to 151 for all countries in the baseline analysis). The coefficient of our key variable, historically shared religion with rulers in fragmented societies, is positive and significant in both types of conflicts.

c. *Additional controls and geographic subsamples*

We kept the baseline analysis simple by including a small number of control variables based on standard geographic characteristics of territories. We also refrained from including economic, institutional, and social variables, because of endogeneity concerns between them and civil conflicts. Another reason is the availability of reliable data on these variables for all countries included in our analysis. The question remains, however, whether our results will hold when we control for the effects of various other types of variables in addition to those included in the baseline model. A related question is whether the results would change across geographic regions of the world.

We address these questions by including five additional sets of variables in the regression analysis and by restricting the sample in two different ways, as seen in Table 7. The first set of additional controls includes economic variables, namely GDP, population, and value of oil production (World Bank Group, 2013; Ross, 2013). In the second set, we include institutional measures of democracy, autocracy, and executive constraints (Marshal et al, 2013). As controls for the effects of colonial and legal origins, in the third column we include duration under colonial rule and dummy variables for legal origin (Olsson, 2009; La Porta et al, 1999). The fourth set of additional controls consists of technological frontiers at years 1, 1000 and 1500 (Ashraf and Galor, 2013). Finally, whereas column 5 restricts the sample to old world countries (Africa, Asia, and Europe), column 6 excludes the countries in the Middle East and North Africa region.

Table 7
Robustness to Additional controls and Exclusion of New World and MENA Region

VARIABLES	(1) Conflict	(2) Conflict	(3) Conflict	(4) Conflict	(5) Conflict	(6) Conflict
					Excluding new world	Excluding MENA region
Historical religious fragmentation	-0.000	0.008	0.001	0.008	0.004	0.004
	(0.021)	(0.023)	(0.021)	(0.017)	(0.020)	(0.016)
Historical religious fragmentation * Ruler shared religion with population	0.074***	0.080***	0.091***	0.085***	0.059***	0.078***
	(0.019)	(0.019)	(0.025)	(0.020)	(0.018)	(0.018)
Income, population and oil	Y					
Institutions		Y				
Colonial and legal origins			Y			
Technological frontiers				Y		
Controls	Y	Y	Y	Y	Y	Y
Observations	147	143	148	151	124	134
R^2	0.239	0.072	0.032	0.059	0.312	0.223
F-statistic for excluded instruments	9.239	7.542	8.436	13.08	7.820	13

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy. In addition, Column 1 includes GDP, population and value of oil production. Column 2 includes variables on democracy, autocracy and executive constraints. Column 3 includes legal origin dummies and duration under colonial rule. Column 4 controls technological frontiers at years 1, 1000 and 1500. Column 5 restricts the sample to the old world countries. Column 6 excludes countries in the MENA region.

As seen in Table 7, the number of observations drop slightly in the first four columns depending on data availability regarding additional variables. The last two columns likewise include even fewer observations due to regions excluded from the analysis. Nonetheless, our results remain consistent. Overall, our results are clearly robust to the inclusion of various additional controls and exclusion of certain geographic regions, as the corresponding coefficient of our key variable changes little from the baseline.

d. *Other tests of robustness*

We considered various other formulations of the baseline model to check the robustness of our results. Although we do not report all of the detailed results due to space constraints, in this subsection we provide a brief account of these tests and outcomes. One of these tests concerns the sensitivity of our results to the value of the historical discount rate (ρ). We estimated the baseline model by specifying ρ to equal 0.001. If we raise this rate, we would be raising the effect of history relative to recent years, as indicated by the formula for the indices of historical religious difference. Our results showed that the coefficients of both key variables remained significant as we raised the rate gradually from 0.001 to 0.005. Regarding magnitudes, whereas the effect of religious fragmentation increased in both equations, the effect of the interaction of this variable with shared

religion with the ruler declined in the second equation as we discounted history at higher rates.

In addition, we ran the same regressions with alternative methods of estimation, such as Poisson, and by defining the dependent variable as alternative aggregations and measures of conflict. Our results are robust to these alternatives.

9. POTENTIAL CHANNELS OF TRANSMISSION

We now turn to an analysis of the channels that transmitted the effects of historical religious fragmentation and shared religion with rulers to today. Based on the theoretical argument presented above, we would expect discrimination and grievances to be among the proximate factors that served in this capacity. For a systematic analysis of these factors, we use data from the All Minorities at Risk (AMAR) Phase 1 Sample, which contains information on conflict as well as various measures of grievance and discrimination (Birnir, et al, 2018). AMAR data has a panel structure and covers the period between 1980-2006.[22]

We first use the AMAR data for a regression analysis of the determinants of conflict to see if our results based on the UCDP-PRIO data are consistent. AMAR data includes a variable called "rebellion" that can be used to construct various measures of civil conflict. The rebellion variable categorizes conflict into several groups depending on their severity, ranging from no conflict to civil war. Using this information, we first construct a single binary variable based on severe conflicts, corresponding to the categories of "Large scale guerilla activity" and "Civil war," for comparison with our baseline analysis. It equals 1 if there is civil war or a large-scale guerrilla activity. We then average it for each country across the time span of the data and use the resulting fraction as the dependent variable for analysis.

Table 8
An Analysis of Conflict in the AMAR Sample

VARIABLES	(1) Civil war	(2) Civil war
Historical religious fragmentation	0.095***	-0.027
	(0.033)	(0.053)
Historical religious fragmentation * Ruler shared religion with population		0.150***
		(0.051)
Observations	120	120
R^2	0.086	0.075
F-statistic for excluded instruments	31.03	16.25
Controls	Y	Y

[22] Following the lead of Birnir et al. (2018) and consistent with our approach, we exclude politically dominant groups where there is a single dominant group in a country.

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy.

We use the same logarithmic transformation of the dependent variable as in (6) and instrumental variable approach as in the preceding analysis for estimation. The results, reported in Table 8, show that the signs of the two key variables are in the same direction as those estimated in Table 3, giving further confidence regarding the overall robustness of our results. Interestingly, the magnitudes are larger here than in Table 3, possibly because of the differences in the sample and temporal coverage (1980-2006 versus 1960-2017).

AMAR data includes three types of grievance and discrimination variables, namely political, economic and cultural, each coded in an ordinal ranking that consists of several categories. To standardize this information, we aggregated the three types of grievances into a single index (though the results are consistent if we run the regression analysis with each variable separately). We first divided each variable by the highest rank to transform it into a variable that ranged between zero and one. We then took the average of the three types of grievances to construct an indicator of the overall level of grievance in a country. We followed the same procedure to generate an index of discrimination. We use the two indices as the dependent variables in the regression analysis below.

Table 9
Influences on Grievances and Discriminations

VARIABLES	(1)	(2)
Panel A: Grievances		
Historical religious fragmentation	-0.068	-0.520**
	(0.146)	(0.256)
Historical religious fragmentation * Ruler shared religion with population		0.559*
		(0.297)
R^2	0.216	0.212
Panel B: Discriminations		
Historical religious fragmentation	0.193*	-0.156
	(0.109)	(0.161)
Historical religious fragmentation * Ruler shared religion with population		0.430***
		(0.165)
R^2	-0.010	-0.062
Observations	120	120
F-statistic for excluded instruments	31.03	16.25
Controls	Y	Y

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy.

Table 9 shows the results of 2SLS analysis of the effects of our key variables on current grievances (Panel A) and discriminations (Panel B). As seen in the first column, historical religious fragmentation alone had a significant and positive effect on discriminations only. Interestingly, whereas the effect of this variable on grievances is insignificant in the first column, it becomes negative and significant when we include the combination of this variable with shared religion with rulers in the second column. Regardless, the effect of our main key variable, the combined effect of historical religious fragmentation with shared religion with rulers, is positive and significant for both grievances and discriminations.

Table 10
Grievances and Discriminations as Mediators for Conflict

VARIABLES	(1) Civil war	(2) Civil war	(3) Civil war	(4) Civil war
Historical religious fragmentation	-0.027	0.002	-0.021	0.002
	(0.053)	(0.051)	(0.053)	(0.052)
Historical religious fragmentation * Ruler shared religion with population	0.150***	0.119**	0.132***	0.114**
	(0.051)	(0.051)	(0.048)	(0.050)
Grievance		0.055*		0.051
		(0.033)		(0.032)
Discrimination			0.042	0.017
			(0.050)	(0.047)
Observations	120	120	120	120
R^2	0.075	0.108	0.108	0.120
F-statistic for excluded instruments	16.25	16.75	15.53	17.78
Controls	Y	Y	Y	Y

Note: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Control variables include ancestry adjusted predicted genetic diversity, absolute latitude, ruggedness, mean elevation, range of elevation, mean land suitability, range of land suitability, distance to nearest waterway, island nation dummy.

The question that remains is how the direct inclusion of grievances and discriminations into the analysis of the determinants of civil conflict would alter our previous results. If they serve as channels of transmission as hypothesized, their inclusion in the analysis would be expected to reduce the effect of our key variable on civil conflicts. To test this expectation, we first re-run the 2SLS analysis reported in Table 8 to get the baseline results for comparison, as seen in the first column of Table 10. Next, we include grievances and discriminations in the analysis, as seen in the last three columns. The effects of these variables on civil conflicts are positive as expected. To examine their roles as

transmission channels, we compare the coefficient of the combined effect of historical religious fragmentation with shared religion across the three equations. Whereas the coefficient of this variable in the baseline equation is 0.15, if falls significantly to 0.114 in the last equation, once both grievances and discriminations are included in the analysis, as expected. The fall in the coefficient of our key variable supports our contention that discrimination and grievances served as channels of transmission for the historical effects of religious fragmentation and shared religion with rulers on today's civil conflicts.

10. CONCLUSION

This paper studied the theoretical and empirical link between civil conflict and historical experience with shared religion with rulers in fragmented societies. We developed a political economy model in which the ruler's enactment of laws or allocation of public expenditures can potentially cause discriminations and grievances to emerge in a religiously segmented society. According to the model, differential treatment is most likely if the ruler shared religion with a segment of population in a fragmented society, a situation that can cause him to favor the coreligionist group over other(s) in public policy. The persistence of this situation over time can cause the disfavored groups to accumulate grievances against the government and eventually resort to violence to seek redress or vengeance.

We tested the implications of the model by using cross-country data on civil conflict as well as data on geographical and historical characteristics of countries. In addition, we used a new dataset that contains information on the religious and political histories of each country since the year 1000. We specifically used this data to construct indices of historical religious fragmentation and shared religion with rulers, which then measured the deep roots of accumulated grievances. Empirical results showed that the frequency of civil conflicts in the post-1960 period has been significantly higher in societies that have historically had greater incidence of situations in which the religion of the ruler was the same as one of the groups but different from others, as compared to situations of religious homogeneity.

To address endogeneity concerns regarding omitted factors that may have caused historical religious fragmentation as well as current civil conflicts, we exploited differences among societies in their cost of travel to religious capitals of the world. Focusing on historical religious fragmentation, we instrumented for fragmentation by using the walking time from the country's centroid to the centers of universal/missionary religions (Buddhism, Christianity, Islam). The first stage regressions showed that the walking time had a strong effect on historical religious fragmentation. Using these instruments in regression analysis, we identified the effect of this fragmentation on civil conflicts. The results indicated that the greater historical incidence of shared religion in fragmented societies had a substantial direct and significant impact on current civil conflicts.

We ran a battery of robustness tests to check the sensitivity of our results to alternative specifications of the baseline model. In addition, we used other sources of data to examine the potential channels that transmitted the effect of shared religion with rulers in fragmented societies to today. Expecting discrimination and grievances to be among the proximate factors that served in this capacity, we used variables from the All Minorities at

Risk data for a systematic analysis of the effect of our key variables on political, economic, and cultural grievances and discrimination. The results provided strong support for our argument that the combination of historical religious fragmentation and shared religion with rulers affected today's civil conflicts through the mediating channels of grievances and discrimination.

APPENDIX A
Descriptive Statistics for Baseline Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Conflict onset per year	151	0.023	0.032	0.000	0.190
Territorial conflict	151	0.013	0.028	0.000	0.190
Governmental conflict	151	0.009	0.011	0.000	0.040
High intensity conflict	151	0.004	0.011	0.000	0.077
Historical religious fragmentation	151	0.381	0.359	0.000	1.000
Historical religious fragmentation * Ruler shared religion with population	151	0.302	0.321	0.000	1.000
Travel cost to nearest universal religion center (walking days)	151	0.041	0.038	0.000	0.144
Travel cost to nearest universal religion center (walking days) * Ruler shared religion with population	151	0.035	0.036	0.000	0.144
Genetic diversity (aa)	151	0.727	0.027	0.628	0.774
Absolute latitude	151	27.344	17.066	1.000	64.000
Ruggedness	151	127.176	125.829	3.605	747.207
Mean elevation	151	594.490	546.567	0.522	2836.526
Range of elevation	151	1695.812	1377.179	39.583	6175.611
Mean land suitability	151	0.389	0.247	0.003	0.951
Range of land suitability	151	0.713	0.265	0.000	0.999
Distance to nearest waterway	151	345.280	454.485	14.176	2385.580
Island	151	0.079	0.271	0.000	1.000

APPENDIX B
Descriptive Statistics for Additional Controls

Variable	Obs	Mean	Std. Dev.	Min	Max
Real GDP (billion $)	147	344.392	1276.624	0.676	13595.640
Population density	147	106.667	138.582	1.746	1160.985
Value of oil production (billion$)	147	14.053	38.777	0.000	276.770
Democracy	143	5.566	3.825	0.000	10.000
Autocracy	143	1.881	2.840	0.000	10.000
Executive constraints	143	4.958	1.996	1.000	7.000
Duration colony	148	0.595	0.493	0.000	1.000
Legal origin-British	148	0.257	0.438	0.000	1.000
Legal origin-French	148	0.459	0.500	0.000	1.000
Distance to technological frontier at year 1	151	2424.861	1782.538	0.000	10517.670
Distance to technological frontier at year 1000	151	2380.712	1726.896	0.000	10484.670
Distance to technological frontier at year 1500	151	2419.272	1797.225	0.000	10802.180
Religious fractionalization	149	0.428	0.231	0.003	0.860
Religious polarization	109	0.484	0.351	0.001	1
Ethnic fractionalization	149	0.466	0.256	0.002	0.930
Ethnolinguistic polarization	149	0.451	0.244	0.000	0.958

APPENDIX C
Descriptive Statistics—AMAR Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Civil war	120	0.037	0.084	0	0.5
Historical religious fragmentation	120	0.407	0.368	0	1
Historical religious fragmentation * Ruler shared religion with population	120	0.332	0.334	0	1
Grievances	120	0.495	0.253	0	0.938
Discriminations	120	0.277	0.179	0	0.904

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